2021 Semiannual Groundwater Monitoring and Corrective Action Report

PLANT McMANUS

Inactive Ash Pond 1 (AP-1)

Prepared for:

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February 28, 2022

Georgia Power Company

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CERTIFICATION STATEMENT

This *2021 Semiannual Groundwater Monitoring and Corrective Action Report, Georgia Power Company - Plant McManus– Inactive Ash Pond 1 (AP-1)* has been prepared in compliance with the United States Environmental Protection Agency coal combustion residual rule [40 Code of Federal Regulations (CFR) 257 Subpart D] and the Georgia Environmental Protection Division Rules for Solid Waste Management 391-3-4-.10 by a qualified groundwater scientist or engineer with Resolute Environmental & Water Resources Consulting, LLC (Resolute).

RESOLUTE ENVIRONMENTAL & WATER RESOURCES CONSULTING, LLC

Signature: _____

Morris L. Maslia, P.E.

Date: 02-28-2022

SUMMARY

This summary of the 2021 Semiannual Groundwater Monitoring and Corrective Action Report provides the status of groundwater monitoring and corrective action program from July 2021 through December 2021 (the semiannual reporting period) at Georgia Power Company's (Georgia Power's) Former Ash Pond (AP) AP-1 at Plant McManus (the Site). This summary was prepared by Resolute Environmental and Water Resources Consulting, LLC. (Resolute) on behalf of Georgia Power to meet the requirements listed in Part A, Section 6[1] of the U.S. Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D).

Plant McManus is located at 1 Crispen Island Dr. in Glynn County, Georgia, approximately 5.37 miles northwest of the city of Brunswick. The plant property is bordered by the Turtle River to the west and by Burnett Creek to the north. The former AP-1 is located on the northeastern portion of the plant property. The former AP-1 was an approximately 80-acre ash pond that was built in the late 1950's. Ash sluicing operations at AP-1 commenced in 1959 and ceased in 1972. Closure of AP-1 commenced in 2016. As part of closure, AP-1 was dewatered sufficiently to remove the free liquids, and ash was removed and disposed of in an offsite, permitted landfill. A certification of removal report demonstrating completion of removal activities was submitted to the Georgia Environmental Protection Division (GA EPD) on November 27, 2019. Based on review of the report and an inspection of AP-1 on December 13, 2019, GA EPD acknowledged the completion of CCR removal on January 10, 2020. The final CCR Permit for the Plant McManus Ash Pond was issued by GA EPD Friday June 18th, 2021 (063-030D (CCR)).

Former Ash Pond (AP-1) and Site.

Groundwater at the Site is monitored using a comprehensive monitoring network that meets federal and state monitoring requirements. Routine sampling and reporting began after the background groundwater conditions were established between August 2016 and May 2018. Based on groundwater conditions at the Site, an assessment monitoring program and assessment of corrective measures were established in August 2019 and July 2020, respectively. An *Assessment of Corrective Measures Report* was subsequently prepared for the former AP-1 (Arcadis, 2020b) and submitted to GA EPD in December 2020. During the semiannual reporting period, the Site remained in assessment monitoring as corrective measures were evaluated.

During the semiannual reporting period, Resolute conducted the semiannual groundwater and surface water sampling event in September 2021. A supplementary surface water sampling event

[1] 80 FR 21468, Apr. 17, 2015, as amended at 81 FR 51807, Aug. 5, 2016; 83 FR 36452, July 30, 2018; 85 FR 53561, Aug. 28, 2020

was conducted in December 2021. Samples were submitted to Pace Analytical Services, LLC, for analysis. Per the CCR rule, groundwater results were evaluated in accordance with the certified statistical methods. That evaluation showed statistically significant values of Appendix III[2] and Appendix IV[3] parameters in wells provided in the table below.

Appendix III Parameter	**September 2021**
Boron	MCM-07, MCM-12, and MCM-17
Calcium	MCM-06, MCM-07, and MCM-17
pH	MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, and MCM-17
Appendix IV Parameter[4]	**September 2021**
Arsenic	*Federal and State:* MCM-06
Lithium	*Federal and State:* MCM-06, DPZ-02 *State Only:* MCM-14

Based on review of the Appendix III and Appendix IV statistical results, the Site will continue in assessment monitoring. On November 17, 2020, Georgia Power submitted a lithium alternative source demonstration (ASD) for monitoring well MCM-06 and conditions were deemed a conditional concurrence by GA EPD on April 22, 2021. An ASD was submitted to GA EPD for lithium at monitoring well MCM-14 on October 25, 2021. Georgia Power will continue routine groundwater monitoring, reporting, and groundwater remedy evaluation at the Site. Reports will be posted to the website and provided to GA EPD semiannually.

[2] Boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids (TDS)

[3] Antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, thallium, and radium 226 + 228

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

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D; published in 80 FR 21302-21501, April 17, 2015) and the Georgia Environmental Protection Division (GA EPD) Rules for Solid Waste Management 391-3-4-.10, this *2021 Semiannual Groundwater Monitoring and Corrective Action Report* has been prepared to document groundwater monitoring activities conducted at Georgia Power Company's (Georgia Power's) Plant McManus Inactive Ash Pond AP-1 (the Site) and satisfy the requirements of § 257.90(e). To specify groundwater monitoring requirements, Georgia EPD rule 391-3-4-.10(6)(a) incorporates by reference the United States Environmental Protection Agency (USEPA) coal combustion residual (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D; published in 80 FR 21302-21501, April 17, 2015). For ease of reference, the USEPA CCR rules are cited within this report.

Groundwater monitoring and reporting for the former AP-1 is performed in accordance with the monitoring requirements of 40 CFR 257.90 through 257.95 of the USEPA CCR rule, and Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6).

The former AP-1 ceased receiving waste prior to the effective date of the USEPA CCR rule promulgated in April 2015. A notification of intent to initiate closure of the inactive CCR ash pond was certified on December 7, 2015 and posted to Georgia Power's website. Therefore, groundwater monitoring and reporting for the former AP-1 are being completed in accordance with the alternate schedule in § 257.100(e)(5) of the revised USEPA CCR rule (August 5, 2016).

This report documents semiannual monitoring activities completed August 2021 through January 2022 (the reporting period) and includes the required report components in accordance with 40 CFR 257.90(e).

1.1 SITE LOCATION AND DESCRIPTION

The Site is located at 1 Crispen Island Dr. in Glynn County, Georgia, approximately 5.37 miles northwest of the city of Brunswick. The plant property is bordered by the Turtle River to the west and by Burnett Creek to the north. The former AP-1 is located on the northeastern portion of the plant property (Figure 1).

The former AP-1 was an approximately 80-acre ash pond that was built in the late 1950's. Ash sluicing operations at AP-1 commenced in 1959 and ceased in 1972. Closure of AP-1 commenced in 2016. As part of closure, AP-1 was dewatered sufficiently to remove the free liquids, and ash was removed and disposed of in an offsite, permitted landfill. A certification of removal report demonstrating completion of removal activities was submitted to GA EPD on November 27, 2019. Based on review of the report and an inspection of AP-1 on December 13, 2019, GA EPD acknowledged the completion of CCR removal on January 10, 2020. The final

CCR Permit for the Plant McManus Ash Pond was issued by GA EPD June 18th, 2021 (063-030D (CCR)).

1.1.1 Regional Geology

The aquifer systems in Brunswick, Glynn County, GA are: (1) the surficial aquifer, (2) the Brunswick aquifer (Upper and Lower) and (3) the Floridan aquifer system (Upper and Lower). The Floridian aquifer system can extend to depths beyond 2,000 feet or more (Clark et al. 1990, Maslia and Prowell,1990; Jones et.al 2002). The uppermost regional aquifer is the surficial aquifer. In the Brunswick area, this aquifer extends to a depth of approximately 180 feet. Although the surficial aquifer is defined on a regional scale as extending to approximately 180 feet below ground surface, Clarke et al. (1990) acknowledge that localized lower permeability units can create confined or semi-confined conditions within limited areas of the surficial aquifer (ATC Associates Inc., 1997).

Regionally, the surficial aquifer is composed of geologic formations overlying the Hawthorn Formation. These formations include the Satilla, Charlton, and Raysor Formations, as well as undifferentiated Holocene, Pleistocene, Pliocene and late-Miocene deposits. In the Brunswick area, the Satilla is described as extending to approximately 28 feet below ground surface and the Cypresshead to approximately 50 feet below ground surface. Underlying the Satilla and Cypresshead Formations are sands, gravels, and clays which have been described by Weems and Edwards (2001) as two pairs of alternating confining units and water-bearing zones of the Ebenezer Formation. These alternating units of the Ebenezer Formation are described as an uppermost confining unit extending from approximately 50 to 75 feet below ground surface, followed by a water-bearing zone from approximately 75 to 110 feet below ground surface, another confining unit from approximately 110 to 15 feet below ground surface, and then another water-bearing zone from approximately 150 to 185 feet below ground surface. Depositionally, these sediments represent marginal to shallow marine beds, that are overlain by marine terrace deposits. Fluvial or residual deposits overlay the terrace deposits (Miller, 1986; Clarke et al, 1990).

The regional surficial aquifer is underlain by approximately 90 feet of lower-permeability portions (Miocene Unit A) of the Hawthorn Formation. This stratum forms the upper confining bed for the Brunswick aquifer system. The Brunswick aquifer system is composed of two confined aquifers (the Upper Brunswick aquifer and the Lower Brunswick aquifer) which are separated and confined above and below by less permeable units of the Hawthorn Formation. The Upper Brunswick aquifer extends from approximately 270 feet to 350 feet below ground surface, and the Lower Brunswick aquifer extends from approximately 400 feet to 470 feet below ground surface (Clarke *et al*, 1990).

1.1.2 Site Geology and Hydrogeology

Based on information collected during subsurface investigations, Plant McManus is underlain by very fine sands and clays from land surface (or beneath a shallow fill layer) to depths ranging from 33 to 43 feet below land surface. Very fine sands are predominant, but discontinuous clay

layers of varying thickness were encountered during drilling activities. The clay layers varied from less than one inch to approximately ten feet in thickness. These very fine sands and discontinuous clay layers are interpreted to be the Upper Satilla Formation (ATC Associates, Inc., 1997).

Underlying the Upper Satilla Formation are fine to medium sands with greater silt content, and apparently lower permeability, than the sands of the Upper Satilla. These siltier sands, which were interpreted to be the Lower Satilla Formation, were encountered at depths greater than 35 feet below ground surface during the Site investigation performed in the 1990s (ATC Associates Inc., 1997). These sands may also correspond to the Cypresshead Formation of Huddleston (1988). Sands and clays below the Cypresshead and above the confining unit of the Brunswick aquifer system have been described by Weems and Edwards (2001) as two pairs of alternating confining units and water-bearing zones of the Ebenezer Formation, extending from approximately 50 to 185 feet below ground surface in the Brunswick area.

The regional surficial aquifer that contains the Upper and Lower Satilla Formations is underlain by approximately 90 feet of lower-permeability portions (Miocene Unit A) of the Hawthorn Formation. This stratum forms the upper confining bed for the Brunswick aquifer system.

The surficial aquifer underlying the mainland, marsh, and island is composed of the very fine to fine grain sand with discontinuous clay layers of the Upper and Lower Satilla Formation. In the marsh, the groundwater elevation at low tide is below the top of the marsh surface. The upper portion of the aquifer in the marsh has been cut by tidal creeks, which meander through the marsh. In addition to current and historically recent (pre-ash pond construction) tidal channels, the marsh is also likely to have paleo (pre-historic) tidal channels present throughout the upper portion of the aquifer in the marsh area, which may provide zones of higher hydraulic conductivity or isolated pockets of groundwater. Vertically, the Satilla formation fines downward to a silty fine sand of the Lower Satilla Formation. The aquifer is generally unconfined, with localized clay layers. Groundwater flowing within the surficial aquifer is separated from deeper aquifers by approximately 90 feet of lower-permeability portions of the Hawthorn Formation (Miocene Unit A) that form the upper confining bed for the Brunswick aquifer system (Clarke et al, 1990).

Groundwater flows from two directions toward the former AP-1. One groundwater flow component originates on the mainland, northeast of the facility, and flows southwest, while the other flow component originates on Crispen Island and flows north and northeast (Figures 2 and 3). Groundwater elevations in the monitoring wells on the mainland (MCM-02, -15, and -16) and on the island (MCM-08, and -11) have consistently exhibited higher groundwater elevations than the monitoring wells and piezometers installed along the dikes (Table 1), with MCM-01 and -04 exhibiting intermediate elevations between the mainland and dike wells. The potentiometric surface of the surficial aquifer and the resultant groundwater flow direction in the vicinity of the former AP-1 is a reflection of the topography of the mainland, Crispen Island, and the tidal marsh surrounding the area.

1.2 GROUNDWATER MONITORING SYSTEM

Pursuant to § 257.91, Georgia Power installed a groundwater monitoring system within the uppermost aquifer around former AP-1. The monitoring system is designed to monitor groundwater passing the waste boundary of the former AP-1 within the uppermost aquifer. Wells were located to serve as piezometers, upgradient monitoring points, sidegradient monitoring points, or downgradient monitoring points based on groundwater flow direction (Tables 2 and 3, Figures 4 and 5). As part of the assessment monitoring program, deep piezometer DPZ-02 was reclassified as a delineation well during the 2020 semiannual monitoring period. Pursuant to § 257.195(g)(1)(iv), the well, classified as "delineation well", is sampled in addition to the compliance monitoring wells as part of the ongoing assessment groundwater monitoring program.

2.0 GROUNDWATER AND SURFACE WATER MONITORING ACTIVITIES

As required by § 257.90(e), the following describes monitoring-related activities performed during the reporting period and discusses any change in status of the monitoring program.

2.1 MONITORING WELL INSTALLATION, MAINTENANCE, AND ABANDONMENTS

Monitoring wells are inspected semiannually to determine if any repairs or corrective actions are necessary to meet the requirements of the Georgia Water Well Standards Act (O.C.G.A. § 12-5-134(5)(d)(vii)). In September 2021, monitoring wells were inspected, necessary corrective actions were identified and subsequently completed, as documented in Appendix A. This documentation will serve as the required five year well inspection and was performed under the direction of a professional geologist or engineer registered in the State of Georgia. In summary, monitoring activities for this reporting period included:

- Visual inspection of well conditions prior to sampling, recording Site conditions, and performing exterior maintenance to perform sampling under safe and clean conditions; and,
- New signs were added to the following groundwater wells and piezometers in September 2021: MCM-18, MCM-19, MCM-20, DPZ-01, DPZ-02, DPZ-03, DPZ-04, DPZ-05, DPZ-06, PZ-9, and PZ-10.

The well maintenance and repair documentation for September 2021 is presented in Appendix A.

2.2 ASSESSMENT MONITORING

Based on results of the August 2019 *Annual Groundwater and Corrective Action Monitoring Report*, assessment monitoring was initiated at the Site. Statistical analyses of the 2019 groundwater data identified SSLs of arsenic and lithium in well MCM-06 in excess of the federal and state groundwater protection standard (GWPS).

Pursuant to § 257.96, an Assessment of Corrective Measures Report (ACM) was initiated for the former AP-1 in July 9, 2020 for isolated arsenic and lithium concentrations observed in groundwater. An *Assessment of Corrective Measures Report* (ACM Report) was subsequently prepared for the former AP-1 (Arcadis, 2020b) and submitted to GA EPD in December 2020 and posted to the CCR compliance website in January 2021. In accordance with § 257.96(b), groundwater continues to be monitored at the former AP-1 under the assessment monitoring program while the ACM phase is implemented.

Pursuant to § 257.95(b), the monitoring wells of the certified compliance monitoring network (Figure 4) were sampled for the complete list of Appendix III and Appendix IV parameters (Table 4) in the monitoring event conducted in September 2021. Details of these events and analytical results are discussed in Section 3, with the field sampling and calibration reports and laboratory analytical reports presented in Appendix B. The statistical results are discussed in Section 4.

2.3 ADDITIONAL SAMPLING EVENTS

Additional aquifer matrix (solids) and groundwater sampling was conducted along the northern dike to develop additional data in support of remedy evaluation and selection. The scope of this additional effort and associated results are presented in the *Semiannual Remedy Selection and Design Progress Report* provided in Appendix C.

2.3.1 Surface Water Sampling

Due to the presence of surface water adjacent to MCM-06, installation of wells to horizontally characterize this area is infeasible. In September 2021, Georgia Power proactively collected surface water samples along four transects (T1 through T4) in the tidal marsh adjacent to wells MCM-05, MCM-06, MCM-07, and MCM-14, respectively. In September 2021, samples were collected during both high (HT, HTS, HS, HB) and low tides (L, LT) at all transects (T1 through T4). Additional surface water sampling was conducted in December 2021 to supplement existing surface water data collected through previous assessment events. In December 2021, samples were collected at high tide from transect T2 (adjacent to well MCM-06), high tide from transect T4 (adjacent to well MCM-14), and high and low tides from the 4th location in each of the transects (i.e., T1-4, T2-4, T3-4, and T4-4). In both the September and December 2021 events, samples were collected from two background locations. One background surface water location sampled was the low tide background location, BG-1LT, in Cowpen Creek, north of its confluence with Burnett Creek. The other surface water sample was collected at high tide from background location 2, or BG-2HT, located in the Turtle River, north of its confluence with Gibson Creek. Samples were collected from locations shown in Figures 6-10. Surface water samples are collected in accordance with USEPA Region 4 *Science and Ecosystem Support Division (SESD), Operating Procedure, Surface Water Sampling* SESDPROC-201-R4 (December 16, 2016).

The laboratory reports associated with the surface water sampling events are provided in Appendix D. Georgia Power will continue collecting the surface water samples semiannually to support assessment of corrective measures.

3.0 SAMPLE METHODOLOGY & ANALYSES

The following sections describe the methods used to conduct groundwater and surface water monitoring as well as the sampling results that were obtained from sampling events at the former AP-1 during the reporting period.

3.1 GROUNDWATER ELEVATION MEASUREMENT

Prior to each sampling event, groundwater levels were recorded from piezometers and wells in the network at the former AP-1. Groundwater measurements were taken from transducers installed in 16 wells (MCM-01, -02, -04 through -07, -11, -12, -14 through -20, and DPZ-02) and 8 piezometers (MCM-03, -08, -13, DPZ-01, and DPZ-03 through -06). When other piezometers in the network are utilized for potentiometric surface maps, they are gauged by hand using a Heron water level indicator. Groundwater elevations calculated during the September 2021 monitoring events are summarized in Table 1. Groundwater elevation data were used to develop a high tide and low tide potentiometric surface elevation contour map for each event (Figures 2 and 3). Groundwater flow at the Site is discussed in Section 1.1.

3.2 GROUNDWATER GRADIENT AND HORIZONTAL FLOW VELOCITY

The horizontal groundwater flow velocity at the former AP-1 was calculated using a derivation of Darcy's Law. Specifically,

$$V = \frac{K * i}{\eta_e}$$

Where:

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

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

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

$\eta_e =$ Effective porosity (percent)

Horizontal groundwater flow velocities were calculated for two well pairs at high and low tide using groundwater elevations collected from transducers on September 13, 2021. Groundwater flow velocities representing groundwater flowing from the mainland to former AP-1 (between MCM-02

and MCM-16) and from the island to former AP-1 (between MCM-11 and MCM-12) increased slightly during high tide compared to low tide (Table 5). Groundwater flow between MCM-02 and MCM-16 was 0.0398 ft/ day at low tide and 0.0424 ft/ day at high tide, while groundwater flow for MCM-11 and MCM-12 was 0.0396 ft/ day at low tide and 0.0400 ft/day at high tide. The groundwater direction during high tide was from the marsh to former AP-1 and at low tide from former AP-1 to the marsh. Average groundwater flow velocities were 0.041 ft/day or 15.05 feet per year (ft/year) at high tide and 0.040 ft/day or 14.50 ft/yr at low tide.

3.3 GROUNDWATER SAMPLING

Groundwater samples were collected from the compliance well network and select piezometers using low-flow sampling procedures in accordance with § 257.93(a). Purging and sampling was performed using a peristaltic pump with the intake tubing lowered to the midpoint of the well screen (or as appropriate determined by the water level). QED dedicated pumps are utilized in monitoring wells MCM-01, MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, MCM-15, MCM-16, and MCM-17. Non-disposable equipment was decontaminated before use and between well locations.

An AquaTroll (In-Situ field instrument) was used to monitor and record field water quality parameters (pH, conductivity, dissolved oxygen (DO), temperature, and oxidation reduction potential [ORP]) during well purging to verify stabilization prior to sampling. Turbidity was monitored using a LaMotte 2020we (or similar) 1970-USEPA and ISO Compliant Model turbidity meter.

Groundwater samples were collected when the following stabilization criteria were met:

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

Once stabilization was achieved, unfiltered samples were collected in appropriately preserved laboratory-supplied containers, placed in ice-packed coolers. No filtered samples were collected during this reporting period.

Upon completion of the sampling events, samples were submitted to Pace Analytical Services, LLC (Pace) following chain-of-custody protocol. The field sampling forms generated during the assessment monitoring events conducted during this reporting period are included in Appendix B.

3.4 LABORATORY ANALYSES

Laboratory analyses were performed by Pace, which is accredited by National Environmental Laboratory Accreditation Program (NELAP) and maintains a NELAP certification for all Appendix III and Appendix IV constituents analyzed for this project.

The groundwater analytical results from the semiannual assessment monitoring event conducted in September 2021 are summarized in Table 6, and the laboratory analytical reports are provided in Appendix B. The surface water results for the September and December 2021 events are summarized in Table 7, and the laboratory analytical reports are provided in Appendix D. The pH field measurements recorded during the sampling events are also provided in Table 6.

3.5 QUALITY ASSURANCE AND QUALITY CONTROL

During each sampling event, quality assurance/quality control samples (QA/QC) were collected at a rate of one sample per every 10 detection samples. QA/QC samples included field equipment rinsate blanks (EQBL), field blanks (FBL), and duplicate (DUP) samples. QA/QC sample data were evaluated during data validation (as described below) and are included in Appendices A and C.

Groundwater quality data for the assessment events were independently validated by Environmental Standards 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 (RPDs), post digestion spikes, laboratory and field duplicate 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). Based on the data validation, the data collected during September 2021 are acceptable for use in determining the compliance status of the Site. The associated data validation results are provided in Appendix B with the laboratory reports.

4.0 STATISTICAL ANALYSIS

Statistical analysis of the reporting period groundwater monitoring data was performed by Groundwater Stats Consulting, LLC (GSC), following the appropriate certified statistical methodology for the Site. The report generated from the statistical analysis is provided in Appendix E (GSC, 2022). A summary of methods and results are provided in the following sections.

4.1 METHODS

The statistical method used at the Site was developed by GSC using methodology presented in Statistical Analysis of Groundwater Data at RCRA Facilities, Unified Guidance, March 2009, US EPA 530/ R-09-007 (US EPA, 2009). To develop the statistical methods, analytical data collected during the background period were evaluated and used to develop statistical limits for each Appendix III parameter and metals required by the existing GA EPD permit. 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 US EPA regulations.

Appendix III statistical analysis was performed to determine if Appendix III constituents have returned to background levels. Appendix IV constituents were evaluated to determine if concentrations statistically exceeded the established state and federal GWPS. Detailed statistical methods used for Appendix III and Appendix IV constituents are discussed in statistical analysis package provided in Appendix E and summarized in Sections 4.1.1 and 4.1.2.

4.1.1 Appendix III Constituents

The statistical test used to evaluate the groundwater monitoring data was the interwell prediction limit (PL) method for Appendix III constituents (boron, calcium, chloride, fluoride, pH, sulfate, and total dissolved solids [TDS]) combined with the option of a 1-of-2 verification resampling strategy. Interwell prediction limits, constructed from all available pooled upgradient well data were used to evaluate the most recent compliance sample from each downgradient well reported during the September 2021 sample event.

If data from a sampling event initially exceed the PL, the resampling strategy may be used to verify the result. In 1-of-2 resampling, one independent resample may be collected and evaluated within 90 days to determine whether the initial exceedance is verified. If the resample exceeds the PL, the initial exceedance is verified, and a statistically significant increase (SSI) is determined. When the resample result does not verify the initial result, there is no SSI. If resampling is not performed, the initial exceedance is a confirmed exceedance.

4.1.2 Appendix IV Constituents

Background limits were used when determining the Appendix IV GWPS under USEPA rule 40 CFR § 257.95(h) and GA EPD CCR Rule 391-3-4-.10(6)(a). Parametric tolerance limits were used to calculate background limits from pooled upgradient well data when data followed a normal or transformed-normal distribution for Appendix IV parameters with a target of 95% confidence and 95% coverage. When data contained greater than 50% non-detects or when the data distribution did not follow a normal or transformed-normal distribution, a nonparametric tolerance limit was used. The confidence and coverage levels for nonparametric tolerance limits are dependent upon the number of background samples.

USEPA revised the federal CCR Rule on July 30, 2018, updating GWPS for cobalt, lead, lithium, and molybdenum. As described in 40 CFR § 257.95(h)(1-3), the GWPS 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.

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

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

Following the above federal and state rule requirements, GWPS were established for statistical comparison of Appendix IV constituents and are presented in Tables 8 and 9.

4.2 STATISTICAL ANALYSES RESULTS

Based on review of the full Appendix III statistical analysis discussion presented in Appendix E, groundwater conditions have not returned to background and assessment monitoring should continue. Review of the Sanitas results indicates that using the GWPS established according to both 40 CFR §257.95(h) and 391-3-4-.10(6)(a), the following SSLs were identified during the reporting period:

AP-1 (Federal CCR Rule):

- Arsenic: MCM-06
- Lithium: MCM-06 and DPZ-02

AP-1 (GA EPD CCR Rule):

- Arsenic: MCM-06
- Lithium: MCM-06, MCM-14, and DPZ-02

A groundwater exceedance notification has been placed in the operating record pursuant to 40 CFR § 257.95(g). The lithium SSL in MCM-06 in excess of the state and federal GWPS was previously addressed with an ASD which was submitted to GA EPD on November 17, 2020. The lithium SSL in MCM-14 in excess of the state GWPS is addressed in a separate 2021 ASD (Appendix F), submitted to GA EPD on October 25, 2021.

With respect to the SSL of lithium identified at DPZ-02 above the state GWPS, and federal GWPS, GPC will either submit an ASD or initiate an ACM by April 29, 2022, as required by 40 CFR § 257.95(g)(3)(i - ii).

4.2.1 Delineation Data

The SSL identified for arsenic at MCM-06 is vertically delineated to below the state and federal GWPS by delineation well DPZ-02.

As described in Section 2.3.1, due to the presence of a surface water feature in the downgradient direction of MCM-06, installation of wells to horizontally characterize this area is infeasible. Georgia Power collected surface water samples from along four transects in the tidal marsh adjacent to wells MCM-05, MCM-06, MCM-07, and MCM-14 of former AP-1. Arsenic was not detected above the Georgia instream water quality standard for dissolved arsenic for marine estuary environments (0.036 mg/L) and laboratory reporting limits of 0.015 to 0.050 mg/L (depending on sample date and location, with the higher detection limits due to high ionic strength surface water) in surface water samples collected to date (Table 7); therefore, no impacts to surface water have been detected and horizontal delineation is complete.
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5.0 ALTERNATE SOURCE DEMONSTRATION

Pursuant to regulations in § 257.95(g)(3)(ii), Arcadis U.S., Inc. (Arcadis) prepared an ASD for the SSLs of lithium reported for well MCM-06 (Arcadis, 2020a) and MCM-14 (Arcadis, 2021). The ASDs present multiple lines of evidence that indicate that the lithium observed at former AP-1 is due to a natural source – i.e., brackish surface water. Lithium is a naturally occurring element in seawater and is present in the brackish water that is a mix of seawater and freshwater surrounding the site. The ASD for MCM-14 is provided in Appendix F of this report for reference. GA EPD approved the ASD for lithium at monitoring well MCM-06 on April 22, 2021. The approval was conditional on the ASD being updated after 2-years with additional monitoring data. An update to the ASD will be submitted in the 2022 Semi-Annual Groundwater Monitoring and Corrective Action Report.

6.0 MONITORING PROGRAM STATUS

6.1 ASSESSMENT MONITORING STATUS

Pursuant to 40 CFR 257.96(b), Georgia Power will continue to monitor the groundwater at the former AP-1 in accordance with the assessment monitoring program regulations of 40 CFR 257.95 as corrective measures to address arsenic in MCM-06 are evaluated. 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.

6.2 ASSESSMENT OF CORRECTIVE MEASURES

An ACM report was submitted to GA 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 the *Semiannual Remedy Selection and Design Progress Report* provided in Appendix C. The Semiannual Progress Report summarizes:

(i) the current conceptual site model applicable to evaluating groundwater corrective measures proposed in the ACM Report (Arcadis, 2020b);

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

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

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

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

7.0 CONCLUSIONS & FUTURE ACTIONS

This *2021 Semiannual Groundwater Monitoring and Corrective Action Report for Georgia Power's Plant McManus Inactive Ash Pond AP-1* was prepared to fulfill the requirements of USEPA's CCR Rule and Georgia EPD rule 391-3-4-.10(6)(c). Statistical evaluations of the groundwater monitoring data from the September 2021 event at the former AP-1 identified the continued presence of an SSLs of arsenic and lithium in monitoring well MCM-06 and lithium in monitoring well MCM-14. The lithium SSLs in MCM-06 and MCM-14 are addressed with separate ASDs. An ASD or ACM addendum for the new SSL of lithium above the state and federal GWPS identified at DPZ-02 will be submitted by April 29, 2022. The arsenic SSL in MCM-06 is vertically delineated below the state and federal GWPS by DPZ-02. Based on the surface water data collected to date, the arsenic SSL in MCM-06 does not appear in adjacent surface water. Surface water data will be collected quarterly and reported in semiannual and annual groundwater monitoring reports.

Georgia Power will continue to monitor groundwater in the vicinity of former AP-1 under the current assessment monitoring program and adaptively manage the Site as new data become available. Georgia Power will continue efforts to assess corrective measures as presented in the *Semiannual Remedy Selection and Design Progress Report* provided in Appendix C**.**

The next semiannual assessment sampling event is planned for February 2022. The January 2022 assessment monitoring event will include sampling and analysis of Appendix III and IV constituents.

8.0 REFERENCES

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TABLES

Table 1
Summary of Groundwater Elevations
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, Georgia

				Collection Date	September 13, 2021	September 13, 2021
			High Tide			15:13
			Low Tide		8:34	
				Start Collection	10:00	15:00
				Stop Collection	N/A	N/A
Well ID	**Top of Casing Elevation (ft NAVD 88)**	**Top of Casing Elevation (April 16, 2020) [ft NAVD 88]**	**Difference Between Elevations (ft NAVD 88)**	**Well Bottom Elevation (ft NAVD 88)**	**Low Tide GW Elevation (ft NAVD 88)[1]**	**High Tide GW Elevation (ft NAVD 88)[1]**
MCM-01	8.76	8.63	-0.13	-18.56	4.33	4.52
MCM-02	10.58	11.25	0.67	-16.77	6.85	6.77
MCM-03	10.00	9.97	-0.03	-17.70	3.29	3.31
MCM-04	12.47	12.39	-0.08	-16.10	2.89	3.51
MCM-05	10.09	10.04	-0.05	-17.96	1.72	3.12
MCM-06	10.17	10.15	-0.02	-17.03	1.06	2.96
MCM-07	10.22	10.20	-0.02	-13.53	2.24	2.91
MCM-08	9.41	9.42	0.01	-18.88	2.95	2.97
MCM-10	11.77	11.75	-0.02	-12.19	NM	NM
MCM-11	10.37	10.23	-0.14	-13.63	4.86	4.82
MCM-12	12.03	11.87	-0.16	-16.97	2.99	2.93
MCM-13	12.67	12.56	-0.11	-14.79	2.33	2.52
MCM-14	11.66	11.50	-0.16	-16.45	1.11	3.19
MCM-15	12.87	12.84	-0.03	-13.73	3.77	4.02
MCM-16	15.81	16.02	0.21	-12.58	7.16	7.10
MCM-17	11.67	11.49	-0.18	-15.77	2.09	2.75
MCM-18	9.00	9.00	0.00	-18.86	2.84	2.85
MCM-19	8.71	8.71	0.00	-19.61	1.50	3.08
MCM-20	10.07	10.07	0.00	-12.98	1.32	3.02
MW-01R	12.61	NS	NS	-14.83	NM	NM
MW-02	11.10	NS	NS	-15.28	NM	NM
MW-03	11.26	NS	NS	-15.34	NM	NM
MW-04	9.20	NS	NS	-17.85	NM	NM
MW-05	13.24	NS	NS	-14.21	NM	NM
MW-06R	13.31	NS	NS	-10.29	NM	NM
MW-07	9.94	NS	NS	-11.62	NM	NM
MW-09	10.10	NS	NS	-14.05	NM	NM
MW-10	10.24	NS	NS	-17.06	NM	NM
MW-11	10.35	NS	NS	-23.05	NM	NM
MW-12	10.08	NS	NS	-23.47	NM	NM
PZ-9	9.41	9.41	0.00	-14.64	2.82	2.77
PZ-10	12.17	12.17	0.00	-10.74	2.92	2.92
PZ-11	9.37	9.37	0.00	-9.71	3.41	3.34
PZ-12	7.90	7.90	0.00	-10.80	2.86	3.22
DPZ-01	9.71	9.71	0.00	-8.99	1.45	3.20
DPZ-02	9.54	9.54	0.00	-9.16	1.12	3.08
DPZ-03	9.46	9.46	0.00	-9.24	1.63	3.06
DPZ-04	11.45	11.45	0.00	-7.25	1.92	3.05
DPZ-05	11.00	11.00	0.00	-7.70	2.19	3.71
DPZ-06	12.04	12.04	0.00	-6.66	3.40	3.56
RW-1	9.39	NS	NS	-17.03	NM	NM
RW-2	9.96	NS	NS	-17.31	NM	NM
RW-3	9.89	NS	NS	-22.40	NM	NM
RW-4	9.49	NS	NS	-17.39	NM	NM
RW-5	10.11	NS	NS	-27.11	NM	NM
RW-6	10.25	NS	NS	-26.34	NM	NM
RW-7	10.19	NS	NS	-27.99	NM	NM
RW-8	10.22	NS	NS	-21.40	NM	NM
RW-9	10.26	NS	NS	-27.45	NM	NM
RW-10	10.56	NS	NS	-27.24	NM	NM
AP Monitor	Transducer	NM	NM	NM	3.00	3.01
Oil Dock Monitor	Transducer	NM	NM	NM	-2.67	3.87

Notes:
[1]Values calculated using April 16, 2020 survey data;
NS = Not Surveyed
NM = Not Measured
MW-06 was abandoned in 2017
MW-08 was abandoned in 2019
PZ-1 through PZ-8 were abandoned in 2019
MCM-09 was abandoned in 2020
Updated by KS 2/15/22; Checked by SKW 2/15/22

Table 2
Monitoring Well Network Summary
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Well ID	Well Function	Northing[1] (ft)	Easting[1] (ft)	Top of Casing Elevation[2] (ft NAVD 88)	Ground Surface Elevation[2,3] (ft NAVD 88)	Total Depth[4] (ft BTOC)	Top of Screen Elevation[2] (ft NAVD 88)	Bottom of Screen Elevation[2] (ft NAVD 88)
MCM-01	Upgradient Monitoring	443727.31	852732.08	8.63	5.70	27.32	-7.93	-17.93
MCM-02	Upgradient Monitoring	444496.53	852663.64	11.25	8.25	27.35	-5.22	-15.22
MCM-04	Downgradient Monitoring	444804.73	851695.27	12.39	9.50	28.57	-5.18	-15.18
MCM-05	Downgradient Monitoring	444716.63	851309.91	10.04	7.80	28.05	-7.25	-17.25
MCM-06	Downgradient Monitoring	444407.22	850782.11	10.15	7.87	27.20	-6.27	-16.27
MCM-07	Downgradient Monitoring	444059.38	850195.96	10.20	7.52	23.75	-2.76	-12.76
MCM-11	Upgradient Monitoring	442429.80	851072.91	10.23	7.52	24.00	-3.34	-13.34
MCM-12	Sidegradient Monitoring	442821.17	851312.45	11.87	8.99	29.00	-6.12	-16.12
MCM-14	Sidegradient Monitoring	443358.82	852317.59	11.50	8.66	28.11	-6.23	-16.23
MCM-15	Upgradient Monitoring	444825.53	851949.02	12.84	10.18	26.60	-4.53	-14.53
MCM-16	Upgradient Monitoring	444551.32	852716.60	16.02	13.04	28.39	-1.72	-11.72
MCM-17	Sidegradient Monitoring	443074.41	851899.68	11.49	9.09	27.44	-4.81	-14.81
MCM-18	Upgradient Monitoring	442067.07	851698.41	9.00	6.01	27.86	-8.76	-18.76
MCM-19	Upgradient Monitoring	441157.82	852338.86	8.71	5.77	28.32	-9.53	-19.53
MCM-20	Upgradient Monitoring	440944.40	852185.15	10.07	7.07	23.05	-2.98	-12.98
DPZ-02	Vertical Delineation Well	444391.02	850757.94	9.54	7.34	43.46	-28.84	-33.84

Notes:

1. Georiga State Plane - NAD 83 East Zone.
2. NAVD 88 - North American Vertical Datum of 1988
3. Ground Surface measured at the mag nail in the concrete pad
4. ft BTOC - feet below top of casing

Updated by: WL 10/6/21
Checked by: CL 10/12/21

Table 3
Piezometer Network Summary
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Well ID	Well Function	Northing[1] (ft)	Easting[1] (ft)	Top of Casing Elevation[2] (ft NAVD 88)	Ground Surface Elevation[2,3] (ft NAVD 88)	Total Depth[4] (ft BTOC)	Top of Screen Elevation[2] (ft NAVD 88)	Bottom of Screen Elevation[2] (ft NAVD 88)
MW-01R	Piezometer	443632.5586	852715.1308	12.61	NA	27.44	0.17	-14.83
MW-02	Piezometer	443354.3859	852304.1959	11.10	NA	26.80	-0.70	-15.70
MW-03	Piezometer	443081.3356	851904.8549	11.26	NA	27.00	-0.60	-15.60
MW-04	Piezometer	442854.6307	851408.1446	9.20	NA	27.40	-3.00	-18.00
MW-05	Piezometer	442578.1982	850752.3477	13.24	NA	27.60	0.90	-14.10
MW-06R	Piezometer	442378.5335	850499.0375	13.25	NA	20.00	3.25	-6.75
MW-07	Piezometer	442792.9894	850224.3520	9.94	NA	21.50	3.40	-11.60
MW-09	Piezometer	443736.7716	849920.8976	10.10	NA	24.20	0.80	-14.20
MW-10	Piezometer	444045.1224	850181.4059	10.24	NA	27.10	-2.80	-17.80
MW-11	Piezometer	444359.5263	850709.3205	10.42	NA	32.20	-8.20	-23.20
MW-12	Piezometer	444667.3620	851186.9003	10.08	NA	32.30	-8.60	-23.60
MCM-03	Piezometer	444414.8800	851984.6700	9.97	7.10	27.70	-7.73	-17.73
MCM-08	Piezometer	443758.8000	849716.9600	9.42	6.55	28.29	-8.39	-18.39
MCM-10	Piezometer	442791.8800	850453.0500	11.75	8.61	23.96	-1.25	-11.25
MCM-13	Piezometer	443030.2300	851826.1900	12.56	9.79	27.46	-4.90	-14.90
PZ-09	Piezometer	444082.13	849471.64	9.41	6.57	24.05	-4.56	-14.56
PZ-10	Piezometer	444949.09	851673.98	12.17	9.74	22.91	-0.66	-10.66
PZ-11	Piezometer	443222.86	849280.51	9.37	6.57	19.08	-4.63	-9.63
PZ-12	Piezometer	443593.34	849396.87	7.90	5.02	18.70	-5.72	-10.72
DPZ-01	Piezometer	444695.71	851277.40	9.71	7.36	40.78	-25.99	-30.99
DPZ-03	Piezometer	444073.16	850218.83	9.46	7.04	47.57	-33.03	-38.03
DPZ-04	Piezometer	443062.60	851881.94	11.45	8.96	51.23	-34.70	-39.70
DPZ-05	Piezometer	443376.32	852342.11	11.00	8.60	51.20	-35.12	-40.12
DPZ-06	Piezometer	444614.79	851846.27	12.04	9.59	40.50	-23.38	-28.38
RW-1	Dewatering for Construction	444094.0012	850251.1636	9.39	NA	26.42	-2.61	-12.61
RW-2	Dewatering for Construction	444161.8377	850367.2034	9.96	NA	27.27	-2.83	-12.83
RW-3	Dewatering for Construction	444228.4307	850479.7659	9.89	NA	32.29	-3.07	-13.07
RW-4	Dewatering for Construction	444299.3305	850599.2604	9.49	NA	26.88	-2.97	-12.97
RW-5	Dewatering for Construction	444369.6765	850714.2378	10.11	NA	37.22	-2.92	-22.92
RW-6	Dewatering for Construction	444436.3732	850831.7225	10.25	NA	36.58	-2.67	-22.67
RW-7	Dewatering for Construction	444504.5857	850949.3512	10.19	NA	38.17	-7.69	-22.69
RW-8	Dewatering for Construction	444572.9068	851064.4671	10.22	NA	31.62	-2.80	-17.80
RW-9	Dewatering for Construction	444641.6045	851181.2956	10.26	NA	37.71	-7.66	-22.66
RW-10	Dewatering for Construction	444706.8701	851295.5011	10.56	NA	37.80	-7.54	-22.54

Notes:

1. Georiga State Plane - NAD 83 East Zone.
2. NAVD 88 - North American Vertical Datum of 1988
3. Ground Surface measured at the mag nail in the concrete pad
4. ft BTOC - feet below top of casing
5. PZ- 1 through PZ-8 were abandoned in 2019
6. MW-08 was abandoned in 2019
7. MCM-09 was abandoned in 2020

NA - Not Available
Updated by : VF 2/1/22
Checked by: KMS 2/3/22

Table 4
Groundwater Sampling Event Summary
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Well ID	Hydraulic Location	September 2021	**Status of Monitoring Well**
Purpose of Sampling Event		**Appendix IV Semi-Annual**	
MCM-01	Upgradient	X	Assessment
MCM-02	Upgradient	X	Assessment
MCM-04	Downgradient	X	Assessment
MCM-05	Downgradient	X	Assessment
MCM-06	Downgradient	X	Assessment
MCM-07	Downgradient	X	Assessment
MCM-11	Upgradient	X	Assessment
MCM-12	Sidegradient	X	Assessment
MCM-14	Sidegradient	X	Assessment
MCM-15	Upgradient	X	Assessment
MCM-16	Upgradient	X	Assessment
MCM-17	Sidegradient	X	Assessment
MCM-18	Upgradient	X	Assessment
MCM-19	Upgradient	X	Assessment
MCM-20	Upgradient	X	Assessment
DPZ-02	Vertical Delineation Well	X	Assessment

Notes:
X - Sampled
Updated By: KMS 2/15/22
Checked By: SKW 2/15/22

Table 5
2021 Horizontal Groundwater Flow Velocity Calculations
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

	9/13/2021		9/13/2021	
Tide Level	Low	Low	High	High
Well 1	MCM-16	MCM-11	MCM-16	MCM-11
Well 2	MCM-02	MCM-12	MCM-02	MCM-12
Distance between	75.63	458.82	75.63	458.82
Head Well 1	7.16	4.86	7.10	4.82
Head Well 2	6.85	2.99	6.77	2.93
Hydraulic gradient i	0.00410	0.00408	0.00436	0.00412
K (cm/s site avg. from slug tests)	0.0012	0.0012	0.0012	0.0012
Effectivey Porosity Ne (0.35 from HAR)	0.35	0.35	0.35	0.35
Velocity in cm/s	1.41E-05	1.40E-05	1.50E-05	1.41E-05
Velocity in ft/day	0.0398	0.0396	0.0424	0.0400
Velocity in ft/year	14.54	14.46	15.48	14.61
Average Velocity ft/day	0.040		0.041	
Average Velocity ft/year	14.50		15.05	

K - Hydraulic Conductivity
HAR - Hydraulic Assessment Report
cm/s - Centimeters per second
ft/ day - feet per day
ft/year - feet per year

Updated By: WL 10/12/21
Checked By: CL 10/13/21

Table 6
Groundwater Data Summary
Plant McManus
Inactive Ash Pond (AP-1)
Brunswick, GA

WELL ID	Appendix III							Appendix IV													
Sample Date	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	pH	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Radium	Selenium	Thallium
DPZ-02																					
9/14/2021	2.0	273	7610	<0.050	971	16400	7.11	<0.0040	0.022	0.082	<0.0010	<0.0012	<0.0099	<0.0010	<0.0015	0.092	<0.12	<0.0025	6.97	<0.0014	<0.0010
MCM-01																					
9/14/2021	0.079 J	9.6	16.7	<0.050	34.2	66.0	5.13	<0.0010	0.0055	0.065	<0.00025	<0.00030	<0.0025	<0.00025	<0.00038	<0.0025	<0.12	<0.00063	1.06 U	<0.00036	<0.00025
MCM-02																					
9/14/2021	0.093 J	4.2	21.8	<0.050	30.4	76.0	5.04	<0.0010	0.00067 J	0.082	<0.00025	<0.00030	0.0056	<0.00025	<0.00038	<0.0025	<0.12	0.00080 J	0.878 U	<0.00036	<0.00025
MCM-04																					
9/14/2021	0.070 J	12.5	28.5	<0.050	96.2	193	5.09	<0.0010	0.0047 J	0.043	<0.00025	<0.00030	<0.0025	0.0054	<0.00038	<0.0025	<0.12	<0.00063	2.69 U	<0.00036	<0.00025
MCM-05																					
9/14/2021	0.95 J	13.9	3940	<0.050	459	8020	6.67	<0.0040	0.020 J	0.080	<0.0010	<0.0012	<0.0099	<0.0010	<0.0015	0.042 J	<0.12	0.0099 J	7.15	<0.0014	<0.0010
MCM-06																					
9/14/2021	1.1	299	5360	<0.050	490	11800	6.94	<0.0040	0.51	0.22	<0.0010	<0.0012	<0.0099	<0.0010	<0.0015	0.084	0.16 J	<0.0025	8.11	<0.0014	<0.0010
MCM-07																					
9/14/2021	1.5	225	6300	<0.050	819	13400	6.28	<0.0040	0.013 J	0.20	<0.0010	<0.0012	<0.0099	<0.0010	<0.0015	0.035 J	<0.12	<0.0025	10.3	<0.0014	<0.0010
MCM-11																					
9/14/2021	0.060 J	14.0	62.8	0.18	33.1	191	5.50	<0.0010	0.011	0.070	<0.00025	<0.00030	<0.0025	<0.00025	<0.00038	0.0033 J	<0.12	<0.00063	1.37 U	<0.00036	<0.00025
MCM-12																					
9/13/2021	1.4	6.0	433	1.4	<0.50	1450	6.24	<0.0020	<0.00087	0.086	0.0011	<0.00060	<0.0050	<0.00050	<0.00077	0.010 J	<0.12	<0.0013	2.54	<0.00072	<0.00050
MCM-14																					
9/13/2021	1.2	165	5010	<0.050	680	11400	6.30	<0.0020	<0.00087	0.16	<0.00050	<0.00060	<0.0050	<0.00050	<0.00077	0.047	<0.12	<0.0013	8.38	<0.00072	<0.00050
MCM-15																					
9/14/2021	0.068 J	6.7	13.6	<0.050	16.7	96.0	5.39	<0.0010	0.0035 J	0.050	0.00034 J	<0.00030	0.0027 J	<0.00025	<0.00038	<0.0025	<0.12	0.00090 J	1.15 U	<0.00036	<0.00025
MCM-16																					
9/14/2021	0.071 J	6.5	30	<0.050	24.4	<25.0	4.69	<0.0010	<0.00043	0.16	0.00062	<0.00030	<0.0025	<0.00025	<0.00038	<0.0025	<0.12	<0.00063	2.02	<0.00036	<0.00025
MCM-17																					
9/14/2021	2.1	190	4090	<0.050	460	8820	6.77	<0.0060	<0.0026	0.20	<0.0015	<0.0018	<0.015	<0.0015	<0.0023	0.035 J	<0.12	<0.0038	8.82	<0.0021	<0.0015
MCM-18																					
9/14/2021	0.20 J	18.8	1020	<0.050	134	2190	4.28	<0.0020	0.0029 J	0.098	0.0031	<0.00060	<0.0050	<0.00050	<0.00077	<0.0050	<0.12	<0.0013	8.31	<0.00072	<0.00050
MCM-19																					
9/14/2021	1.2	93.6	7250	<0.050	995	14600	5.31	<0.0040	0.018 J	0.13	0.0062	<0.0012	<0.0099	<0.0010	<0.0015	0.011 J	<0.12	<0.0025	26.2	0.0022 J	<0.0010

Table 6
Groundwater Data Summary
Plant McManus
Inactive Ash Pond (AP-1)
Brunswick, GA

WELL ID	Appendix III							Appendix IV													
Sample Date	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	pH	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Lead	Lithium	Mercury	Molybdenum	Radium	Selenium	Thallium
MCM-20																					
9/14/2021	0.91 J	61.1	5100	<0.050	659	10300	3.72	<0.0040	0.028	0.11	0.016	<0.0012	<0.0099	0.03	<0.0015	0.020 J	<0.12	<0.0025	34.9	0.0018 J	<0.0010

Notes:
1. Results for substances (except radium and pH) are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L) and pH is reported in standard units (SU).
2. Radium reported in Combined Radium 226 + 228
3. < indicates the substance was not detected above the analytical Method Detection Limit (MDL)
4. J - Estimated value. Substance was detected above the MDL and below the laboratory's Reporting Limit (RL)
5. U - Estimated value for radium. Substance was detected below the Minimum Detection Concentration (MDC).
6. TDS - Total Dissolved Solids
7. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring
8. Blank values indicate the parameter was not analyzed
9. pH - Parameter measured in the field

Updated by: KMS 2/15/22
Checked by: SKW 2/15/22

Table 7
Surface Water Analytical Results -September and December 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, Ga

Sample ID	Date	pH	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Lithium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Total Alk (mg/L)	TDS (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)
BG-1LT	9/30/2021	6.90	147	434	138	3720	0.0027 J	1.3	0.060	78.2	<5.0	78.2	13400	5520	<5.0	725
BG-1LT	12/15/2021	7.50	235	706	238	5730	<0.0017	0.25 J	0.010 J	103	<5.0	103	19800	9830	<5.0	1330
BG-2HT	9/22/2021	7.13	178	524	171	6380	0.0040 J	2.8	0.14	108	<5.0	108	21100	9780	<4.5	1710
BG-2HT	12/15/2021	7.62	259	796	268	7240	<0.0017	0.28 J	0.011 J	109	<5.0	109	22600	10600	<5.0	1540
T1-1HT	9/23/2021	7.05	126	366	122	3230	0.0027 J	1.7 J	0.060	66.7	<5.0	66.7	11800	4790	<1.0	668
T1-1LT	9/30/2021	6.99	141	411	130	3530	0.0014 J	1.1	0.042	76.2	<5.0	76.2	11600	5160	<5.0	689
T1-2HT	9/23/2021	6.97	185	538	177	4650	0.0025 J	2.1 J	0.076	87.9	<5.0	87.9	18300	7100	<1.0	982
T1-2HTS	9/23/2021	7.15	124	351	118	3060	0.0025 J	1.5 J	0.057	64.6	<5.0	64.6	12000	4750	<2.5	1670
T1-2LT	9/30/2021	7.00	132	388	124	3320	0.0014 J	1.1	0.041	67.5	<5.0	67.5	11200	5110	<5.0	679
T1-3HT	9/23/2021	6.99	173	499	166	4400	0.0021 J	2.0 J	0.073	90.2	<5.0	90.2	15700	6880	<2.5	953
T1-3HTS	9/23/2021	7.08	131	375	124	3300	0.0023 J	1.7 J	0.060	73.0	<5.0	73.0	12900	5000	<2.5	698
T1-3LT	9/30/2021	7.14	125	360	116	3110	0.0016 J	1.0	0.038	66.6	<5.0	66.6	11900	4680	<5.0	614
T1-4HT	9/23/2021	6.98	152	439	144	3900	0.0022 J	1.9 J	0.069	81.1	<5.0	81.1	15400	7960	<4.5	1110
T1-4HT	12/15/2021	7.47	254	748	245	6160	<0.0043	2.2 J	0.091 J	103	<5.0	103	21000	9760	<5.0	1350
T1-4HTS	9/23/2021	7.14	136	402	130	3450	0.0021 J	1.7 J	0.066	74.9	<5.0	74.9	13000	5270	<4.5	717
T1-4HTS	12/15/2021	7.44	241	712	234	5800	<0.0043	2.2 J	0.091 J	99.3	<5.0	99.3	21300	9680	<5.0	1340
T1-4LT	9/30/2021	7.09	101	288	90.7 J	2410	0.0019 J	1.2	0.046	60.8	<5.0	60.8	8100	3850	<5.0	496
T1-4LT	12/15/2021	7.67	245	725	240	6000	<0.0043	2.6	0.099 J	99.0	<5.0	99.0	20400	9790	<5.0	1330
T2-1HT	9/23/2021	6.89	124	363	118	3100	0.0020 J	1.4 J	0.054	68.7	<5.0	68.7	11700	4750	<4.5	638
T2-1HT	12/15/2021	7.58	252	739	242	5900	<0.0043	2.2 J	0.092 J	97.7	<5.0	97.7	18800	9670	<5.0	1340
T2-2HT	9/23/2021	6.87	165	496	160	4250	0.0032 J	1.9 J	0.071	83.1	<5.0	83.1	16400	6450	<4.5	884
T2-2HT	12/15/2021	7.48	258	755	248	6050	<0.0043	2.4 J	0.094 J	101	<5.0	101	17200	9630	<5.0	1330
T2-2HTS	9/23/2021	7.05	113	330	106	2810	0.0024 J	1.5 J	0.048 J	65.2	<5.0	65.2	10400	4400	<4.5	585

Sample ID	Date	pH	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Lithium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Total Alk (mg/L)	TDS (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)
T2-2HTS	12/15/2021	7.46	260	760	248	5840	<0.0043	2.4 J	0.096 J	99.4	<5.0	99.4	18600	9700	<5.0	1340
T2-2LT	9/30/2021	7.16	124	358	115	3080	0.0016 J	0.91	0.036 J	69.9	<5.0	69.9	10000	4530	<5.0	586
T2-3HT	9/23/2021	6.96	172	516	166	4370	0.0026 J	2.2 J	0.078	84.0	<5.0	84.0	16200	6700	<4.5	918
T2-3HT	12/15/2021	7.45	239	699	231	5920	<0.0043	2.4 J	0.095 J	96.6	<5.0	96.6	19400	9700	<5.0	1330
T2-3HTS	9/23/2021	7.18	104	303	97.6 J	2570	0.0023 J	1.4	0.048 J	61.5	<5.0	61.5	10000	4090	<4.5	540
T2-3HTS	12/15/2021	7.45	248	733	242	6260	<0.0043	2.4 J	0.093 J	102	<5.0	102	19200	9750	<5.0	1330
T2-3LT	9/30/2021	7.15	129	372	119	3200	0.0016 J	1.1	0.041	69.0	<5.0	69.0	11400	5020	<5.0	664
T2-4HT	9/23/2021	6.96	154	460	148	3930	0.0019 J	1.9 J	0.064	77.1	<5.0	77.1	13600	5670	<4.5	768
T2-4HT	12/15/2021	7.49	251	734	240	5840	<0.0043	2.4 J	0.092 J	100	<5.0	100	19100	9480	<5.0	1290
T2-4HTS	9/23/2021	7.09	130	381	123	3230	0.0019 J	1.4 J	0.053	54.5	<5.0	54.5	12000	5130	<4.5	694
T2-4HTS	12/15/2021	7.50	243	711	235	6000	<0.0043	2.3 J	0.089 J	101	<5.0	101	20000	9540	<5.0	1300
T2-4LT	9/30/2021	6.97	80.1	222	70.6 J	1880	<0.0013	0.58 J	0.022 J	54.1	<5.0	54.1	6770	2870	<5.0	361
T2-4LT	12/15/2021	7.68	224	675	221	5760	<0.0043	2.4 J	0.085 J	102	<5.0	102	19200	9780	<5.0	1330
T3-1HT	9/23/2021	7.12	88.6	252	81.1 J	2150	0.0022 J	1.2	0.040 J	71.2	<5.0	71.2	8300	3230	<4.5	419
T3-2HT	9/23/2021	6.79	138	402	130	3430	0.0034 J	1.8 J	0.071	75.0	<5.0	75.0	13400	5520	<4.5	744
T3-2HTS	9/23/2021	7.04	83.7	234	77.2 J	2050	0.0021 J	1.1	0.034 J	55.6	<5.0	55.6	7450	3180	<4.5	410
T3-2LT	9/30/2021	7.13	107	301	96.8 J	2600	0.0015 J	0.75 J	0.029 J	64.1	<5.0	64.1	9170	3960	<5.0	503
T3-3HT	9/23/2021	6.92	156	467	152	4160	0.0024 J	1.8 J	0.071	82.7	<5.0	82.7	14100	6340	<4.5	862
T3-3HTS	9/23/2021	7.24	70.4	193	64.3 J	1690	0.0020 J	0.83 J	0.027 J	45.4	<5.0	45.4	6600	2500	<4.5	315
T3-3LT	9/30/2021	6.89	101	289	90.0 J	2460	0.0015 J	0.75	0.028 J	62.5	<5.0	62.5	8670	3740	<5.0	475
T3-4HT	9/23/2021	6.94	122	374	121	3860	0.0022 J	1.8 J	0.069	80.0	<5.0	80.0	14200	6020	<4.5	815
T3-4HT	12/15/2021	7.45	248	732	241	6200	<0.0043	2.4 J	0.091 J	101	<5.0	101	19800	9440	<5.0	1290
T3-4HTS	9/23/2021	7.09	107	312	103	2640	0.0023 J	1.0 J	0.041 J	61.5	<5.0	61.5	9850	4080	<4.5	538
T3-4HTS	12/15/2021	7.46	246	730	243	6180	<0.0043	2.4 J	0.089 J	99.0	<5.0	99.0	19000	9740	<5.0	1330
T3-4LT	9/30/2021	6.90	84.1	232	73.1 J	1990	<0.0013	0.65 J	0.025 J	56.2	<5.0	56.2	8070	3110	<5.0	396
T3-4LT	12/15/2021	7.62	247	744	251	6390	<0.0017	0.24 J	<0.010	102	<5.0	102	20800	9790	<5.0	1330
T4-1HB	9/22/2021	7.06	174	530	170	4540	0.0031 J	1.8 J	0.077	90.4	<5.0	90.4	15500	7160	<4.5	983

Sample ID	Date	pH	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Lithium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Total Alk (mg/L)	TDS (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)
T4-1HB	12/15/2021	7.35	263	774	257	6190	<0.0043	2.5	0.094 J	106	<5.0	106	20800	11300	<5.0	1410
T4-1HS	9/22/2021	7.22	172	513	169	4400	0.0028 J	1.8 J	0.067	88.5	<5.0	88.5	12900	6540	<4.5	891
T4-1HS	12/15/2021	7.40	276	814	268	6430	<0.0043	2.5 J	0.095 J	105	<5.0	105	21200	10400	<5.0	1430
T4-1L	9/22/2021	7.35	165	495	165	4650	0.0042 J	1.7 J	0.088	90.3	<5.0	90.3	15600	6920	<4.5	944
T4-2HB	9/22/2021	7.04	180	541	179	4870	0.0025 J	2.0 J	0.076	97.3	<5.0	97.3	15800	7420	<4.5	1020
T4-2HB	12/15/2021	7.44	273	808	269	6730	<0.0043	2.4 J	0.096 J	105	<5.0	105	21100	10100	<5.0	1440
T4-2HS	9/22/2021	7.13	170	504	166	4440	0.0028 J	1.8 J	0.069	90.5	<5.0	90.5	14800	6730	<4.5	918
T4-2HS	12/15/2021	7.45	294	868	284	6710	<0.0043	2.6	0.10 J	108	<5.0	108	21100	11300	<5.0	1410
T4-2L	9/22/2021	7.31	174	512	170	4520	0.0040 J	2.0 J	0.090	94.8	<5.0	94.8	14800	6820	<4.5	933
T4-3HB	9/22/2021	7.04	168	506	168	4800	0.0025 J	2.1 J	0.076	92.0	<5.0	92.0	16000	7410	<4.5	1020
T4-3HB	12/15/2021	7.49	284	838	278	6790	<0.0043	2.6	0.098 J	105	<5.0	105	21800	9880	<5.0	1420
T4-3HS	9/22/2021	7.16	168	502	165	4600	0.0027 J	1.9 J	0.072	92.4	<5.0	92.4	15400	6790	<4.5	928
T4-3HS	12/15/2021	7.55	281	832	274	6570	<0.0043	2.6	0.10 J	107	<5.0	107	22200	11800	<5.0	1410
T4-3L	9/22/2021	7.38	182	542	178	<12.2	0.0037 J	1.7 J	0.086	95.8	<5.0	95.8	15200	7160	<4.5	966
T4-4HB	9/22/2021	7.08	167	499	165	4620	0.0027 J	2.0 J	0.081	92.5	<5.0	92.5	16400	7310	<4.5	1090
T4-4HB	12/15/2021	7.52	281	830	275	6300	<0.0043	2.8	0.10 J	105	<5.0	105	21400	10800	<5.0	1420
T4-4HS	9/22/2021	7.17	186	547	180	4810	0.0028 J	2.1 J	0.087	88.9	<5.0	88.9	16200	7220	<4.5	994
T4-4HS	12/15/2021	7.50	252	752	251	6180	<0.0043	2.8	0.10 J	104	<5.0	104	21500	11300	<5.0	1430
T4-4L	9/22/2021	7.32	313	953	307	4500	0.0035 J	1.9 J	0.086	95.1	<5.0	95.1	15200	6830	<4.5	1250
T4-4L	12/15/2021	7.60	249	751	251	6270	<0.0017	0.26 J	0.010 J	109	<5.0	109	20700	10600	<5.0	1410

1. Resuts shown in milligrams per liter (mg/L).
2. "<" - not detected at the laboratory's Method Detection Limit (MDL) shown
3. "J" - Estimated comcentration greater than the laboratiry's MDL, but less than the laboratory's reporting limit.

Updated by KMS 2/3/22

Checked by VF 2/3/22

Table 8
Federal Groundwater Protection Standards
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, Ga

MCMANUS ASH POND GWPS - FEDERAL				
Constituent Name	**MCL**	**RSL**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006
Arsenic, Total (mg/L)	0.01		0.031	0.031
Barium, Total (mg/L)	2		0.22	2
Beryllium, Total (mg/L)	0.004		0.021	0.021
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.011	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.036	0.036
Combined Radium, Total (pCi/L)	5		55.8	55.8
Fluoride, Total (mg/L)	4		1.5	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.015
Lithium, Total (mg/L)	n/a	0.04	0.026	0.04
Mercury, Total (mg/L)	0.002		0.0007	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.1
Selenium, Total (mg/L)	0.05		0.15	0.15
Thallium, Total (mg/L)	0.002		0.001	0.002

Groundwater Protection Standards from Appendix E - Groundwater Stats Consulting, February 2022

Notes:

mg/L = milligram per liter;
pCi/L = picocuries per liter;
n/a = Not Available;
MCL = Maximum Contaminant Level;
RSL = Rule Specified Limit (Not yet adopted by EPD)

[1] The background limits are used when determining the groundwater protection standard (GWPS) under 40 CFR § 257.95 (h) and Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10(6)(a).

[2] Under 40 CFR § 257(h)(1-3) the GWPS is: (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background levels for constituents where the background level is higher than the MCL or rule specified GWPS.

Table 9
Georgia State Groundwater Protection Standards
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, Ga

MCMANUS ASH POND GWPS - STATE				
Constituent Name	**MCL**	**RSL**	**Background Limit**	**GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006
Arsenic, Total (mg/L)	0.01		0.031	0.031
Barium, Total (mg/L)	2		0.22	2
Beryllium, Total (mg/L)	0.004		0.021	0.021
Cadmium, Total (mg/L)	0.005		0.0025	0.005
Chromium, Total (mg/L)	0.1		0.011	0.1
Cobalt, Total (mg/L)	n/a	0.006	0.036	0.036
Combined Radium, Total (pCi/L)	5		55.8	55.8
Fluoride, Total (mg/L)	4		1.5	4
Lead, Total (mg/L)	n/a	0.015	0.005	0.005
Lithium, Total (mg/L)	n/a	0.04	0.026	0.026
Mercury, Total (mg/L)	0.002		0.0007	0.002
Molybdenum, Total (mg/L)	n/a	0.1	0.01	0.01
Selenium, Total (mg/L)	0.05		0.15	0.15
Thallium, Total (mg/L)	0.002		0.001	0.002

Groundwater Protection Standards from Appendix E - Groundwater Stats Consulting, February 2022

Notes:

mg/L = milligram per liter;
pCi/L = picocuries per liter;
n/a = Not Available;
MCL = Maximum Contaminant Level;
RSL = Rule Specified Limit (Not yet adopted by EPD)

[1] The background limits are used when determining the groundwater protection standard (GWPS) under 40 CFR § 257.95 (h) and Georgia Environmental Protection Division (EPD) Rule 391-3-4-.10(6)(a).

[2] Under existing EPD rules, the GWPS is (i) the MCL, (ii) where the MCL is not established, the background concentration, or (iii) background levels for constituents where the background level is higher than the MCL.

FIGURES

Resolute
Environmental & Water Resources Consulting

Woodstock, GA	February 2022	**Site Location Map** **Plant McManus** **Inactive Ash Pond 1 (AP-1)** Brunswick, GA	**Figure** **1**

2021 Semiannual Groundwater Monitoring and Corrective Action Report

N

0 250 500 1,000 1,500 Feet

Burnett Creek 3.87

Turtle River 3.87

Gibson Creek 3.87

PZ-10 2.92
MCM-04 3.51
MCM-15 4.02
MCM-05 3.12
DPZ-01 3.20*
DPZ-06 3.56*
MCM-16 7.10
MCM-06 2.96
DPZ-02 3.08*
MCM-03 3.31
MCM-02 6.77
MW-11 NG
PZ-9 2.77
MCM-07 2.91
DPZ-03 3.06*
MCM-08 2.97
MW-09 NG
AP-1 3.01
MCM-01 4.52
PZ-12 3.22
MCM-14 3.19
PZ-11 3.34
DPZ-05 3.71*
MCM-17 2.75
DPZ-04 3.05*
MCM-10 NG
MCM-12 2.93
MCM-13 2.52
MCM-11 4.82
MCM-18 2.85
MCM-19 3.08
MCM-20 3.02

Legend

- Deep Piezometer
- Monitoring Well
- Piezometer
- Vertical Delineation Well
- Groundwater Potentiometric Contour
- Inferred Groundwater Potentiometric Contour
- Groundwater Flow Direction
- CCR Permitted Boundary

MCM-12 2.93 Groundwater Elevation (Monitoring Well)

MCM-08 2.97 Groundwater Elevation (Piezometer)

DPZ-01 3.20* Groundwater Elevation (Deep Piezometer)

DPZ-02 3.08* Groundwater Elevation (Vertical Delineation Well)

Notes:
NG - Not Gauged, No transducer at this location
Potentiometric surface elevations shown in ft NAVD 88.
*Deep piezometers not utilized for contouring. DPZ-02 has been reclassified as a vertical delineation welll.

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Potentiometric Surface Map
High Tide September 13, 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure
2

N

0 250 500 1,000 1,500

Feet

Burnett Creek
-2.67

Turtle River
-2.67

Gibson Creek
-2.67

AP-1
3.00

PZ-10
2.92

MCM-04
2.89

MCM-15
3.77

MCM-05
1.72

DPZ-01
1.45*

DPZ-06
3.40*

MCM-16
7.16

MCM-03
3.29

MCM-06
1.06

DPZ-02
1.12*

MCM-02
6.85

PZ-9
2.82

MCM-07
2.24

DPZ-03
1.63*

MCM-08
2.95

MW-09
NG

MCM-01
4.33

PZ-12
2.86

PZ-11
3.41

MCM-14
1.11

DPZ-05
2.19*

MCM-17
2.09

DPZ-04
1.92*

MCM-12
2.99

MCM-13
2.33

MCM-10
NG

MCM-11
4.86

MCM-18
2.84

MCM-19
1.50

MCM-20
1.32

Legend

- Deep Piezometer
- Monitoring Well
- Piezometer
- Vertical Delineation Well
- Groundwwater Flow Direction
- Inferred Groundwater Potentiometric Contour
- Groundwater Potentiometric Contour
- CCR Permitted Boundary

MCM-12 2.99 Groundwater Elevation (Monitoring Well)

MCM-08 2.95 Groundwater Elevation (Piezometer)

DPZ-01 1.45* Groundwater Elevation (Deep Piezometer)

DPZ-02 1.12* Groundwater Elevation (Vertical Delineation Well)

Notes:
NG - Not Gauged, No transducer at this location
Potentiometric surface elevations shown in ft NAVD 88.
*Deep piezometers not utilized for contouring. DPZ-02 has been reclassified as a vertical delineation welll.

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Potentiometric Surface Map
Low Tide September 13, 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure
3

N

0 210 420 840 1,260 1,680

Feet

PZ-10
MCM-15
MCM-05
DPZ-01
MCM-04
DPZ-06
MCM-16
MCM-02
MCM-06
DPZ-02
MCM-03
PZ-9
DPZ-03
MCM-07
MCM-08
MCM-01
PZ-12
DPZ-05
MCM-14
PZ-11
DPZ-04
MCM-17
MCM-13
MCM-12
MCM-10
MCM-11
MCM-18
MCM-19
MCM-20

Legend

- Monitoring Well
- Vertical Delineation Well
- Groundwater Piezometers
- Deep Piezometers
- CCR Permitted Boundary

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Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Site Plan and Monitoring Wells Location Map
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure 4

2021 Semiannual Groundwater Monitoring and Corrective Action Report

N

0 140 280 560 840 1,120
Feet

PZ-10
RW-10
RW-9
DPZ-01
RW-8
PZ-8*
RW-7
PZ-7*
RW-6
PZ-6*
RW-5
PZ-5*
RW-4
PZ-4*
RW-3
PZ-3*
RW-2
PZ-2*
RW-1
PZ-1*
DPZ-03
MW-10
PZ-09
MCM-08
MW-09
PZ-12
PZ-11
MCM-09*
MW-07
MCM-10
MW-05
MW-06R
MW-04
DPZ-06
MCM-03
MW-02
DPZ-05
PZ-14A
MW-03
MCM-13
DPZ-04

Legend

- Deep Piezometer
- Piezometer
- Dewatering Well
- CCR Permitted Boundary

Note:

* Abandoned Piezometer

2021 Semiannual Groundwater Monitoring and Corrective Action Report

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Woodstock, GA | February 2022

Piezometer Location Map
Plant McManus
Inactive Ash Pond 1 (AP-1)

Brunswick, GA

Figure

5

N

0 420 840 1,680 2,520 3,360

Feet

Low Tide Bkgd

Cowpen Creek

Burnett Creek

T3-4

T2-4 T3-3 MCM-05 MCM-15

T1-4 T2-3 T3-2 MCM-16

T2-2 T2-1 Pond 3 MCM-04

T1-3 Pond 2 MCM-02

T1-2 T1-1 MCM-06

Pond 1 MCM-01

MCM-07

Former AP-1

Pond 4 T4-1

MCM-14 T4-2 T4-3

MCM-12 MCM-17

MCM-11 T4-4

Island

MCM-18

MCM-19

MCM-20

Gibson Creek

Mainland

Turtle River

High Tide Bkgd

Legend

- Surface Water
- Background Surface Water Sample
- CCR Permitted Boundary

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute

Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Surface Water
Sample Collection Locations
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure

6

N

0 95 190 380 570 760

Feet

T3-4HT
T3-4HTS
T3-4LT

Transect3

T3-3HT
T3-3HTS
T3-3LT

T2-4HT
T2-4HTS
T2-4LT

T3-2HT
T3-2HTS
T3-2LT

T3-1HT

Transect2

T2-3HT
T2-3HTS
T2-3LT

T2-2HT
T2-2HTS
T2-2LT

T2-1HT

Burnett Creek

T1-4HT
T1-4HTS
T1-4LT

Transect1

T1-3HT
T1-3HTS
T1-3LT

T1-2HT
T1-2HTS
T1-2LT

T1-1HT
T1-1LT

Former AP-1

Legend

- Surface Water Sample
- CCR Permitted Boundary

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Surface Water Samples
Transects 1-3
September 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure

7

N

0 115 230 460 690 920

Feet

Former AP-1

T4-1L
T4-1HB
T4-1HS

T4-2L
T4-2HB
T4-2HS

T4-3L
T4-3HB
T4-3HS

Transect4

T4-4L
T4-4HB
T4-4HS

Gibson Creek

Legend

- Surface Water Sample
- CCR Permitted Boundary

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Surface Water Samples
Transect 4
September 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure

8

N

0 95 190 380 570 760

Feet

T3-4HT
T3-4HTS
T3-4LT

Transect3

T2-4HT
T2-4HTS
T2-4LT

Transect2

Burnett Creek

T1-4HT
T1-4HTS
T1-4LT

T2-3HT
T2-3HTS

T2-2HT
T2-2HTS

T2-1HT

Transect1

Former AP-1

Legend

- Surface Water Sample
- CCR Permitted Boundary

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Surface Water Samples
Transects 1-3
December 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure

9

N

0 115 230 460 690 920

Feet

Former AP-1

T4-1HB
T4-1HS

T4-2HB
T4-2HS

T4-3HB
T4-3HS

Transect4

T4-4L
T4-4HB
T4-4HS

Gibson Creek

Legend

- Surface Water Sample
- CCR Permitted Boundary

2021 Semiannual Groundwater Monitoring and Corrective Action Report

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | February 2022

Surface Water Samples
Transect 4
December 2021
Plant McManus
Inactive Ash Pond 1 (AP-1)
Brunswick, GA

Figure

10

APPENDIX A

Monitoring Well Maintenance and Repair Documentation

MEMORANDUM

Date: October 15, 2021

To: Kristen Jurinko – Georgia Power

CC: Ben Hodges

From: Resolute Environmental

Subject: Plant McManus Ash Pond - Well Maintenance and Repair Documentation
Georgia Power Company

Resolute Environmental has prepared this memorandum to provide documentation of groundwater monitoring well maintenance and/or repair performed at PLANT MCMANUS during the semiannual reporting period. All repairs and maintenance were completed in accordance with the Georgia Environmental Protection Division (GAEPD) guidance on routine visual inspections of groundwater monitoring wells.

Georgia Power Site/Unit	Date Performed	Well ID	Maintenance/ Repair Performed
Plant McManus Ash Pond	9/13/21	MCM-18	Signage added
Plant McManus Ash Pond	9/13/21	MCM-19	Signage added
Plant McManus Ash Pond	9/13/21	MCM-20	Signage added
Plant McManus Ash Pond	9/13/21	DPZ-1	Signage added
Plant McManus Ash Pond	9/13/21	DPZ-2	Signage added
Plant McManus Ash Pond	9/13/21	DPZ-3	Signage added
Plant McManus Ash Pond	9/13/21	DPZ-4	Signage added
Plant McManus Ash Pond	9/13/21	DPZ-5	Signage added
Plant McManus Ash Pond	9/13/21	DPZ-6	Signage added
Plant McManus Ash Pond	9/13/21	PZ-9	Signage added
Plant McManus Ash Pond	9/13/21	PZ-10	Signage added

Plant McManus Ash Pond	9/13/21	PZ-11	Signage added
Plant McManus Ash Pond	9/13/21	PZ-12	Signage added

All maintenance and repairs are also documented in the September 2021 semiannual groundwater monitoring report.

APPENDIX B

Laboratory Analytical and Field Sampling Reports For Monitoring Events

Appendix B1: Laboratory Analytical Data Packages and Data Validation Reports

Appendix B2: Field Sampling Forms and Calibration Reports

APPENDIX B1

Laboratory Analytical and Data Validation Reports

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

September 30, 2021

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

RE: Project: MCMANUS CCR
Pace Project No.: 92561848

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 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

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

Sincerely,

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

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(770)734-4200

CERTIFICATIONS

Project: MCMANUS CCR
Pace Project No.: 92561848

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92561848001	**MCM-12**	Water	09/13/21 17:53	09/16/21 11:30
92561848002	**FB-1**	Water	09/13/21 17:00	09/16/21 11:30
92561848003	**MCM-14**	Water	09/13/21 17:32	09/16/21 11:30
92561848004	**MCM-01**	Water	09/14/21 09:59	09/16/21 11:30
92561848005	**MCM-02**	Water	09/14/21 11:26	09/16/21 11:30
92561848006	**MCM-04**	Water	09/14/21 09:52	09/16/21 11:30
92561848007	**MCM-11**	Water	09/14/21 13:08	09/16/21 11:30
92561848008	**MCM-15**	Water	09/14/21 16:48	09/16/21 11:30
92561848009	**MCM-16**	Water	09/14/21 11:10	09/16/21 11:30
92561848010	**MCM-18**	Water	09/14/21 13:28	09/16/21 11:30
92561848011	**MCM-19**	Water	09/14/21 15:01	09/16/21 11:30
92561848012	**MCM-20**	Water	09/14/21 16:27	09/16/21 11:30
92561848013	**DPZ-2**	Water	09/14/21 14:52	09/16/21 11:30
92561848014	**DUP-1**	Water	09/14/21 00:00	09/16/21 11:30
92561848015	**DUP-2**	Water	09/14/21 00:00	09/16/21 11:30
92561848016	**FB-2**	Water	09/14/21 17:05	09/16/21 11:30
92561848017	**EB-1**	Water	09/14/21 17:10	09/16/21 11:30
92561848018	**MCM-05**	Water	09/14/21 13:35	09/16/21 11:30
92561848019	**MCM-06**	Water	09/14/21 11:43	09/16/21 11:30
92561848020	**MCM-07**	Water	09/14/21 09:23	09/16/21 11:30
92561848021	**MCM-17**	Water	09/14/21 17:28	09/16/21 11:30

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92561848001	**MCM-12**	EPA 6010D	RDT	1	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848002	**FB-1**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848003	**MCM-14**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848004	**MCM-01**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848005	**MCM-02**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848006	**MCM-04**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848007	**MCM-11**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92561848008	**MCM-15**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848009	**MCM-16**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848010	**MCM-18**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848011	**MCM-19**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848012	**MCM-20**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848013	**DPZ-2**	EPA 6010D	RDT	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848014	**DUP-1**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848015	**DUP-2**	EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7470A	NMP	1	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848016	**FB-2**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848017	**EB-1**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848018	**MCM-05**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848019	**MCM-06**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848020	**MCM-07**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92561848021	**MCM-17**	EPA 6010D	CBV, RDT	4	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	NMP	1	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

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SUMMARY OF DETECTION

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561848001	**MCM-12**					
	Performed by	CUSTOMER			09/16/21 17:32	
	pH	6.24	Std. Units		09/16/21 17:32	
EPA 6010D	Calcium	6.0	mg/L	0.10	09/23/21 23:26	
EPA 6020B	Barium	0.086	mg/L	0.010	09/20/21 10:21	
EPA 6020B	Beryllium	0.0011	mg/L	0.0010	09/20/21 10:21	
EPA 6020B	Boron	1.4	mg/L	0.50	09/20/21 10:21	M1
EPA 6020B	Lithium	0.010J	mg/L	0.025	09/20/21 10:21	
SM 2540C-2011	Total Dissolved Solids	1450	mg/L	50.0	09/21/21 12:40	1g,H1
EPA 300.0 Rev 2.1 1993	Chloride	433	mg/L	10.0	09/19/21 19:26	
EPA 300.0 Rev 2.1 1993	Fluoride	1.4	mg/L	0.10	09/18/21 21:34	
92561848002	**FB-1**					
EPA 6020B	Molybdenum	0.00028J	mg/L	0.0010	09/20/21 10:38	
92561848003	**MCM-14**					
	Performed by	CUSTOMER			09/16/21 17:33	
	pH	6.30	Std. Units		09/16/21 17:33	
EPA 6010D	Calcium	165	mg/L	1.0	09/23/21 23:23	
EPA 6010D	Magnesium	393	mg/L	1.0	09/23/21 23:23	
EPA 6010D	Potassium	123	mg/L	50.0	09/23/21 23:23	
EPA 6010D	Sodium	2910	mg/L	250	09/24/21 13:46	
EPA 6020B	Barium	0.16	mg/L	0.010	09/21/21 15:42	
EPA 6020B	Boron	1.2	mg/L	0.50	09/21/21 15:42	
EPA 6020B	Lithium	0.047	mg/L	0.025	09/20/21 11:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	139	mg/L	5.0	09/24/21 16:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	139	mg/L	5.0	09/24/21 16:05	
SM 2540C-2011	Total Dissolved Solids	11400	mg/L	833	09/21/21 12:40	1g,H1
EPA 300.0 Rev 2.1 1993	Chloride	5010	mg/L	100	09/19/21 19:41	
EPA 300.0 Rev 2.1 1993	Sulfate	680	mg/L	100	09/19/21 19:41	
92561848004	**MCM-01**					
	Performed by	CUSTOMER			09/16/21 18:08	
	pH	5.13	Std. Units		09/16/21 18:08	
EPA 6010D	Calcium	9.6	mg/L	0.10	09/23/21 01:04	
EPA 6020B	Arsenic	0.0055	mg/L	0.0050	09/21/21 15:45	
EPA 6020B	Barium	0.065	mg/L	0.0050	09/21/21 15:45	
EPA 6020B	Boron	0.079J	mg/L	0.25	09/21/21 15:45	
SM 2540C-2011	Total Dissolved Solids	66.0	mg/L	25.0	09/21/21 12:47	
EPA 300.0 Rev 2.1 1993	Chloride	16.7	mg/L	1.0	09/18/21 22:21	
EPA 300.0 Rev 2.1 1993	Sulfate	34.2	mg/L	1.0	09/18/21 22:21	
92561848005	**MCM-02**					
	Performed by	CUSTOMER			09/16/21 18:08	
	pH	5.04	Std. Units		09/16/21 18:08	
EPA 6010D	Calcium	4.2	mg/L	0.10	09/23/21 01:07	
EPA 6020B	Arsenic	0.00067J	mg/L	0.0050	09/21/21 15:53	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561848005	**MCM-02**					
EPA 6020B	Barium	0.082	mg/L	0.0050	09/21/21 15:53	
EPA 6020B	Boron	0.093J	mg/L	0.25	09/21/21 15:53	
EPA 6020B	Chromium	0.0056	mg/L	0.0050	09/21/21 15:53	
EPA 6020B	Molybdenum	0.00080J	mg/L	0.0050	09/21/21 15:53	
SM 2540C-2011	Total Dissolved Solids	76.0	mg/L	25.0	09/21/21 12:47	
EPA 300.0 Rev 2.1 1993	Chloride	21.8	mg/L	1.0	09/18/21 22:36	
EPA 300.0 Rev 2.1 1993	Sulfate	30.4	mg/L	1.0	09/18/21 22:36	
92561848006	**MCM-04**					
	Performed by	CUSTOMER			09/16/21 18:09	
	pH	5.09	Std. Units		09/16/21 18:09	
EPA 6010D	Calcium	12.5	mg/L	0.10	09/23/21 01:10	
EPA 6020B	Arsenic	0.0047J	mg/L	0.0050	09/21/21 15:56	
EPA 6020B	Barium	0.043	mg/L	0.0050	09/21/21 15:56	
EPA 6020B	Boron	0.070J	mg/L	0.25	09/21/21 15:56	
EPA 6020B	Cobalt	0.0054	mg/L	0.0050	09/21/21 15:56	
SM 2540C-2011	Total Dissolved Solids	193	mg/L	25.0	09/21/21 12:47	
EPA 300.0 Rev 2.1 1993	Chloride	28.5	mg/L	1.0	09/21/21 11:05	
EPA 300.0 Rev 2.1 1993	Sulfate	96.2	mg/L	1.0	09/21/21 11:05	M1
92561848007	**MCM-11**					
	Performed by	CUSTOMER			09/16/21 18:09	
	pH	5.50	Std. Units		09/16/21 18:09	
EPA 6010D	Calcium	14.0	mg/L	0.10	09/23/21 01:14	
EPA 6020B	Arsenic	0.011	mg/L	0.0050	09/21/21 16:04	
EPA 6020B	Barium	0.070	mg/L	0.0050	09/21/21 16:04	
EPA 6020B	Boron	0.060J	mg/L	0.25	09/21/21 16:04	
EPA 6020B	Lithium	0.0033J	mg/L	0.012	09/20/21 11:26	
SM 2540C-2011	Total Dissolved Solids	191	mg/L	25.0	09/21/21 12:47	
EPA 300.0 Rev 2.1 1993	Chloride	62.8	mg/L	1.0	09/19/21 20:27	
EPA 300.0 Rev 2.1 1993	Fluoride	0.18	mg/L	0.10	09/19/21 20:27	
EPA 300.0 Rev 2.1 1993	Sulfate	33.1	mg/L	1.0	09/19/21 20:27	
92561848008	**MCM-15**					
	Performed by	CUSTOMER			09/16/21 18:09	
	pH	5.39	Std. Units		09/16/21 18:09	
EPA 6010D	Calcium	6.7	mg/L	0.10	09/23/21 01:17	
EPA 6020B	Arsenic	0.0035J	mg/L	0.0050	09/21/21 16:11	
EPA 6020B	Barium	0.050	mg/L	0.0050	09/21/21 16:11	
EPA 6020B	Beryllium	0.00034J	mg/L	0.00050	09/20/21 11:30	
EPA 6020B	Boron	0.068J	mg/L	0.25	09/21/21 16:11	
EPA 6020B	Chromium	0.0027J	mg/L	0.0050	09/21/21 16:11	
EPA 6020B	Molybdenum	0.00090J	mg/L	0.0050	09/21/21 16:11	
SM 2540C-2011	Total Dissolved Solids	96.0	mg/L	25.0	09/21/21 12:47	
EPA 300.0 Rev 2.1 1993	Chloride	13.6	mg/L	1.0	09/19/21 20:43	
EPA 300.0 Rev 2.1 1993	Sulfate	16.7	mg/L	1.0	09/19/21 20:43	

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SUMMARY OF DETECTION

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561848009	**MCM-16**					
	Performed by	CUSTOMER			09/16/21 18:09	
	pH	4.69	Std. Units		09/16/21 18:09	
EPA 6010D	Calcium	6.5	mg/L	0.10	09/23/21 01:20	
EPA 6020B	Barium	0.16	mg/L	0.0050	09/21/21 16:30	
EPA 6020B	Beryllium	0.00062	mg/L	0.00050	09/20/21 12:27	
EPA 6020B	Boron	0.071J	mg/L	0.25	09/21/21 16:30	
EPA 300.0 Rev 2.1 1993	Chloride	30.0	mg/L	1.0	09/19/21 20:58	
EPA 300.0 Rev 2.1 1993	Sulfate	24.4	mg/L	1.0	09/19/21 20:58	
92561848010	**MCM-18**					
	Performed by	CUSTOMER			09/16/21 18:09	
	pH	4.28	Std. Units		09/16/21 18:09	
EPA 6010D	Calcium	18.8	mg/L	0.10	09/23/21 01:23	
EPA 6020B	Arsenic	0.0029J	mg/L	0.010	09/21/21 15:49	
EPA 6020B	Barium	0.098	mg/L	0.010	09/21/21 15:49	
EPA 6020B	Beryllium	0.0031	mg/L	0.0010	09/20/21 12:38	
EPA 6020B	Boron	0.20J	mg/L	0.50	09/21/21 15:49	
SM 2540C-2011	Total Dissolved Solids	2190	mg/L	278	09/21/21 12:48	
EPA 300.0 Rev 2.1 1993	Chloride	1020	mg/L	100	09/19/21 21:14	
EPA 300.0 Rev 2.1 1993	Sulfate	134	mg/L	100	09/19/21 21:14	
92561848011	**MCM-19**					
	Performed by	CUSTOMER			09/16/21 18:09	
	pH	5.31	Std. Units		09/16/21 18:09	
EPA 6010D	Calcium	93.6	mg/L	0.10	09/23/21 01:27	
EPA 6020B	Arsenic	0.018J	mg/L	0.020	09/21/21 16:00	
EPA 6020B	Barium	0.13	mg/L	0.020	09/21/21 16:00	
EPA 6020B	Beryllium	0.0062	mg/L	0.0020	09/20/21 12:41	
EPA 6020B	Boron	1.2	mg/L	1.0	09/21/21 16:00	
EPA 6020B	Lithium	0.011J	mg/L	0.050	09/20/21 12:41	
EPA 6020B	Selenium	0.0022J	mg/L	0.040	09/21/21 16:00	
SM 2540C-2011	Total Dissolved Solids	14600	mg/L	1250	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	7250	mg/L	100	09/19/21 21:29	
EPA 300.0 Rev 2.1 1993	Sulfate	995	mg/L	100	09/19/21 21:29	
92561848012	**MCM-20**					
	Performed by	CUSTOMER			09/16/21 18:10	
	pH	3.72	Std. Units		09/16/21 18:10	
EPA 6010D	Calcium	61.1	mg/L	0.10	09/23/21 01:30	
EPA 6020B	Arsenic	0.028	mg/L	0.020	09/21/21 16:08	
EPA 6020B	Barium	0.11	mg/L	0.020	09/21/21 16:08	
EPA 6020B	Beryllium	0.016	mg/L	0.0020	09/20/21 12:45	
EPA 6020B	Boron	0.91J	mg/L	1.0	09/21/21 16:08	
EPA 6020B	Cobalt	0.030	mg/L	0.020	09/21/21 16:08	
EPA 6020B	Lithium	0.020J	mg/L	0.050	09/20/21 12:45	
EPA 6020B	Selenium	0.0018J	mg/L	0.040	09/21/21 16:08	

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SUMMARY OF DETECTION

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561848012	**MCM-20**					
SM 2540C-2011	Total Dissolved Solids	10300	mg/L	833	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	5100	mg/L	100	09/19/21 21:44	
EPA 300.0 Rev 2.1 1993	Sulfate	659	mg/L	100	09/19/21 21:44	
92561848013	**DPZ-2**					
	Performed by	CUSTOMER			09/16/21 18:10	
	pH	7.11	Std. Units		09/16/21 18:10	
EPA 6010D	Calcium	273	mg/L	1.0	09/23/21 23:49	
EPA 6020B	Arsenic	0.022	mg/L	0.020	09/21/21 16:26	
EPA 6020B	Barium	0.082	mg/L	0.020	09/21/21 16:26	
EPA 6020B	Boron	2.0	mg/L	1.0	09/21/21 16:26	
EPA 6020B	Lithium	0.092	mg/L	0.050	09/20/21 12:48	
SM 2540C-2011	Total Dissolved Solids	16400	mg/L	1250	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	7610	mg/L	100	09/19/21 22:30	
EPA 300.0 Rev 2.1 1993	Sulfate	971	mg/L	100	09/19/21 22:30	
92561848014	**DUP-1**					
EPA 6010D	Calcium	6.7	mg/L	0.10	09/23/21 01:50	
EPA 6020B	Barium	0.15	mg/L	0.0050	09/21/21 16:34	
EPA 6020B	Beryllium	0.00032J	mg/L	0.00050	09/20/21 12:52	
EPA 6020B	Boron	0.062J	mg/L	0.25	09/21/21 16:34	
SM 2540C-2011	Total Dissolved Solids	79.0	mg/L	25.0	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	30.2	mg/L	1.0	09/21/21 11:21	
EPA 300.0 Rev 2.1 1993	Sulfate	29.1	mg/L	1.0	09/21/21 11:21	
92561848015	**DUP-2**					
EPA 6010D	Calcium	95.6	mg/L	0.10	09/23/21 01:53	
EPA 6020B	Arsenic	0.020J	mg/L	0.020	09/21/21 16:37	
EPA 6020B	Barium	0.13	mg/L	0.020	09/21/21 16:37	
EPA 6020B	Beryllium	0.0062	mg/L	0.0020	09/20/21 12:55	
EPA 6020B	Boron	1.4	mg/L	1.0	09/21/21 16:37	
EPA 6020B	Lithium	0.012J	mg/L	0.050	09/20/21 12:55	
EPA 6020B	Selenium	0.0019J	mg/L	0.040	09/21/21 16:37	
SM 2540C-2011	Total Dissolved Solids	15100	mg/L	1250	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	7230	mg/L	100	09/19/21 23:01	
EPA 300.0 Rev 2.1 1993	Sulfate	978	mg/L	100	09/19/21 23:01	
92561848017	**EB-1**					
EPA 6020B	Barium	0.00024J	mg/L	0.0010	09/21/21 14:37	
92561848018	**MCM-05**					
	Performed by	CUSTOMER			09/16/21 18:10	
	pH	6.67	Std. Units		09/16/21 18:10	
EPA 6010D	Calcium	13.9	mg/L	0.10	09/24/21 00:19	
EPA 6010D	Magnesium	32.4	mg/L	0.10	09/24/21 00:19	
EPA 6010D	Potassium	10.7	mg/L	5.0	09/24/21 00:19	
EPA 6010D	Sodium	2410	mg/L	250	09/24/21 00:09	
EPA 6020B	Arsenic	0.020J	mg/L	0.020	09/21/21 14:59	

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SUMMARY OF DETECTION

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561848018	**MCM-05**					
EPA 6020B	Barium	0.080	mg/L	0.020	09/21/21 22:10	
EPA 6020B	Boron	0.95J	mg/L	1.0	09/21/21 14:59	
EPA 6020B	Lithium	0.042J	mg/L	0.050	09/21/21 22:10	
EPA 6020B	Molybdenum	0.0099J	mg/L	0.020	09/21/21 14:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	233	mg/L	5.0	09/27/21 13:49	
SM 2320B-2011	Alkalinity, Total as CaCO3	233	mg/L	5.0	09/27/21 13:49	
SM 2540C-2011	Total Dissolved Solids	8020	mg/L	625	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	3940	mg/L	100	09/20/21 00:18	
EPA 300.0 Rev 2.1 1993	Sulfate	459	mg/L	100	09/20/21 00:18	
92561848019	**MCM-06**					
	Performed by	CUSTOMER			09/16/21 18:10	
	pH	6.94	Std. Units		09/16/21 18:10	
EPA 6010D	Calcium	299	mg/L	1.0	09/24/21 00:22	
EPA 6010D	Magnesium	515	mg/L	1.0	09/24/21 00:22	
EPA 6010D	Potassium	117	mg/L	50.0	09/24/21 00:22	
EPA 6010D	Sodium	3270	mg/L	250	09/24/21 00:12	
EPA 6020B	Arsenic	0.51	mg/L	0.020	09/21/21 15:06	
EPA 6020B	Barium	0.22	mg/L	0.020	09/21/21 22:14	
EPA 6020B	Boron	1.1	mg/L	1.0	09/21/21 15:06	
EPA 6020B	Lithium	0.084	mg/L	0.050	09/21/21 22:14	
EPA 7470A	Mercury	0.16J	ug/L	0.20	09/29/21 12:15	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	507	mg/L	5.0	09/24/21 20:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	507	mg/L	5.0	09/24/21 20:16	
SM 2540C-2011	Total Dissolved Solids	11800	mg/L	833	09/21/21 12:53	
EPA 300.0 Rev 2.1 1993	Chloride	5360	mg/L	100	09/20/21 16:06	
EPA 300.0 Rev 2.1 1993	Sulfate	490	mg/L	10.0	09/20/21 00:33	
92561848020	**MCM-07**					
	Performed by	CUSTOMER			09/16/21 18:10	
	pH	6.28	Std. Units		09/16/21 18:10	
EPA 6010D	Calcium	225	mg/L	1.0	09/24/21 00:26	
EPA 6010D	Magnesium	496	mg/L	1.0	09/24/21 00:26	
EPA 6010D	Potassium	154	mg/L	50.0	09/24/21 00:26	
EPA 6010D	Sodium	3860	mg/L	250	09/24/21 00:16	
EPA 6020B	Arsenic	0.013J	mg/L	0.020	09/21/21 15:13	
EPA 6020B	Barium	0.20	mg/L	0.020	09/21/21 22:17	
EPA 6020B	Boron	1.5	mg/L	1.0	09/21/21 15:13	
EPA 6020B	Lithium	0.035J	mg/L	0.050	09/21/21 22:17	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	246	mg/L	5.0	09/24/21 20:45	
SM 2320B-2011	Alkalinity, Total as CaCO3	246	mg/L	5.0	09/24/21 20:45	
SM 2540C-2011	Total Dissolved Solids	13400	mg/L	1250	09/21/21 12:56	
EPA 300.0 Rev 2.1 1993	Chloride	6300	mg/L	100	09/20/21 00:48	
EPA 300.0 Rev 2.1 1993	Sulfate	819	mg/L	100	09/20/21 00:48	

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SUMMARY OF DETECTION

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561848021	**MCM-17**					
	Performed by	CUSTOMER			09/16/21 18:11	
	pH	6.77	Std. Units		09/16/21 18:11	
EPA 6010D	Calcium	190	mg/L	1.0	09/28/21 13:06	M1, P8
EPA 6010D	Magnesium	277	mg/L	1.0	09/28/21 13:06	M1
EPA 6010D	Potassium	143	mg/L	50.0	09/28/21 13:06	M1
EPA 6010D	Sodium	2600	mg/L	250	09/29/21 11:58	M1
EPA 6020B	Barium	0.20	mg/L	0.030	09/21/21 18:14	M1
EPA 6020B	Boron	2.1	mg/L	1.5	09/21/21 18:14	M1
EPA 6020B	Lithium	0.035J	mg/L	0.075	09/21/21 18:14	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	535	mg/L	5.0	09/24/21 20:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	535	mg/L	5.0	09/24/21 20:54	
SM 2540C-2011	Total Dissolved Solids	8820	mg/L	625	09/21/21 12:56	
EPA 300.0 Rev 2.1 1993	Chloride	4090	mg/L	100	09/20/21 16:27	
EPA 300.0 Rev 2.1 1993	Sulfate	460	mg/L	10.0	09/20/21 01:34	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-12 **Lab ID: 92561848001** Collected: 09/13/21 17:53 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 17:32		
pH	**6.24**	Std. Units			1		09/16/21 17:32		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**6.0**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 23:26	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.010	0.0020	10	09/17/21 11:44	09/20/21 10:21	7440-36-0	
Arsenic	ND	mg/L	0.010	0.00087	10	09/17/21 11:44	09/20/21 10:21	7440-38-2	
Barium	**0.086**	mg/L	0.010	0.0021	10	09/17/21 11:44	09/20/21 10:21	7440-39-3	
Beryllium	**0.0011**	mg/L	0.0010	0.00050	10	09/17/21 11:44	09/20/21 10:21	7440-41-7	
Boron	**1.4**	mg/L	0.50	0.085	10	09/17/21 11:44	09/20/21 10:21	7440-42-8	M1
Cadmium	ND	mg/L	0.0020	0.00060	10	09/17/21 11:44	09/20/21 10:21	7440-43-9	
Chromium	ND	mg/L	0.010	0.0050	10	09/17/21 11:44	09/20/21 10:21	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00050	10	09/17/21 11:44	09/20/21 10:21	7440-48-4	
Lead	ND	mg/L	0.010	0.00077	10	09/17/21 11:44	09/20/21 10:21	7439-92-1	
Lithium	**0.010J**	mg/L	0.025	0.0050	10	09/17/21 11:44	09/20/21 10:21	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0013	10	09/17/21 11:44	09/20/21 10:21	7439-98-7	
Selenium	ND	mg/L	0.020	0.00072	10	09/17/21 11:44	09/20/21 10:21	7782-49-2	
Thallium	ND	mg/L	0.0047	0.00050	10	09/17/21 11:44	09/20/21 10:21	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:33	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**1450**	mg/L	50.0	50.0	1		09/21/21 12:40		1g,H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**433**	mg/L	10.0	6.0	10		09/19/21 19:26	16887-00-6	
Fluoride	**1.4**	mg/L	0.10	0.050	1		09/18/21 21:34	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/18/21 21:34	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: FB-1 **Lab ID: 92561848002** Collected: 09/13/21 17:00 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 23:39	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	09/17/21 11:44	09/23/21 23:39	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	09/17/21 11:44	09/23/21 23:39	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	09/17/21 11:44	09/23/21 23:39	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0010	0.00020	1	09/17/21 11:44	09/20/21 10:38	7440-36-0	
Arsenic	ND	mg/L	0.0010	0.000087	1	09/17/21 11:44	09/20/21 10:38	7440-38-2	
Barium	ND	mg/L	0.0010	0.00021	1	09/17/21 11:44	09/20/21 10:38	7440-39-3	
Beryllium	ND	mg/L	0.00010	0.000050	1	09/17/21 11:44	09/20/21 10:38	7440-41-7	
Boron	ND	mg/L	0.050	0.0085	1	09/17/21 11:44	09/20/21 10:38	7440-42-8	
Cadmium	ND	mg/L	0.00020	0.000060	1	09/17/21 11:44	09/20/21 10:38	7440-43-9	
Chromium	ND	mg/L	0.0010	0.00050	1	09/17/21 11:44	09/20/21 10:38	7440-47-3	
Cobalt	ND	mg/L	0.0010	0.000050	1	09/17/21 11:44	09/20/21 10:38	7440-48-4	
Lead	ND	mg/L	0.0010	0.000077	1	09/17/21 11:44	09/20/21 10:38	7439-92-1	
Lithium	ND	mg/L	0.0025	0.00050	1	09/17/21 11:44	09/20/21 10:38	7439-93-2	
Molybdenum	**0.00028J**	mg/L	0.0010	0.00013	1	09/17/21 11:44	09/20/21 10:38	7439-98-7	
Selenium	ND	mg/L	0.0020	0.000072	1	09/17/21 11:44	09/20/21 10:38	7782-49-2	
Thallium	ND	mg/L	0.00047	0.000050	1	09/17/21 11:44	09/20/21 10:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:36	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 15:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 15:48		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/21 15:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/21/21 12:40		1g,H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/18/21 21:50	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/21 21:50	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/18/21 21:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-14 **Lab ID: 92561848003** Collected: 09/13/21 17:32 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 17:33		
pH	**6.30**	Std. Units			1		09/16/21 17:33		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**165**	mg/L	1.0	0.94	10	09/17/21 11:44	09/23/21 23:23	7440-70-2	
Magnesium	**393**	mg/L	1.0	0.68	10	09/17/21 11:44	09/23/21 23:23	7439-95-4	
Potassium	**123**	mg/L	50.0	30.4	10	09/17/21 11:44	09/23/21 23:23	7440-09-7	
Sodium	**2910**	mg/L	250	30.5	50	09/17/21 11:44	09/24/21 13:46	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.010	0.0020	10	09/17/21 11:44	09/21/21 15:42	7440-36-0	
Arsenic	ND	mg/L	0.010	0.00087	10	09/17/21 11:44	09/21/21 15:42	7440-38-2	
Barium	**0.16**	mg/L	0.010	0.0021	10	09/17/21 11:44	09/21/21 15:42	7440-39-3	
Beryllium	ND	mg/L	0.0010	0.00050	10	09/17/21 11:44	09/20/21 11:05	7440-41-7	
Boron	**1.2**	mg/L	0.50	0.085	10	09/17/21 11:44	09/21/21 15:42	7440-42-8	
Cadmium	ND	mg/L	0.0020	0.00060	10	09/17/21 11:44	09/21/21 15:42	7440-43-9	
Chromium	ND	mg/L	0.010	0.0050	10	09/17/21 11:44	09/21/21 15:42	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00050	10	09/17/21 11:44	09/21/21 15:42	7440-48-4	
Lead	ND	mg/L	0.010	0.00077	10	09/17/21 11:44	09/21/21 15:42	7439-92-1	
Lithium	**0.047**	mg/L	0.025	0.0050	10	09/17/21 11:44	09/20/21 11:05	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0013	10	09/17/21 11:44	09/21/21 15:42	7439-98-7	
Selenium	ND	mg/L	0.020	0.00072	10	09/17/21 11:44	09/21/21 15:42	7782-49-2	
Thallium	ND	mg/L	0.0047	0.00050	10	09/17/21 11:44	09/21/21 15:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:38	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**139**	mg/L	5.0	5.0	1		09/24/21 16:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 16:05		
Alkalinity, Total as CaCO3	**139**	mg/L	5.0	5.0	1		09/24/21 16:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11400**	mg/L	833	833	1		09/21/21 12:40		1g,H1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5010**	mg/L	100	60.0	100		09/19/21 19:41	16887-00-6	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-14 **Lab ID: 92561848003** Collected: 09/13/21 17:32 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		09/18/21 22:05	16984-48-8	
Sulfate	**680**	mg/L	100	50.0	100		09/19/21 19:41	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-01 **Lab ID: 92561848004** Collected: 09/14/21 09:59 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:08		
pH	**5.13**	Std. Units			1		09/16/21 18:08		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**9.6**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:04	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 15:45	7440-36-0	
Arsenic	**0.0055**	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 15:45	7440-38-2	
Barium	**0.065**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 15:45	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 11:09	7440-41-7	
Boron	**0.079J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 15:45	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 15:45	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 15:45	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 15:45	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 15:45	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 11:09	7439-93-2	
Molybdenum	ND	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 15:45	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 15:45	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 15:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**66.0**	mg/L	25.0	25.0	1		09/21/21 12:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**16.7**	mg/L	1.0	0.60	1		09/18/21 22:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/21 22:21	16984-48-8	
Sulfate	**34.2**	mg/L	1.0	0.50	1		09/18/21 22:21	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-02 **Lab ID: 92561848005** Collected: 09/14/21 11:26 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:08		
pH	**5.04**	Std. Units			1		09/16/21 18:08		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**4.2**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:07	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 15:53	7440-36-0	
Arsenic	**0.00067J**	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 15:53	7440-38-2	
Barium	**0.082**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 15:53	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 11:16	7440-41-7	
Boron	**0.093J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 15:53	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 15:53	7440-43-9	
Chromium	**0.0056**	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 15:53	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 15:53	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 15:53	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 11:16	7439-93-2	
Molybdenum	**0.00080J**	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 15:53	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 15:53	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 15:53	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**76.0**	mg/L	25.0	25.0	1		09/21/21 12:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**21.8**	mg/L	1.0	0.60	1		09/18/21 22:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/18/21 22:36	16984-48-8	
Sulfate	**30.4**	mg/L	1.0	0.50	1		09/18/21 22:36	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-04 **Lab ID: 92561848006** Collected: 09/14/21 09:52 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:09		
pH	**5.09**	Std. Units			1		09/16/21 18:09		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**12.5**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:10	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 15:56	7440-36-0	
Arsenic	**0.0047J**	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 15:56	7440-38-2	
Barium	**0.043**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 15:56	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 11:19	7440-41-7	
Boron	**0.070J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 15:56	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 15:56	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 15:56	7440-47-3	
Cobalt	**0.0054**	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 15:56	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 15:56	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 11:19	7439-93-2	
Molybdenum	ND	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 15:56	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 15:56	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 15:56	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:46	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**193**	mg/L	25.0	25.0	1		09/21/21 12:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**28.5**	mg/L	1.0	0.60	1		09/21/21 11:05	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/21/21 11:05	16984-48-8	M1
Sulfate	**96.2**	mg/L	1.0	0.50	1		09/21/21 11:05	14808-79-8	M1

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-11 **Lab ID: 92561848007** Collected: 09/14/21 13:08 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:09		
pH	**5.50**	Std. Units			1		09/16/21 18:09		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**14.0**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:14	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 16:04	7440-36-0	
Arsenic	**0.011**	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 16:04	7440-38-2	
Barium	**0.070**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 16:04	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 11:26	7440-41-7	
Boron	**0.060J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 16:04	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 16:04	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 16:04	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 16:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 16:04	7439-92-1	
Lithium	**0.0033J**	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 11:26	7439-93-2	
Molybdenum	ND	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 16:04	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 16:04	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 16:04	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:48	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**191**	mg/L	25.0	25.0	1		09/21/21 12:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**62.8**	mg/L	1.0	0.60	1		09/19/21 20:27	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	0.050	1		09/19/21 20:27	16984-48-8	
Sulfate	**33.1**	mg/L	1.0	0.50	1		09/19/21 20:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-15 **Lab ID: 92561848008** Collected: 09/14/21 16:48 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:09		
pH	**5.39**	Std. Units			1		09/16/21 18:09		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**6.7**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:17	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 16:11	7440-36-0	
Arsenic	**0.0035J**	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 16:11	7440-38-2	
Barium	**0.050**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 16:11	7440-39-3	
Beryllium	**0.00034J**	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 11:30	7440-41-7	
Boron	**0.068J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 16:11	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 16:11	7440-43-9	
Chromium	**0.0027J**	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 16:11	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 16:11	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 16:11	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 11:30	7439-93-2	
Molybdenum	**0.00090J**	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 16:11	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 16:11	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 16:11	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**96.0**	mg/L	25.0	25.0	1		09/21/21 12:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**13.6**	mg/L	1.0	0.60	1		09/19/21 20:43	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 20:43	16984-48-8	
Sulfate	**16.7**	mg/L	1.0	0.50	1		09/19/21 20:43	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-16 **Lab ID: 92561848009** Collected: 09/14/21 11:10 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:09		
pH	**4.69**	Std. Units			1		09/16/21 18:09		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**6.5**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:20	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 16:30	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 16:30	7440-38-2	
Barium	**0.16**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 16:30	7440-39-3	
Beryllium	**0.00062**	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 12:27	7440-41-7	
Boron	**0.071J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 16:30	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 16:30	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 16:30	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 16:30	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 16:30	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 12:27	7439-93-2	
Molybdenum	ND	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 16:30	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 16:30	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 16:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/21/21 12:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**30.0**	mg/L	1.0	0.60	1		09/19/21 20:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 20:58	16984-48-8	
Sulfate	**24.4**	mg/L	1.0	0.50	1		09/19/21 20:58	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-18 **Lab ID: 92561848010** Collected: 09/14/21 13:28 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:09		
pH	**4.28**	Std. Units			1		09/16/21 18:09		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**18.8**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:23	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.010	0.0020	10	09/17/21 11:44	09/21/21 15:49	7440-36-0	
Arsenic	**0.0029J**	mg/L	0.010	0.00087	10	09/17/21 11:44	09/21/21 15:49	7440-38-2	
Barium	**0.098**	mg/L	0.010	0.0021	10	09/17/21 11:44	09/21/21 15:49	7440-39-3	
Beryllium	**0.0031**	mg/L	0.0010	0.00050	10	09/17/21 11:44	09/20/21 12:38	7440-41-7	
Boron	**0.20J**	mg/L	0.50	0.085	10	09/17/21 11:44	09/21/21 15:49	7440-42-8	
Cadmium	ND	mg/L	0.0020	0.00060	10	09/17/21 11:44	09/21/21 15:49	7440-43-9	
Chromium	ND	mg/L	0.010	0.0050	10	09/17/21 11:44	09/21/21 15:49	7440-47-3	
Cobalt	ND	mg/L	0.010	0.00050	10	09/17/21 11:44	09/21/21 15:49	7440-48-4	
Lead	ND	mg/L	0.010	0.00077	10	09/17/21 11:44	09/21/21 15:49	7439-92-1	
Lithium	ND	mg/L	0.025	0.0050	10	09/17/21 11:44	09/20/21 12:38	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0013	10	09/17/21 11:44	09/21/21 15:49	7439-98-7	
Selenium	ND	mg/L	0.020	0.00072	10	09/17/21 11:44	09/21/21 15:49	7782-49-2	
Thallium	ND	mg/L	0.0047	0.00050	10	09/17/21 11:44	09/21/21 15:49	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 15:56	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**2190**	mg/L	278	278	1		09/21/21 12:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1020**	mg/L	100	60.0	100		09/19/21 21:14	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 01:27	16984-48-8	
Sulfate	**134**	mg/L	100	50.0	100		09/19/21 21:14	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-19 **Lab ID: 92561848011** Collected: 09/14/21 15:01 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:09		
pH	**5.31**	Std. Units			1		09/16/21 18:09		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**93.6**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:27	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 16:00	7440-36-0	
Arsenic	**0.018J**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 16:00	7440-38-2	
Barium	**0.13**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 16:00	7440-39-3	
Beryllium	**0.0062**	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/20/21 12:41	7440-41-7	
Boron	**1.2**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 16:00	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 16:00	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 16:00	7440-47-3	
Cobalt	ND	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 16:00	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 16:00	7439-92-1	
Lithium	**0.011J**	mg/L	0.050	0.010	20	09/17/21 11:44	09/20/21 12:41	7439-93-2	
Molybdenum	ND	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 16:00	7439-98-7	
Selenium	**0.0022J**	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 16:00	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 16:00	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 11:43	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**14600**	mg/L	1250	1250	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7250**	mg/L	100	60.0	100		09/19/21 21:29	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 01:42	16984-48-8	
Sulfate	**995**	mg/L	100	50.0	100		09/19/21 21:29	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-20 **Lab ID: 92561848012** Collected: 09/14/21 16:27 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:10		
pH	**3.72**	Std. Units			1		09/16/21 18:10		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**61.1**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:30	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 16:08	7440-36-0	
Arsenic	**0.028**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 16:08	7440-38-2	
Barium	**0.11**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 16:08	7440-39-3	
Beryllium	**0.016**	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/20/21 12:45	7440-41-7	
Boron	**0.91J**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 16:08	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 16:08	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 16:08	7440-47-3	
Cobalt	**0.030**	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 16:08	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 16:08	7439-92-1	
Lithium	**0.020J**	mg/L	0.050	0.010	20	09/17/21 11:44	09/20/21 12:45	7439-93-2	
Molybdenum	ND	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 16:08	7439-98-7	
Selenium	**0.0018J**	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 16:08	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 16:08	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 11:51	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**10300**	mg/L	833	833	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5100**	mg/L	100	60.0	100		09/19/21 21:44	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 01:57	16984-48-8	
Sulfate	**659**	mg/L	100	50.0	100		09/19/21 21:44	14808-79-8	

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: DPZ-2 **Lab ID: 92561848013** Collected: 09/14/21 14:52 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:10		
pH	**7.11**	Std. Units			1		09/16/21 18:10		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**273**	mg/L	1.0	0.94	10	09/17/21 11:44	09/23/21 23:49	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 16:26	7440-36-0	
Arsenic	**0.022**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 16:26	7440-38-2	
Barium	**0.082**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 16:26	7440-39-3	
Beryllium	ND	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/20/21 12:48	7440-41-7	
Boron	**2.0**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 16:26	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 16:26	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 16:26	7440-47-3	
Cobalt	ND	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 16:26	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 16:26	7439-92-1	
Lithium	**0.092**	mg/L	0.050	0.010	20	09/17/21 11:44	09/20/21 12:48	7439-93-2	
Molybdenum	ND	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 16:26	7439-98-7	
Selenium	ND	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 16:26	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 16:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 11:53	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16400**	mg/L	1250	1250	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7610**	mg/L	100	60.0	100		09/19/21 22:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 02:13	16984-48-8	
Sulfate	**971**	mg/L	100	50.0	100		09/19/21 22:30	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: DUP-1 **Lab ID: 92561848014** Collected: 09/14/21 00:00 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**6.7**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:50	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0050	0.0010	5	09/17/21 11:44	09/21/21 16:34	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.00043	5	09/17/21 11:44	09/21/21 16:34	7440-38-2	
Barium	**0.15**	mg/L	0.0050	0.0011	5	09/17/21 11:44	09/21/21 16:34	7440-39-3	
Beryllium	**0.00032J**	mg/L	0.00050	0.00025	5	09/17/21 11:44	09/20/21 12:52	7440-41-7	
Boron	**0.062J**	mg/L	0.25	0.042	5	09/17/21 11:44	09/21/21 16:34	7440-42-8	
Cadmium	ND	mg/L	0.0010	0.00030	5	09/17/21 11:44	09/21/21 16:34	7440-43-9	
Chromium	ND	mg/L	0.0050	0.0025	5	09/17/21 11:44	09/21/21 16:34	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.00025	5	09/17/21 11:44	09/21/21 16:34	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	09/17/21 11:44	09/21/21 16:34	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	09/17/21 11:44	09/20/21 12:52	7439-93-2	
Molybdenum	ND	mg/L	0.0050	0.00063	5	09/17/21 11:44	09/21/21 16:34	7439-98-7	
Selenium	ND	mg/L	0.010	0.00036	5	09/17/21 11:44	09/21/21 16:34	7782-49-2	
Thallium	ND	mg/L	0.0024	0.00025	5	09/17/21 11:44	09/21/21 16:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 11:56	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**79.0**	mg/L	25.0	25.0	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**30.2**	mg/L	1.0	0.60	1		09/21/21 11:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/21/21 11:21	16984-48-8	
Sulfate	**29.1**	mg/L	1.0	0.50	1		09/21/21 11:21	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: DUP-2 **Lab ID: 92561848015** Collected: 09/14/21 00:00 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**95.6**	mg/L	0.10	0.094	1	09/17/21 11:44	09/23/21 01:53	7440-70-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 16:37	7440-36-0	
Arsenic	**0.020J**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 16:37	7440-38-2	
Barium	**0.13**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 16:37	7440-39-3	
Beryllium	**0.0062**	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/20/21 12:55	7440-41-7	
Boron	**1.4**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 16:37	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 16:37	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 16:37	7440-47-3	
Cobalt	ND	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 16:37	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 16:37	7439-92-1	
Lithium	**0.012J**	mg/L	0.050	0.010	20	09/17/21 11:44	09/20/21 12:55	7439-93-2	
Molybdenum	ND	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 16:37	7439-98-7	
Selenium	**0.0019J**	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 16:37	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 16:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 11:59	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15100**	mg/L	1250	1250	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7230**	mg/L	100	60.0	100		09/19/21 23:01	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 03:15	16984-48-8	
Sulfate	**978**	mg/L	100	50.0	100		09/19/21 23:01	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: FB-2 **Lab ID: 92561848016** Collected: 09/14/21 17:05 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	09/17/21 11:44	09/24/21 00:03	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	09/17/21 11:44	09/24/21 00:03	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	09/17/21 11:44	09/24/21 00:03	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	09/17/21 11:44	09/24/21 00:03	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0010	0.00020	1	09/17/21 11:44	09/20/21 10:45	7440-36-0	
Arsenic	ND	mg/L	0.0010	0.000087	1	09/17/21 11:44	09/20/21 10:45	7440-38-2	
Barium	ND	mg/L	0.0010	0.00021	1	09/17/21 11:44	09/20/21 10:45	7440-39-3	
Beryllium	ND	mg/L	0.00010	0.000050	1	09/17/21 11:44	09/20/21 10:45	7440-41-7	
Boron	ND	mg/L	0.050	0.0085	1	09/17/21 11:44	09/20/21 10:45	7440-42-8	
Cadmium	ND	mg/L	0.00020	0.000060	1	09/17/21 11:44	09/20/21 10:45	7440-43-9	
Chromium	ND	mg/L	0.0010	0.00050	1	09/17/21 11:44	09/20/21 10:45	7440-47-3	
Cobalt	ND	mg/L	0.0010	0.000050	1	09/17/21 11:44	09/20/21 10:45	7440-48-4	
Lead	ND	mg/L	0.0010	0.000077	1	09/17/21 11:44	09/20/21 10:45	7439-92-1	
Lithium	ND	mg/L	0.0025	0.00050	1	09/17/21 11:44	09/20/21 10:45	7439-93-2	
Molybdenum	ND	mg/L	0.0010	0.00013	1	09/17/21 11:44	09/20/21 10:45	7439-98-7	
Selenium	ND	mg/L	0.0020	0.000072	1	09/17/21 11:44	09/20/21 10:45	7782-49-2	
Thallium	ND	mg/L	0.00047	0.000050	1	09/17/21 11:44	09/20/21 10:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 12:01	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 18:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 18:48		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/21 18:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/19/21 23:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 23:16	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/19/21 23:16	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: EB-1 **Lab ID: 92561848017** Collected: 09/14/21 17:10 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	09/17/21 11:44	09/24/21 00:06	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	09/17/21 11:44	09/24/21 00:06	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	09/17/21 11:44	09/24/21 00:06	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	09/17/21 11:44	09/24/21 00:06	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.0010	0.00020	1	09/17/21 11:44	09/21/21 14:37	7440-36-0	
Arsenic	ND	mg/L	0.0010	0.000087	1	09/17/21 11:44	09/21/21 14:37	7440-38-2	
Barium	**0.00024J**	mg/L	0.0010	0.00021	1	09/17/21 11:44	09/21/21 14:37	7440-39-3	
Beryllium	ND	mg/L	0.00010	0.000050	1	09/17/21 11:44	09/21/21 14:37	7440-41-7	
Boron	ND	mg/L	0.050	0.0085	1	09/17/21 11:44	09/21/21 14:37	7440-42-8	
Cadmium	ND	mg/L	0.00020	0.000060	1	09/17/21 11:44	09/21/21 14:37	7440-43-9	
Chromium	ND	mg/L	0.0010	0.00050	1	09/17/21 11:44	09/21/21 14:37	7440-47-3	
Cobalt	ND	mg/L	0.0010	0.000050	1	09/17/21 11:44	09/21/21 14:37	7440-48-4	
Lead	ND	mg/L	0.0010	0.000077	1	09/17/21 11:44	09/21/21 14:37	7439-92-1	
Lithium	ND	mg/L	0.0025	0.00050	1	09/17/21 11:44	09/21/21 14:37	7439-93-2	
Molybdenum	ND	mg/L	0.0010	0.00013	1	09/17/21 11:44	09/21/21 14:37	7439-98-7	
Selenium	ND	mg/L	0.0020	0.000072	1	09/17/21 11:44	09/21/21 14:37	7782-49-2	
Thallium	ND	mg/L	0.00047	0.000050	1	09/17/21 11:44	09/21/21 14:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 12:10	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 20:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 20:02		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		09/24/21 20:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/20/21 00:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/20/21 00:02	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/20/21 00:02	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-05 **Lab ID: 92561848018** Collected: 09/14/21 13:35 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:10		
pH	**6.67**	Std. Units			1		09/16/21 18:10		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**13.9**	mg/L	0.10	0.094	1	09/17/21 11:44	09/24/21 00:19	7440-70-2	
Magnesium	**32.4**	mg/L	0.10	0.068	1	09/17/21 11:44	09/24/21 00:19	7439-95-4	
Potassium	**10.7**	mg/L	5.0	3.0	1	09/17/21 11:44	09/24/21 00:19	7440-09-7	
Sodium	**2410**	mg/L	250	30.5	50	09/17/21 11:44	09/24/21 00:09	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 14:59	7440-36-0	
Arsenic	**0.020J**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 14:59	7440-38-2	
Barium	**0.080**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 22:10	7440-39-3	
Beryllium	ND	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/21/21 14:59	7440-41-7	
Boron	**0.95J**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 14:59	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 14:59	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 14:59	7440-47-3	
Cobalt	ND	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 14:59	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 14:59	7439-92-1	
Lithium	**0.042J**	mg/L	0.050	0.010	20	09/17/21 11:44	09/21/21 22:10	7439-93-2	
Molybdenum	**0.0099J**	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 14:59	7439-98-7	
Selenium	ND	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 14:59	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 14:59	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 12:12	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**233**	mg/L	5.0	5.0	1		09/27/21 13:49		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/27/21 13:49		
Alkalinity, Total as CaCO3	**233**	mg/L	5.0	5.0	1		09/27/21 13:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8020**	mg/L	625	625	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3940**	mg/L	100	60.0	100		09/20/21 00:18	16887-00-6	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-05 **Lab ID: 92561848018** Collected: 09/14/21 13:35 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 04:32	16984-48-8	
Sulfate	**459**	mg/L	100	50.0	100		09/20/21 00:18	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-06 **Lab ID: 92561848019** Collected: 09/14/21 11:43 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:10		
pH	**6.94**	Std. Units			1		09/16/21 18:10		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**299**	mg/L	1.0	0.94	10	09/17/21 11:44	09/24/21 00:22	7440-70-2	
Magnesium	**515**	mg/L	1.0	0.68	10	09/17/21 11:44	09/24/21 00:22	7439-95-4	
Potassium	**117**	mg/L	50.0	30.4	10	09/17/21 11:44	09/24/21 00:22	7440-09-7	
Sodium	**3270**	mg/L	250	30.5	50	09/17/21 11:44	09/24/21 00:12	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 15:06	7440-36-0	
Arsenic	**0.51**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 15:06	7440-38-2	
Barium	**0.22**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 22:14	7440-39-3	
Beryllium	ND	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/21/21 15:06	7440-41-7	
Boron	**1.1**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 15:06	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 15:06	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 15:06	7440-47-3	
Cobalt	ND	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 15:06	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 15:06	7439-92-1	
Lithium	**0.084**	mg/L	0.050	0.010	20	09/17/21 11:44	09/21/21 22:14	7439-93-2	
Molybdenum	ND	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 15:06	7439-98-7	
Selenium	ND	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 15:06	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 15:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	**0.16J**	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 12:15	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**507**	mg/L	5.0	5.0	1		09/24/21 20:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 20:16		
Alkalinity, Total as CaCO3	**507**	mg/L	5.0	5.0	1		09/24/21 20:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11800**	mg/L	833	833	1		09/21/21 12:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5360**	mg/L	100	60.0	100		09/20/21 16:06	16887-00-6	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-06 **Lab ID: 92561848019** Collected: 09/14/21 11:43 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 04:48	16984-48-8	
Sulfate	**490**	mg/L	10.0	5.0	10		09/20/21 00:33	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-07 **Lab ID: 92561848020** Collected: 09/14/21 09:23 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:10		
pH	**6.28**	Std. Units			1		09/16/21 18:10		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**225**	mg/L	1.0	0.94	10	09/17/21 11:44	09/24/21 00:26	7440-70-2	
Magnesium	**496**	mg/L	1.0	0.68	10	09/17/21 11:44	09/24/21 00:26	7439-95-4	
Potassium	**154**	mg/L	50.0	30.4	10	09/17/21 11:44	09/24/21 00:26	7440-09-7	
Sodium	**3860**	mg/L	250	30.5	50	09/17/21 11:44	09/24/21 00:16	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.020	0.0040	20	09/17/21 11:44	09/21/21 15:13	7440-36-0	
Arsenic	**0.013J**	mg/L	0.020	0.0017	20	09/17/21 11:44	09/21/21 15:13	7440-38-2	
Barium	**0.20**	mg/L	0.020	0.0043	20	09/17/21 11:44	09/21/21 22:17	7440-39-3	
Beryllium	ND	mg/L	0.0020	0.0010	20	09/17/21 11:44	09/21/21 15:13	7440-41-7	
Boron	**1.5**	mg/L	1.0	0.17	20	09/17/21 11:44	09/21/21 15:13	7440-42-8	
Cadmium	ND	mg/L	0.0040	0.0012	20	09/17/21 11:44	09/21/21 15:13	7440-43-9	
Chromium	ND	mg/L	0.020	0.0099	20	09/17/21 11:44	09/21/21 15:13	7440-47-3	
Cobalt	ND	mg/L	0.020	0.0010	20	09/17/21 11:44	09/21/21 15:13	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	09/17/21 11:44	09/21/21 15:13	7439-92-1	
Lithium	**0.035J**	mg/L	0.050	0.010	20	09/17/21 11:44	09/21/21 22:17	7439-93-2	
Molybdenum	ND	mg/L	0.020	0.0025	20	09/17/21 11:44	09/21/21 15:13	7439-98-7	
Selenium	ND	mg/L	0.040	0.0014	20	09/17/21 11:44	09/21/21 15:13	7782-49-2	
Thallium	ND	mg/L	0.0094	0.0010	20	09/17/21 11:44	09/21/21 15:13	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 12:17	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**246**	mg/L	5.0	5.0	1		09/24/21 20:45		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 20:45		
Alkalinity, Total as CaCO3	**246**	mg/L	5.0	5.0	1		09/24/21 20:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13400**	mg/L	1250	1250	1		09/21/21 12:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6300**	mg/L	100	60.0	100		09/20/21 00:48	16887-00-6	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-07 **Lab ID: 92561848020** Collected: 09/14/21 09:23 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 05:03	16984-48-8	
Sulfate	**819**	mg/L	100	50.0	100		09/20/21 00:48	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-17 **Lab ID: 92561848021** Collected: 09/14/21 17:28 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/16/21 18:11		
pH	**6.77**	Std. Units			1		09/16/21 18:11		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**190**	mg/L	1.0	0.94	10	09/24/21 10:21	09/28/21 13:06	7440-70-2	M1,P8
Magnesium	**277**	mg/L	1.0	0.68	10	09/24/21 10:21	09/28/21 13:06	7439-95-4	M1
Potassium	**143**	mg/L	50.0	30.4	10	09/24/21 10:21	09/28/21 13:06	7440-09-7	M1
Sodium	**2600**	mg/L	250	30.5	50	09/24/21 10:21	09/29/21 11:58	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	mg/L	0.030	0.0060	30	09/17/21 11:44	09/21/21 18:14	7440-36-0	
Arsenic	ND	mg/L	0.030	0.0026	30	09/17/21 11:44	09/21/21 18:14	7440-38-2	
Barium	**0.20**	mg/L	0.030	0.0064	30	09/17/21 11:44	09/21/21 18:14	7440-39-3	M1
Beryllium	ND	mg/L	0.0030	0.0015	30	09/17/21 11:44	09/21/21 18:14	7440-41-7	
Boron	**2.1**	mg/L	1.5	0.26	30	09/17/21 11:44	09/21/21 18:14	7440-42-8	M1
Cadmium	ND	mg/L	0.0060	0.0018	30	09/17/21 11:44	09/21/21 18:14	7440-43-9	
Chromium	ND	mg/L	0.030	0.015	30	09/17/21 11:44	09/21/21 18:14	7440-47-3	
Cobalt	ND	mg/L	0.030	0.0015	30	09/17/21 11:44	09/21/21 18:14	7440-48-4	
Lead	ND	mg/L	0.030	0.0023	30	09/17/21 11:44	09/21/21 18:14	7439-92-1	
Lithium	**0.035J**	mg/L	0.075	0.015	30	09/17/21 11:44	09/21/21 18:14	7439-93-2	
Molybdenum	ND	mg/L	0.030	0.0038	30	09/17/21 11:44	09/21/21 18:14	7439-98-7	
Selenium	ND	mg/L	0.060	0.0021	30	09/17/21 11:44	09/21/21 18:14	7782-49-2	M1
Thallium	ND	mg/L	0.014	0.0015	30	09/17/21 11:44	09/21/21 18:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/23/21 11:30	09/29/21 12:20	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**535**	mg/L	5.0	5.0	1		09/24/21 20:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/24/21 20:54		
Alkalinity, Total as CaCO3	**535**	mg/L	5.0	5.0	1		09/24/21 20:54		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8820**	mg/L	625	625	1		09/21/21 12:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4090**	mg/L	100	60.0	100		09/20/21 16:27	16887-00-6	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
Pace Project No.: 92561848

Sample: MCM-17 **Lab ID: 92561848021** Collected: 09/14/21 17:28 Received: 09/16/21 11:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Fluoride	ND	mg/L	0.10	0.050	1		09/19/21 05:19	16984-48-8	
Sulfate	**460**	mg/L	10.0	5.0	10		09/20/21 01:34	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648837
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010

METHOD BLANK: 3403261 Matrix: Water
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	09/29/21 14:46	

LABORATORY CONTROL SAMPLE: 3403262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.4	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3403263 3403264

Parameter	Units	92560393009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.3	2.2	88	86	75-125	3	25	

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

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648839
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

METHOD BLANK: 3403272 Matrix: Water
Associated Lab Samples: 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	09/29/21 11:39	

LABORATORY CONTROL SAMPLE: 3403273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.4	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3403274 3403275

Parameter	Units	92561848011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.4	2.0	90	77	75-125	15	25	

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

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648049
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010, 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020

METHOD BLANK: 3398866 Matrix: Water
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010, 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	09/23/21 22:50	
Magnesium	mg/L	ND	0.10	0.068	09/23/21 22:50	
Potassium	mg/L	ND	5.0	3.0	09/23/21 22:50	
Sodium	mg/L	ND	5.0	0.61	09/23/21 22:50	

LABORATORY CONTROL SAMPLE: 3398867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	101	80-120	
Magnesium	mg/L	5	4.9	99	80-120	
Potassium	mg/L	5	5.1	102	80-120	
Sodium	mg/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3398868 3398869

Parameter	Units	92561848001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	6.0	5	5	11.1	11.4	103	108	75-125	3	20	
Magnesium	mg/L	11.0	5	5	16.4	16.6	106	110	75-125	1	20	
Potassium	mg/L	24.8	5	5	31.3	32.1	130	146	75-125	2	20	
Sodium	mg/L	954	5	5	506	13.3J	-8960	-18800	75-125		20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 649213
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848021

METHOD BLANK: 3405140 Matrix: Water
Associated Lab Samples: 92561848021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	0.11	0.10	0.094	09/28/21 13:03	
Magnesium	mg/L	ND	0.10	0.068	09/28/21 13:03	
Potassium	mg/L	ND	5.0	3.0	09/28/21 13:03	
Sodium	mg/L	ND	5.0	0.61	09/26/21 21:57	

LABORATORY CONTROL SAMPLE: 3405141

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	102	80-120	
Magnesium	mg/L	5	4.9	98	80-120	
Potassium	mg/L	5	4.9J	99	80-120	
Sodium	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3405142 3405143

Parameter	Units	92561848021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	190	5	5	196	185	124	-95	75-125	6	20	M1
Magnesium	mg/L	277	5	5	285	268	151	-181	75-125	6	20	M1
Potassium	mg/L	143	5	5	150	141	135	-35	75-125	6	20	M1
Sodium	mg/L	2600	5	5	2620	2500	336	-1910	75-125	4	20	M1

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648052
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010, 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020

METHOD BLANK: 3398884 Matrix: Water
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010, 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0010	0.00020	09/20/21 10:42	
Arsenic	mg/L	ND	0.0010	0.000087	09/20/21 10:42	
Barium	mg/L	ND	0.0010	0.00021	09/20/21 10:42	
Beryllium	mg/L	ND	0.00010	0.000050	09/20/21 10:42	
Boron	mg/L	ND	0.050	0.0085	09/20/21 10:42	
Cadmium	mg/L	ND	0.00020	0.000060	09/20/21 10:42	
Chromium	mg/L	ND	0.0010	0.00050	09/20/21 10:42	
Cobalt	mg/L	ND	0.0010	0.000050	09/20/21 10:42	
Lead	mg/L	ND	0.0010	0.000077	09/20/21 10:42	
Lithium	mg/L	ND	0.0025	0.00050	09/20/21 10:42	
Molybdenum	mg/L	ND	0.0010	0.00013	09/20/21 10:42	
Selenium	mg/L	ND	0.0020	0.000072	09/20/21 10:42	
Thallium	mg/L	ND	0.00047	0.000050	09/20/21 10:42	

LABORATORY CONTROL SAMPLE: 3398885

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.05	0.047	95	80-120	
Arsenic	mg/L	0.05	0.045	90	80-120	
Barium	mg/L	0.05	0.045	89	80-120	
Beryllium	mg/L	0.05	0.047	93	80-120	
Boron	mg/L	0.05	0.054	107	80-120	
Cadmium	mg/L	0.05	0.048	96	80-120	
Chromium	mg/L	0.05	0.047	93	80-120	
Cobalt	mg/L	0.05	0.047	95	80-120	
Lead	mg/L	0.05	0.047	95	80-120	
Lithium	mg/L	0.05	0.046	92	80-120	
Molybdenum	mg/L	0.05	0.048	97	80-120	
Selenium	mg/L	0.05	0.047	94	80-120	
Thallium	mg/L	0.025	0.024	95	80-120	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3398886 3398887

Parameter	Units	92561848001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.05	0.05	0.052	0.052	103	104	75-125	1	20	
Arsenic	mg/L	ND	0.05	0.05	0.049	0.050	96	99	75-125	3	20	
Barium	mg/L	0.086	0.05	0.05	0.14	0.14	98	104	75-125	2	20	
Beryllium	mg/L	0.0011	0.05	0.05	0.048	0.048	95	95	75-125	0	20	
Boron	mg/L	1.4	0.05	0.05	1.5	1.6	234	273	75-125	1	20	M1
Cadmium	mg/L	ND	0.05	0.05	0.052	0.051	104	102	75-125	1	20	
Chromium	mg/L	ND	0.05	0.05	0.055	0.055	101	100	75-125	1	20	
Cobalt	mg/L	ND	0.05	0.05	0.052	0.053	103	104	75-125	1	20	
Lead	mg/L	ND	0.05	0.05	0.050	0.052	101	103	75-125	3	20	
Lithium	mg/L	0.010J	0.05	0.05	0.057	0.058	94	95	75-125	1	20	
Molybdenum	mg/L	ND	0.05	0.05	0.055	0.052	109	104	75-125	4	20	
Selenium	mg/L	ND	0.05	0.05	0.046	0.046	93	92	75-125	0	20	
Thallium	mg/L	ND	0.025	0.025	0.025	0.026	100	103	75-125	2	20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648054
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848021

METHOD BLANK: 3398888 Matrix: Water
Associated Lab Samples: 92561848021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0010	0.00020	09/21/21 18:32	
Arsenic	mg/L	ND	0.0010	0.000087	09/21/21 18:32	
Barium	mg/L	ND	0.0010	0.00021	09/21/21 18:32	
Beryllium	mg/L	ND	0.00010	0.000050	09/21/21 18:32	
Boron	mg/L	ND	0.050	0.0085	09/21/21 18:32	
Cadmium	mg/L	ND	0.00020	0.000060	09/21/21 18:32	
Chromium	mg/L	ND	0.0010	0.00050	09/21/21 18:32	
Cobalt	mg/L	ND	0.0010	0.000050	09/21/21 18:32	
Lead	mg/L	ND	0.0010	0.000077	09/21/21 18:32	
Lithium	mg/L	ND	0.0025	0.00050	09/21/21 18:32	
Molybdenum	mg/L	ND	0.0010	0.00013	09/21/21 18:32	
Selenium	mg/L	ND	0.0020	0.000072	09/21/21 18:32	
Thallium	mg/L	ND	0.00047	0.000050	09/21/21 18:32	

LABORATORY CONTROL SAMPLE: 3398889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.05	0.049	98	80-120	
Arsenic	mg/L	0.05	0.049	99	80-120	
Barium	mg/L	0.05	0.048	97	80-120	
Beryllium	mg/L	0.05	0.052	103	80-120	
Boron	mg/L	0.05	0.050	100	80-120	
Cadmium	mg/L	0.05	0.050	100	80-120	
Chromium	mg/L	0.05	0.050	100	80-120	
Cobalt	mg/L	0.05	0.051	101	80-120	
Lead	mg/L	0.05	0.049	99	80-120	
Lithium	mg/L	0.05	0.051	102	80-120	
Molybdenum	mg/L	0.05	0.049	99	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	
Thallium	mg/L	0.025	0.024	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3398890 3398891

Parameter	Units	92561848021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/L	ND	0.05	0.05	0.054	0.057	106	111	75-125	5	20	
Arsenic	mg/L	ND	0.05	0.05	0.053	0.058	105	114	75-125	8	20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3398890 3398891

Parameter	Units	92561848021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	mg/L	0.20	0.05	0.05	0.23	0.25	58	107	75-125	10	20	M1
Beryllium	mg/L	ND	0.05	0.05	0.049	0.052	98	104	75-125	6	20	
Boron	mg/L	2.1	0.05	0.05	2.0	2.1	-135	105	75-125	6	20	M1
Cadmium	mg/L	ND	0.05	0.05	0.052	0.056	103	111	75-125	7	20	
Chromium	mg/L	ND	0.05	0.05	0.060	0.065	108	118	75-125	8	20	
Cobalt	mg/L	ND	0.05	0.05	0.053	0.056	105	112	75-125	7	20	
Lead	mg/L	ND	0.05	0.05	0.053	0.056	104	111	75-125	6	20	
Lithium	mg/L	0.035J	0.05	0.05	0.081	0.083	91	95	75-125	2	20	
Molybdenum	mg/L	ND	0.05	0.05	0.054	0.058	107	116	75-125	8	20	
Selenium	mg/L	ND	0.05	0.05	0.028J	0.034J	56	67	75-125		20	M1
Thallium	mg/L	ND	0.025	0.025	0.025	0.028	101	112	75-125	10	20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 649005
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848002, 92561848003

METHOD BLANK: 3403997 Matrix: Water
Associated Lab Samples: 92561848002, 92561848003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/24/21 13:29	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/21 13:29	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/21 13:29	

LABORATORY CONTROL SAMPLE: 3403998

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.4	103	80-120	

LABORATORY CONTROL SAMPLE: 3403999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.1	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404000 3404001

Parameter	Units	92561815001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	35.7	50	50	85.4	85.3	99	99	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404002 3404003

Parameter	Units	92561848002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	51.7	51.7	103	103	80-120	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 649222
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

METHOD BLANK: 3405201 Matrix: Water
Associated Lab Samples: 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/24/21 18:32	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/21 18:32	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/24/21 18:32	

LABORATORY CONTROL SAMPLE: 3405202

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.6	103	80-120	

LABORATORY CONTROL SAMPLE: 3405203

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.1	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3405204 3405205

Parameter	Units	92561848016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	51.2	51.6	102	103	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3405206 3405207

Parameter	Units	92561848019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	507	50	50	551	565	87	115	80-120	3	25	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648163 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010

METHOD BLANK: 3399353 Matrix: Water
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005, 92561848006, 92561848007, 92561848008, 92561848009, 92561848010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/21/21 12:40	

LABORATORY CONTROL SAMPLE: 3399354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	256	102	90-110	

SAMPLE DUPLICATE: 3399355

Parameter	Units	92561848001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1450	1430	1	25	1g,H1

SAMPLE DUPLICATE: 3399356

Parameter	Units	92561829005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648165 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

METHOD BLANK: 3399359 Matrix: Water
Associated Lab Samples: 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/21/21 12:52	

LABORATORY CONTROL SAMPLE: 3399360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	256	102	90-110	

SAMPLE DUPLICATE: 3399361

Parameter	Units	92561848011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	14600	14200	2	25	

SAMPLE DUPLICATE: 3399362

Parameter	Units	92561848021 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8820	8850	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648189
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005

METHOD BLANK: 3399514 Matrix: Water
Associated Lab Samples: 92561848001, 92561848002, 92561848003, 92561848004, 92561848005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/18/21 14:35	
Fluoride	mg/L	ND	0.10	0.050	09/18/21 14:35	
Sulfate	mg/L	ND	1.0	0.50	09/18/21 14:35	

LABORATORY CONTROL SAMPLE: 3399515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.9	106	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	51.2	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3399516 3399517

Parameter	Units	92561571002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	23.0	50	50	80.2	82.8	115	120	90-110	3	10	M1
Fluoride	mg/L	0.38	2.5	2.5	4.4	4.4	161	161	90-110	0	10	M1
Sulfate	mg/L	ND	50	50	55.7	56.4	111	113	90-110	1	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3399518 3399519

Parameter	Units	92562010002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.7	50	50	63.3	63.8	101	102	90-110	1	10	
Fluoride	mg/L	0.10	2.5	2.5	2.6	2.6	98	98	90-110	0	10	
Sulfate	mg/L	8.6	50	50	58.8	59.3	100	101	90-110	1	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MCMANUS CCR
Pace Project No.: 92561848

QC Batch: 648191
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92561848006, 92561848007, 92561848008, 92561848009, 92561848010, 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

METHOD BLANK: 3399543 Matrix: Water
Associated Lab Samples: 92561848006, 92561848007, 92561848008, 92561848009, 92561848010, 92561848011, 92561848012, 92561848013, 92561848014, 92561848015, 92561848016, 92561848017, 92561848018, 92561848019, 92561848020, 92561848021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/18/21 22:52	
Fluoride	mg/L	ND	0.10	0.050	09/18/21 22:52	
Sulfate	mg/L	ND	1.0	0.50	09/18/21 22:52	

LABORATORY CONTROL SAMPLE: 3399544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.1	104	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	50	52.5	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3399545 3399546

Parameter	Units	92561848006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	28.5	50	50	79.4	80.0	102	103	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	3.7	3.6	147	144	90-110	2	10	M1
Sulfate	mg/L	96.2	50	50	123	124	54	55	90-110	0	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3399547 3399548

Parameter	Units	92561848016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	50.5	50.3	101	100	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	101	98	90-110	3	10	
Sulfate	mg/L	ND	50	50	51.6	51.6	103	103	90-110	0	10	

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

REPORT OF LABORATORY ANALYSIS

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(770)734-4200

QUALIFIERS

Project: MCMANUS CCR
Pace Project No.: 92561848

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1g	In-hold results could not be obtained due to suspected inaccurate tare weights on the stable-weigh bags initially used for analysis.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P8	Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92561848001	**MCM-12**				
92561848003	**MCM-14**				
92561848004	**MCM-01**				
92561848005	**MCM-02**				
92561848006	**MCM-04**				
92561848007	**MCM-11**				
92561848008	**MCM-15**				
92561848009	**MCM-16**				
92561848010	**MCM-18**				
92561848011	**MCM-19**				
92561848012	**MCM-20**				
92561848013	**DPZ-2**				
92561848018	**MCM-05**				
92561848019	**MCM-06**				
92561848020	**MCM-07**				
92561848021	**MCM-17**				
92561848001	**MCM-12**	EPA 3010A	648049	EPA 6010D	648097
92561848002	**FB-1**	EPA 3010A	648049	EPA 6010D	648097
92561848003	**MCM-14**	EPA 3010A	648049	EPA 6010D	648097
92561848004	**MCM-01**	EPA 3010A	648049	EPA 6010D	648097
92561848005	**MCM-02**	EPA 3010A	648049	EPA 6010D	648097
92561848006	**MCM-04**	EPA 3010A	648049	EPA 6010D	648097
92561848007	**MCM-11**	EPA 3010A	648049	EPA 6010D	648097
92561848008	**MCM-15**	EPA 3010A	648049	EPA 6010D	648097
92561848009	**MCM-16**	EPA 3010A	648049	EPA 6010D	648097
92561848010	**MCM-18**	EPA 3010A	648049	EPA 6010D	648097
92561848011	**MCM-19**	EPA 3010A	648049	EPA 6010D	648097
92561848012	**MCM-20**	EPA 3010A	648049	EPA 6010D	648097
92561848013	**DPZ-2**	EPA 3010A	648049	EPA 6010D	648097
92561848014	**DUP-1**	EPA 3010A	648049	EPA 6010D	648097
92561848015	**DUP-2**	EPA 3010A	648049	EPA 6010D	648097
92561848016	**FB-2**	EPA 3010A	648049	EPA 6010D	648097
92561848017	**EB-1**	EPA 3010A	648049	EPA 6010D	648097
92561848018	**MCM-05**	EPA 3010A	648049	EPA 6010D	648097
92561848019	**MCM-06**	EPA 3010A	648049	EPA 6010D	648097
92561848020	**MCM-07**	EPA 3010A	648049	EPA 6010D	648097
92561848021	**MCM-17**	EPA 3010A	649213	EPA 6010D	649297
92561848001	**MCM-12**	EPA 3010A	648052	EPA 6020B	648088
92561848002	**FB-1**	EPA 3010A	648052	EPA 6020B	648088
92561848003	**MCM-14**	EPA 3010A	648052	EPA 6020B	648088
92561848004	**MCM-01**	EPA 3010A	648052	EPA 6020B	648088
92561848005	**MCM-02**	EPA 3010A	648052	EPA 6020B	648088
92561848006	**MCM-04**	EPA 3010A	648052	EPA 6020B	648088
92561848007	**MCM-11**	EPA 3010A	648052	EPA 6020B	648088
92561848008	**MCM-15**	EPA 3010A	648052	EPA 6020B	648088
92561848009	**MCM-16**	EPA 3010A	648052	EPA 6020B	648088
92561848010	**MCM-18**	EPA 3010A	648052	EPA 6020B	648088

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(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92561848011	**MCM-19**	EPA 3010A	648052	EPA 6020B	648088
92561848012	**MCM-20**	EPA 3010A	648052	EPA 6020B	648088
92561848013	**DPZ-2**	EPA 3010A	648052	EPA 6020B	648088
92561848014	**DUP-1**	EPA 3010A	648052	EPA 6020B	648088
92561848015	**DUP-2**	EPA 3010A	648052	EPA 6020B	648088
92561848016	**FB-2**	EPA 3010A	648052	EPA 6020B	648088
92561848017	**EB-1**	EPA 3010A	648052	EPA 6020B	648088
92561848018	**MCM-05**	EPA 3010A	648052	EPA 6020B	648088
92561848019	**MCM-06**	EPA 3010A	648052	EPA 6020B	648088
92561848020	**MCM-07**	EPA 3010A	648052	EPA 6020B	648088
92561848021	**MCM-17**	EPA 3010A	648054	EPA 6020B	648093
92561848001	**MCM-12**	EPA 7470A	648837	EPA 7470A	649070
92561848002	**FB-1**	EPA 7470A	648837	EPA 7470A	649070
92561848003	**MCM-14**	EPA 7470A	648837	EPA 7470A	649070
92561848004	**MCM-01**	EPA 7470A	648837	EPA 7470A	649070
92561848005	**MCM-02**	EPA 7470A	648837	EPA 7470A	649070
92561848006	**MCM-04**	EPA 7470A	648837	EPA 7470A	649070
92561848007	**MCM-11**	EPA 7470A	648837	EPA 7470A	649070
92561848008	**MCM-15**	EPA 7470A	648837	EPA 7470A	649070
92561848009	**MCM-16**	EPA 7470A	648837	EPA 7470A	649070
92561848010	**MCM-18**	EPA 7470A	648837	EPA 7470A	649070
92561848011	**MCM-19**	EPA 7470A	648839	EPA 7470A	649077
92561848012	**MCM-20**	EPA 7470A	648839	EPA 7470A	649077
92561848013	**DPZ-2**	EPA 7470A	648839	EPA 7470A	649077
92561848014	**DUP-1**	EPA 7470A	648839	EPA 7470A	649077
92561848015	**DUP-2**	EPA 7470A	648839	EPA 7470A	649077
92561848016	**FB-2**	EPA 7470A	648839	EPA 7470A	649077
92561848017	**EB-1**	EPA 7470A	648839	EPA 7470A	649077
92561848018	**MCM-05**	EPA 7470A	648839	EPA 7470A	649077
92561848019	**MCM-06**	EPA 7470A	648839	EPA 7470A	649077
92561848020	**MCM-07**	EPA 7470A	648839	EPA 7470A	649077
92561848021	**MCM-17**	EPA 7470A	648839	EPA 7470A	649077
92561848002	**FB-1**	SM 2320B-2011	649005		
92561848003	**MCM-14**	SM 2320B-2011	649005		
92561848016	**FB-2**	SM 2320B-2011	649222		
92561848017	**EB-1**	SM 2320B-2011	649222		
92561848018	**MCM-05**	SM 2320B-2011	649222		
92561848019	**MCM-06**	SM 2320B-2011	649222		
92561848020	**MCM-07**	SM 2320B-2011	649222		
92561848021	**MCM-17**	SM 2320B-2011	649222		
92561848001	**MCM-12**	SM 2540C-2011	648163		
92561848002	**FB-1**	SM 2540C-2011	648163		
92561848003	**MCM-14**	SM 2540C-2011	648163		
92561848004	**MCM-01**	SM 2540C-2011	648163		
92561848005	**MCM-02**	SM 2540C-2011	648163		
92561848006	**MCM-04**	SM 2540C-2011	648163		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR
Pace Project No.: 92561848

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92561848007	**MCM-11**	SM 2540C-2011	648163		
92561848008	**MCM-15**	SM 2540C-2011	648163		
92561848009	**MCM-16**	SM 2540C-2011	648163		
92561848010	**MCM-18**	SM 2540C-2011	648163		
92561848011	**MCM-19**	SM 2540C-2011	648165		
92561848012	**MCM-20**	SM 2540C-2011	648165		
92561848013	**DPZ-2**	SM 2540C-2011	648165		
92561848014	**DUP-1**	SM 2540C-2011	648165		
92561848015	**DUP-2**	SM 2540C-2011	648165		
92561848016	**FB-2**	SM 2540C-2011	648165		
92561848017	**EB-1**	SM 2540C-2011	648165		
92561848018	**MCM-05**	SM 2540C-2011	648165		
92561848019	**MCM-06**	SM 2540C-2011	648165		
92561848020	**MCM-07**	SM 2540C-2011	648165		
92561848021	**MCM-17**	SM 2540C-2011	648165		
92561848001	**MCM-12**	EPA 300.0 Rev 2.1 1993	648189		
92561848002	**FB-1**	EPA 300.0 Rev 2.1 1993	648189		
92561848003	**MCM-14**	EPA 300.0 Rev 2.1 1993	648189		
92561848004	**MCM-01**	EPA 300.0 Rev 2.1 1993	648189		
92561848005	**MCM-02**	EPA 300.0 Rev 2.1 1993	648189		
92561848006	**MCM-04**	EPA 300.0 Rev 2.1 1993	648191		
92561848007	**MCM-11**	EPA 300.0 Rev 2.1 1993	648191		
92561848008	**MCM-15**	EPA 300.0 Rev 2.1 1993	648191		
92561848009	**MCM-16**	EPA 300.0 Rev 2.1 1993	648191		
92561848010	**MCM-18**	EPA 300.0 Rev 2.1 1993	648191		
92561848011	**MCM-19**	EPA 300.0 Rev 2.1 1993	648191		
92561848012	**MCM-20**	EPA 300.0 Rev 2.1 1993	648191		
92561848013	**DPZ-2**	EPA 300.0 Rev 2.1 1993	648191		
92561848014	**DUP-1**	EPA 300.0 Rev 2.1 1993	648191		
92561848015	**DUP-2**	EPA 300.0 Rev 2.1 1993	648191		
92561848016	**FB-2**	EPA 300.0 Rev 2.1 1993	648191		
92561848017	**EB-1**	EPA 300.0 Rev 2.1 1993	648191		
92561848018	**MCM-05**	EPA 300.0 Rev 2.1 1993	648191		
92561848019	**MCM-06**	EPA 300.0 Rev 2.1 1993	648191		
92561848020	**MCM-07**	EPA 300.0 Rev 2.1 1993	648191		
92561848021	**MCM-17**	EPA 300.0 Rev 2.1 1993	648191		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☒ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Georgia Power

Project #:

WO# : 92561848

92561848

Courier: ☐ Commercial ☑ FedEx ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ Other:

Custody Seal Present? ☑ Yes ☐ No Seals Intact? ☑ Yes ☐ No

Date/Initials Person Examining Contents: 2-9/26/21

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 93T071 Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 2.9/1.4/2.8 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 2.9/1.4/2.8

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

WO# : 92561848

PM: NMG Due Date: 09/30/21

CLIENT: GA-GA Power

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

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

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

Project #

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG1U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AG0U-200 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																			2				
2		2	1			1																			2				
3		2	1			1																			2				
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

*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# : 92561848**

PM: NMG Due Date: 09/30/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG1U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-NPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGGU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																		2	1			
2		1	1			1																		2	1			
3		1	1			1																		2	1			
4		1	1			1																		2	1			
5																								2	1			
6		1	1			1																		2	1			
7		1	1			1																		2	1			
8		1	1			1																		2	1			
9		1	1			1																		2	1			
10		1	1			1																		2	1			
11		1	1			1																		2	1			
12		1	1			1																		2	1			

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

*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# : 92561848**

PM: NMG Due Date: 09/30/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL Plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG5A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG8R-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	VJGK (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)	BP1N	BP3A-250 mL Plastic (NH4)2SO4 (9.5-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-22 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																		2	1				
2		2	1			1																		2	2				
3		2	1			1																		2	2				
4		2	1			1																		2	2				
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

*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# : 92561848

PM: NMG Due Date: 09/30/21

CLIENT: GA-GA Power

Items	BP4U-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP2Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH <2)	AG3U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH <2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpres (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.9)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1																		2	1			
2		2	1			1																		2	1			
3		2	1			1																		2	1			
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@resolutionenv.com	Purchase Order #:		Pace Quote:	
Phone:	(678)549-9415 Fax	Project Name:	McManus CCR	Pace Project Manager:	nicole.d'oleo@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10768-17,18

Regulatory Agency: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
1	~~MCM-31~~	WT																	X		X		X	X		
2	~~MCM-32~~	WT																	X		X		X	X		
3	~~MCM-34~~	WT																	X		X		X	X		
4	~~MCM-14~~	WT																	X		X		X	X		
5	MCM-12	WT		9/13/21	1753				5	2		3							X		X		X	X		pH: 6.24
6	~~MCM-15~~	WT																	X		X		X	X		
7	~~MCM-10~~	WT																	X		X		X	X		
8	~~MCM-18~~	WT																	X		X		X	X		
9	~~MCM-19~~	WT																	X		X		X	X		
10	~~MCM-23~~	WT																	X		X		X	X		
11	~~DUP-2~~	WT																	X		X		X	X		
12	~~DUP-1~~	WT																	X		X		X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	William Lacker	9/15/21	1100	Fedex	9/15/21	1100	
				A1	9/16/21	1130	2.9/1.4 Y Y W
							2.8

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lacker, Robert Mull, Calvin Layman, Kevin Stephenson

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/13/21

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

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Page: 2 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@resoluteenv.com	Purchase Order #:		Pace Quote:	
Phone:	(678)548-9415 Fax	Project Name:	McManus CCR	Pace Project Manager:	nicole.d'oleo@pacelabs.com,
Requested Due Date:		Project #:		Pace Profile #:	10768-17,18

Requested by/Agency:

State/Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD B3/6/9320	Residual Chlorine (Y/N)
13	~~SWP-2~~	WT																							
14	FB-1	WT		9/13/21	1100				6	3		3							x		x		x	x	
15	~~FB-2~~	WT																	x	x	x	x	x	x	
16	~~FB-3~~	WT																	x		x		x	x	
17	~~FD-1~~	WT																	x		x		x	x	
18	~~EB-2~~	WT																	x		x		x	x	
19		WT																	x		x		x	x	
20		WT																	x		x		x	x	
21		WT																	x		x		x	x	
22		WT																	x		x		x	x	
23		WT																	x		x		x	x	
24	~~MSM-66~~	WT																		x	x	x	x	x	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	William Leaker	9/15/21	1100	Fedex	9/15/21	1100				
					9/16/21	1130	2.5/2.4	Y	X	N
							2.5			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Leaker Robert Muil Calvin Layman Kevin Stephenson

SIGNATURE of SAMPLER: DATE Signed: 9/15/21

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

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Page : 3 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@resoluteenv.com	Purchase Order #:		Pace Quote:	
Phone:	(678)548-9415 Fax	Project Name:	McManus CCR	Pace Project Manager:	nicole.doleo@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10768-17,18

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N): —

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	III/V Metals	III/V+ Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
25	~~MCM-06~~	WT																								
26	~~MCM-07~~	WT																	X	X	X	X	X			
27	MCM-14	WT		9/13/21	1732				6	3		3							X	X	X	X	X			PH:6.30
28	~~MCM-17~~	WT																	X	X	X	X	X			
29																										
30																										
31																										
32																										
33																										
34																										
35																										
36																										

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	William Lasker	9/15/21	1100	Fedex	9/15/21	1100				
					9/16/21	11:30	2.4	Y	Y	F
							2.8			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lasker, Robert Mull, Calvin Leyman, Kevin Stephenson

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/13/21

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

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Page : 1 Of 1

Section A	Section B	Section C
Required Client Information:	Required Project Information:	Invoice Information:
Company: Georgia Power	Report To: Kevin Stephenson	Attention:
Address: 1003 Weatherstone Parkway	Copy To:	Company Name:
Woodstock, GA 30188		Address:
Email: kevin.stephenson@resolutenv.com	Purchase Order #:	Pace Quote:
Phone: (678)548-8415 Fax:	Project Name: McManus CCR	Pace Project Manager: nicole.ofeles@pacelabs.com
Requested Due Date:	Project #:	Pace Profile #: 10768-17,18

Regulatory Agency: —

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): III/V Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
1	MCM-01	WT		9/14/21	0959				5	2		3							x		x		x	x		pH: 5.13
2	MCM-02	WT		9/14/21	1126				5	2		3							x		x		x	x		pH: 5.04
3	MCM-04	WT		9/14/21	0952				5	2		3							x		x		x	x		pH: 5.09
4	MCM-11	WT		9/14/21	1308				5	2		3							x		x		x	x		pH: 5.50
5	~~MCM-12~~	WT																	x		x		x	x		
6	MCM-15	WT		9/14/21	1648				5	2		3							x		x		x	x		pH: 5.39
7	MCM-16	WT		9/14/21	1110				5	2		3							x		x		x	x		pH: 4.69
8	MCM-18	WT		9/14/21	1328				5	2		3							x		x		x	x		pH: 4.28
9	MCM-19	WT		9/14/21	1501				5	2		3							x		x		x	x		pH: 5.31
10	MCM-20	WT		9/14/21	1627				5	2		3							x		x		x	x		pH: 3.72
11	DPZ-2	WT		9/14/21	1452				5	2		3							x		x		x	x		pH: 7.11
12	DUP-1	WT		9/14/21	—				5	2		3							x		x		x	x		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	William Lasker	9/15/21	1100	Fedex	9/15/21	1100				
					9/15/21	11:30	2/4.4 2/5	Y	Y	N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lasker, Robert Meil, Calvin Lagman

SIGNATURE of SAMPLER: [signature]

DATE Signed: 9/14/21

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

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 Of 2

Section A – Required Client Information:
Company: Georgia Power
Address: 1003 Weatherstone Parkway
Woodstock, GA 30188
Email: kevin.stephenson@resolutionemv.com
Phone: (678)548-9415 Fax
Requested Due Date:

Section B – Required Project Information:
Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus CCR
Project #:

Section C – Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.dolso@pacelabs.com
Pace Profile #: 10788-17.18

Regulatory Agency:
State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 0315/0320	Residual Chlorine (Y/N)	
13	DUP-2	WT	G	9/14/21	—				5	2		3							x		x		x	x		
14	~~FB-1~~	WT																	x		x		x	x		
15	FB-2	WT	G	9/15/21	1105				6	3		3							x	x	x	x	x	x		
16	~~FB-3~~	WT																	x		x		x	x		
17	EB-1	WT	G	9/14/21	1710				6	3		3							x	x	x	x	x	x		
18	~~FB-2~~	WT																	x		x		x	x		
19		WT																	x		x		x	x		
20		WT																	x		x		x	x		
21		WT																	x		x		x	x		
22		WT																	x		x		x	x		
23		WT																	x		x		x	x		
24	MCM-05	WT	G	9/14/21	1335				6	3		3								x	x	x	x	x		pH: 6.67

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Lasker	9/15/21	1100	Fedex	9/15/21	1100				
					9/16/21	1130	2.9 / 2.4	X	X	N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: William Lasker, Robert Mull, Calvin Leyman
SIGNATURE of SAMPLER: [signature] DATE Signed: 9/14/21

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 Of 3

Section A — Required Client Information:
Company: Georgia Power
Address: 1003 Weatherstone Parkway
Sandstock, GA 30188
Email: kevin.stephenson@resolutenv.com
Phone: (678)548-9415 Fax:
Requested Due Date:

Section B — Required Project Information:
Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus CCR
Project #:

Section C — Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'oleo@pacelabs.com
Pace Profile #: 10768-17,18

Regulatory Agency:
State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
26	MCM-06	WT		9/14/21	1143				6	3		3														
27	MCM-07	WT		9/14/21	0923				6	3		3							x	x	x	x	x			pH: 6.94
28	~~MCM-14~~	WT																	x	x	x	x	x			pH: 6.28
29	MCM-17	WT		9/14/21	1728				6	3		3							x	x	x	x	x			pH: 6.77
30																										
31																										
32																										
33																										
34																										
35																										
36																										

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	William Looker	9/15/21	1100	Fedex	9/15/21	1100	
					9/16/21	7:30	2.9 2.4 2.8 Y Y N

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: William Looker Robert Mull Calvin Layman
SIGNATURE of SAMPLER: DATE Signed: 9/14/21

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

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

November 02, 2021

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

RE: Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 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 - Greensburg

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

Sincerely,

Nicole D'Oleo

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

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CERTIFICATIONS

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92561843001	**MCM-12**	Water	09/13/21 17:53	09/16/21 11:30
92561843002	**FB-1**	Water	09/13/21 17:00	09/16/21 11:30
92561843003	**MCM-14**	Water	09/13/21 17:32	09/16/21 11:30
92561843004	**MCM-01**	Water	09/14/21 09:59	09/16/21 11:30
92561843005	**MCM-02**	Water	09/14/21 11:26	09/16/21 11:30
92561843006	**MCM-04**	Water	09/14/21 09:52	09/16/21 11:30
92561843007	**MCM-11**	Water	09/14/21 13:08	09/16/21 11:30
92561843008	**MCM-15**	Water	09/14/21 16:48	09/16/21 11:30
92561843009	**MCM-16**	Water	09/14/21 11:10	09/16/21 11:30
92561843010	**MCM-18**	Water	09/14/21 13:28	09/16/21 11:30
92561843011	**MCM-19**	Water	09/14/21 15:01	09/16/21 11:30
92561843012	**MCM-20**	Water	09/14/21 16:27	09/16/21 11:30
92561843013	**DPZ-2**	Water	09/14/21 14:52	09/16/21 11:30
92561843014	**DUP-1**	Water	09/14/21 00:00	09/16/21 11:30
92561843015	**DUP-2**	Water	09/14/21 00:00	09/16/21 11:30
92561843016	**FB-2**	Water	09/14/21 17:05	09/16/21 11:30
92561843017	**EB-1**	Water	09/14/21 17:10	09/16/21 11:30
92561843018	**MCM-05**	Water	09/14/21 13:35	09/16/21 11:30
92561843019	**MCM-06**	Water	09/14/21 11:43	09/16/21 11:30
92561843020	**MCM-07**	Water	09/14/21 09:23	09/16/21 11:30
92561843021	**MCM-17**	Water	09/14/21 17:28	09/16/21 11:30

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92561843001	**MCM-12**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843002	**FB-1**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843003	**MCM-14**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843004	**MCM-01**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843005	**MCM-02**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843006	**MCM-04**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843007	**MCM-11**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843008	**MCM-15**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843009	**MCM-16**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843010	**MCM-18**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843011	**MCM-19**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843012	**MCM-20**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843013	**DPZ-2**	EPA 9315	JJY	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843014	**DUP-1**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843015	**DUP-2**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843016	**FB-2**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843017	**EB-1**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843018	**MCM-05**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843019	**MCM-06**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843020	**MCM-07**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	JC2	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92561843021	**MCM-17**	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561843001	**MCM-12**					
EPA 9315	Radium-226	1.59 ± 0.669 (0.713) C:100% T:NA	pCi/L		10/29/21 06:51	
EPA 9320	Radium-228	0.950 ± 0.476 (0.831) C:62% T:89%	pCi/L		10/07/21 11:27	
Total Radium Calculation	Total Radium	2.54 ± 1.15 (1.54)	pCi/L		10/29/21 15:07	
92561843002	**FB-1**					
EPA 9315	Radium-226	0.0835 ± 0.171 (0.399) C:94% T:NA	pCi/L		10/07/21 09:13	
EPA 9320	Radium-228	0.204 ± 0.376 (0.825) C:55% T:93%	pCi/L		10/07/21 11:28	
Total Radium Calculation	Total Radium	0.288 ± 0.547 (1.22)	pCi/L		10/29/21 15:07	
92561843003	**MCM-14**					
EPA 9315	Radium-226	3.37 ± 0.808 (0.625) C:98% T:NA	pCi/L		10/29/21 06:51	
EPA 9320	Radium-228	5.01 ± 1.16 (0.814) C:59% T:89%	pCi/L		10/07/21 11:28	
Total Radium Calculation	Total Radium	8.38 ± 1.97 (1.44)	pCi/L		10/29/21 15:07	
92561843004	**MCM-01**					
EPA 9315	Radium-226	0.180 ± 0.244 (0.525) C:95% T:NA	pCi/L		10/07/21 09:13	
EPA 9320	Radium-228	0.879 ± 0.502 (0.928) C:62% T:86%	pCi/L		10/07/21 11:29	
Total Radium Calculation	Total Radium	1.06 ± 0.746 (1.45)	pCi/L		10/29/21 15:07	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561843005	**MCM-02**					
EPA 9315	Radium-226	0.204 ± 0.245 (0.510) C:94% T:NA	pCi/L		10/07/21 09:13	
EPA 9320	Radium-228	0.674 ± 0.493 (0.961) C:58% T:86%	pCi/L		10/07/21 11:29	
Total Radium Calculation	Total Radium	0.878 ± 0.738 (1.47)	pCi/L		10/29/21 15:07	
92561843006	**MCM-04**					
EPA 9315	Radium-226	1.84 ± 0.400 (0.188) C:93% T:NA	pCi/L		10/29/21 06:51	
EPA 9320	Radium-228	0.854 ± 0.489 (0.891) C:56% T:88%	pCi/L		10/07/21 11:29	
Total Radium Calculation	Total Radium	2.69 ± 0.889 (1.08)	pCi/L		10/29/21 15:07	
92561843007	**MCM-11**					
EPA 9315	Radium-226	0.542 ± 0.315 (0.484) C:97% T:NA	pCi/L		10/07/21 09:13	
EPA 9320	Radium-228	0.824 ± 0.520 (0.983) C:57% T:85%	pCi/L		10/07/21 11:29	
Total Radium Calculation	Total Radium	1.37 ± 0.835 (1.47)	pCi/L		10/29/21 15:07	
92561843008	**MCM-15**					
EPA 9315	Radium-226	0.861 ± 0.330 (0.501) C:95% T:NA	pCi/L		10/07/21 09:11	
EPA 9320	Radium-228	0.290 ± 0.400 (0.856) C:57% T:87%	pCi/L		10/07/21 11:29	
Total Radium Calculation	Total Radium	1.15 ± 0.730 (1.36)	pCi/L		10/29/21 15:07	

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561843009	**MCM-16**					
EPA 9315	Radium-226	0.614 ± 0.301 (0.429) C:95% T:NA	pCi/L		10/08/21 08:00	
EPA 9320	Radium-228	1.41 ± 0.539 (0.799) C:59% T:88%	pCi/L		10/07/21 11:29	
Total Radium Calculation	Total Radium	2.02 ± 0.840 (1.23)	pCi/L		10/29/21 15:07	
92561843010	**MCM-18**					
EPA 9315	Radium-226	3.83 ± 0.705 (0.224) C:87% T:NA	pCi/L		10/29/21 06:52	
EPA 9320	Radium-228	4.48 ± 1.06 (0.942) C:65% T:89%	pCi/L		10/07/21 11:30	
Total Radium Calculation	Total Radium	8.31 ± 1.77 (1.17)	pCi/L		10/29/21 15:07	
92561843011	**MCM-19**					
EPA 9315	Radium-226	6.64 ± 1.28 (0.437) C:97% T:NA	pCi/L		10/29/21 06:52	
EPA 9320	Radium-228	19.6 ± 3.72 (0.826) C:62% T:87%	pCi/L		10/07/21 11:30	
Total Radium Calculation	Total Radium	26.2 ± 5.00 (1.26)	pCi/L		10/29/21 15:07	
92561843012	**MCM-20**					
EPA 9315	Radium-226	6.34 ± 1.27 (0.614) C:94% T:NA	pCi/L		10/29/21 06:52	
EPA 9320	Radium-228	28.6 ± 5.32 (0.881) C:63% T:90%	pCi/L		10/07/21 11:30	
Total Radium Calculation	Total Radium	34.9 ± 6.59 (1.50)	pCi/L		10/29/21 15:07	
92561843013	**DPZ-2**					
EPA 9315	Radium-226	4.86 ± 1.03 (0.476) C:95% T:NA	pCi/L		10/29/21 06:52	
EPA 9320	Radium-228	2.11 ± 0.627 (0.745) C:66% T:86%	pCi/L		10/07/21 11:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561843013	**DPZ-2**					
Total Radium Calculation	Total Radium	6.97 ± 1.66 (1.22)	pCi/L		10/29/21 15:07	
92561843014	**DUP-1**					
EPA 9315	Radium-226	0.771 ± 0.357 (0.543) C:97% T:NA	pCi/L		10/08/21 08:00	
EPA 9320	Radium-228	0.643 ± 0.416 (0.783) C:60% T:87%	pCi/L		10/07/21 11:30	
Total Radium Calculation	Total Radium	1.41 ± 0.773 (1.33)	pCi/L		10/29/21 15:07	
92561843015	**DUP-2**					
EPA 9315	Radium-226	6.79 ± 1.32 (0.495) C:98% T:NA	pCi/L		10/29/21 06:53	
EPA 9320	Radium-228	22.7 ± 4.30 (1.20) C:60% T:85%	pCi/L		10/07/21 11:20	
Total Radium Calculation	Total Radium	29.5 ± 5.62 (1.70)	pCi/L		10/29/21 15:07	
92561843016	**FB-2**					
EPA 9315	Radium-226	0.137 ± 0.182 (0.386) C:94% T:NA	pCi/L		10/08/21 08:00	
EPA 9320	Radium-228	-0.0494 ± 0.544 (1.25) C:61% T:81%	pCi/L		10/07/21 11:20	
Total Radium Calculation	Total Radium	0.137 ± 0.726 (1.64)	pCi/L		10/29/21 15:07	
92561843017	**EB-1**					
EPA 9315	Radium-226	-0.0271 ± 0.246 (0.636) C:94% T:NA	pCi/L		10/08/21 08:00	
EPA 9320	Radium-228	0.687 ± 0.600 (1.21) C:60% T:91%	pCi/L		10/07/21 15:13	
Total Radium Calculation	Total Radium	0.687 ± 0.846 (1.85)	pCi/L		10/29/21 15:07	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92561843018	**MCM-05**					
EPA 9315	Radium-226	2.98 ± 0.957 (0.957) C:97% T:NA	pCi/L		10/29/21 06:53	
EPA 9320	Radium-228	4.17 ± 1.04 (1.06) C:62% T:92%	pCi/L		10/07/21 11:20	
Total Radium Calculation	Total Radium	7.15 ± 2.00 (2.02)	pCi/L		10/29/21 15:16	
92561843019	**MCM-06**					
EPA 9315	Radium-226	5.05 ± 1.33 (1.10) C:94% T:NA	pCi/L		10/29/21 06:53	
EPA 9320	Radium-228	3.06 ± 1.06 (1.64) C:64% T:87%	pCi/L		10/07/21 14:30	
Total Radium Calculation	Total Radium	8.11 ± 2.39 (2.74)	pCi/L		10/29/21 15:16	
92561843020	**MCM-07**					
EPA 9315	Radium-226	5.22 ± 1.32 (0.991) C:92% T:NA	pCi/L		10/29/21 06:53	
EPA 9320	Radium-228	5.11 ± 1.37 (1.62) C:60% T:88%	pCi/L		10/07/21 14:30	
Total Radium Calculation	Total Radium	10.3 ± 2.69 (2.61)	pCi/L		10/29/21 15:16	
92561843021	**MCM-17**					
EPA 9315	Radium-226	4.96 ± 1.30 (0.904) C:96% T:NA	pCi/L		10/29/21 06:53	
EPA 9320	Radium-228	3.86 ± 0.975 (0.918) C:63% T:86%	pCi/L		10/07/21 14:37	
Total Radium Calculation	Total Radium	8.82 ± 2.28 (1.82)	pCi/L		10/29/21 15:16	

REPORT OF LABORATORY ANALYSIS

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(770)734-4200

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-12 **Lab ID: 92561843001** Collected: 09/13/21 17:53 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**1.59 ± 0.669 (0.713) C:100% T:NA**	pCi/L	10/29/21 06:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.950 ± 0.476 (0.831) C:62% T:89%**	pCi/L	10/07/21 11:27	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.54 ± 1.15 (1.54)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: FB-1 **Lab ID: 92561843002** Collected: 09/13/21 17:00 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.0835 ± 0.171 (0.399) C:94% T:NA**	pCi/L	10/07/21 09:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.204 ± 0.376 (0.825) C:55% T:93%**	pCi/L	10/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.288 ± 0.547 (1.22)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-14 **Lab ID: 92561843003** Collected: 09/13/21 17:32 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**3.37 ± 0.808 (0.625) C:98% T:NA**	pCi/L	10/29/21 06:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**5.01 ± 1.16 (0.814) C:59% T:89%**	pCi/L	10/07/21 11:28	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**8.38 ± 1.97 (1.44)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-01 **Lab ID: 92561843004** Collected: 09/14/21 09:59 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.180 ± 0.244 (0.525) C:95% T:NA**	pCi/L	10/07/21 09:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.879 ± 0.502 (0.928) C:62% T:86%**	pCi/L	10/07/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.06 ± 0.746 (1.45)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-02 **Lab ID: 92561843005** Collected: 09/14/21 11:26 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.204 ± 0.245 (0.510) C:94% T:NA**	pCi/L	10/07/21 09:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.674 ± 0.493 (0.961) C:58% T:86%**	pCi/L	10/07/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.878 ± 0.738 (1.47)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-04 **Lab ID: 92561843006** Collected: 09/14/21 09:52 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**1.84 ± 0.400 (0.188) C:93% T:NA**	pCi/L	10/29/21 06:51	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.854 ± 0.489 (0.891) C:56% T:88%**	pCi/L	10/07/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.69 ± 0.889 (1.08)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-11 **Lab ID: 92561843007** Collected: 09/14/21 13:08 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.542 ± 0.315 (0.484) C:97% T:NA**	pCi/L	10/07/21 09:13	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.824 ± 0.520 (0.983) C:57% T:85%**	pCi/L	10/07/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.37 ± 0.835 (1.47)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-15 **Lab ID: 92561843008** Collected: 09/14/21 16:48 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.861 ± 0.330 (0.501) C:95% T:NA**	pCi/L	10/07/21 09:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.290 ± 0.400 (0.856) C:57% T:87%**	pCi/L	10/07/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.15 ± 0.730 (1.36)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-16 **Lab ID: 92561843009** Collected: 09/14/21 11:10 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.614 ± 0.301 (0.429) C:95% T:NA**	pCi/L	10/08/21 08:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.41 ± 0.539 (0.799) C:59% T:88%**	pCi/L	10/07/21 11:29	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.02 ± 0.840 (1.23)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-18 **Lab ID: 92561843010** Collected: 09/14/21 13:28 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**3.83 ± 0.705 (0.224) C:87% T:NA**	pCi/L	10/29/21 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**4.48 ± 1.06 (0.942) C:65% T:89%**	pCi/L	10/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**8.31 ± 1.77 (1.17)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-19 **Lab ID: 92561843011** Collected: 09/14/21 15:01 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**6.64 ± 1.28 (0.437) C:97% T:NA**	pCi/L	10/29/21 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**19.6 ± 3.72 (0.826) C:62% T:87%**	pCi/L	10/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**26.2 ± 5.00 (1.26)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-20 **Lab ID: 92561843012** Collected: 09/14/21 16:27 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**6.34 ± 1.27 (0.614) C:94% T:NA**	pCi/L	10/29/21 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**28.6 ± 5.32 (0.881) C:63% T:90%**	pCi/L	10/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**34.9 ± 6.59 (1.50)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: DPZ-2 **Lab ID: 92561843013** Collected: 09/14/21 14:52 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**4.86 ± 1.03 (0.476) C:95% T:NA**	pCi/L	10/29/21 06:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**2.11 ± 0.627 (0.745) C:66% T:86%**	pCi/L	10/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**6.97 ± 1.66 (1.22)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: DUP-1 **Lab ID: 92561843014** Collected: 09/14/21 00:00 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.771 ± 0.357 (0.543) C:97% T:NA**	pCi/L	10/08/21 08:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.643 ± 0.416 (0.783) C:60% T:87%**	pCi/L	10/07/21 11:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.41 ± 0.773 (1.33)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: DUP-2 **Lab ID: 92561843015** Collected: 09/14/21 00:00 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**6.79 ± 1.32 (0.495) C:98% T:NA**	pCi/L	10/29/21 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**22.7 ± 4.30 (1.20) C:60% T:85%**	pCi/L	10/07/21 11:20	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**29.5 ± 5.62 (1.70)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: FB-2 **Lab ID: 92561843016** Collected: 09/14/21 17:05 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**0.137 ± 0.182 (0.386) C:94% T:NA**	pCi/L	10/08/21 08:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.0494 ± 0.544 (1.25) C:61% T:81%**	pCi/L	10/07/21 11:20	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.137 ± 0.726 (1.64)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: EB-1 **Lab ID: 92561843017** Collected: 09/14/21 17:10 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**-0.0271 ± 0.246 (0.636) C:94% T:NA**	pCi/L	10/08/21 08:00	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.687 ± 0.600 (1.21) C:60% T:91%**	pCi/L	10/07/21 15:13	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.687 ± 0.846 (1.85)**	pCi/L	10/29/21 15:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-05 **Lab ID: 92561843018** Collected: 09/14/21 13:35 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**2.98 ± 0.957 (0.957) C:97% T:NA**	pCi/L	10/29/21 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**4.17 ± 1.04 (1.06) C:62% T:92%**	pCi/L	10/07/21 11:20	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**7.15 ± 2.00 (2.02)**	pCi/L	10/29/21 15:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-06 **Lab ID: 92561843019** Collected: 09/14/21 11:43 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**5.05 ± 1.33 (1.10) C:94% T:NA**	pCi/L	10/29/21 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**3.06 ± 1.06 (1.64) C:64% T:87%**	pCi/L	10/07/21 14:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**8.11 ± 2.39 (2.74)**	pCi/L	10/29/21 15:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-07 **Lab ID: 92561843020** Collected: 09/14/21 09:23 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**5.22 ± 1.32 (0.991) C:92% T:NA**	pCi/L	10/29/21 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**5.11 ± 1.37 (1.62) C:60% T:88%**	pCi/L	10/07/21 14:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**10.3 ± 2.69 (2.61)**	pCi/L	10/29/21 15:16	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Sample: MCM-17 **Lab ID: 92561843021** Collected: 09/14/21 17:28 Received: 09/16/21 11:30 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**4.96 ± 1.30 (0.904) C:96% T:NA**	pCi/L	10/29/21 06:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**3.86 ± 0.975 (0.918) C:63% T:86%**	pCi/L	10/07/21 14:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**8.82 ± 2.28 (1.82)**	pCi/L	10/29/21 15:16	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

QC Batch: 466263
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92561843001, 92561843002, 92561843003, 92561843004, 92561843005, 92561843006, 92561843007, 92561843008, 92561843009, 92561843010, 92561843011, 92561843012, 92561843013, 92561843014, 92561843015, 92561843016, 92561843017

METHOD BLANK: 2251636
Matrix: Water
Associated Lab Samples: 92561843001, 92561843002, 92561843003, 92561843004, 92561843005, 92561843006, 92561843007, 92561843008, 92561843009, 92561843010, 92561843011, 92561843012, 92561843013, 92561843014, 92561843015, 92561843016, 92561843017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.112 ± 0.184 (0.410) C:98% T:NA	pCi/L	10/07/21 09:13	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

QC Batch: 466410
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92561843021

METHOD BLANK: 2252279
Matrix: Water
Associated Lab Samples: 92561843021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.420 ± 0.367 (0.738) C:65% T:90%	pCi/L	10/07/21 11:22	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

QC Batch: 466264
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92561843018, 92561843019, 92561843020, 92561843021

METHOD BLANK: 2251638 Matrix: Water
Associated Lab Samples: 92561843018, 92561843019, 92561843020, 92561843021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.284 ± 0.229 (0.421) C:95% T:NA	pCi/L	10/08/21 08:00	

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

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

QC Batch: 466409
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92561843001, 92561843002, 92561843003, 92561843004, 92561843005, 92561843006, 92561843007, 92561843008, 92561843009, 92561843010, 92561843011, 92561843012, 92561843013, 92561843014, 92561843015, 92561843016, 92561843017, 92561843018, 92561843019, 92561843020

METHOD BLANK: 2252274
Matrix: Water
Associated Lab Samples: 92561843001, 92561843002, 92561843003, 92561843004, 92561843005, 92561843006, 92561843007, 92561843008, 92561843009, 92561843010, 92561843011, 92561843012, 92561843013, 92561843014, 92561843015, 92561843016, 92561843017, 92561843018, 92561843019, 92561843020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.304 ± 0.374 (0.792) C:64% T:89%	pCi/L	10/07/21 11:22	

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

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QUALIFIERS

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92561843001	MCM-12	EPA 9315	466263		
92561843002	FB-1	EPA 9315	466263		
92561843003	MCM-14	EPA 9315	466263		
92561843004	MCM-01	EPA 9315	466263		
92561843005	MCM-02	EPA 9315	466263		
92561843006	MCM-04	EPA 9315	466263		
92561843007	MCM-11	EPA 9315	466263		
92561843008	MCM-15	EPA 9315	466263		
92561843009	MCM-16	EPA 9315	466263		
92561843010	MCM-18	EPA 9315	466263		
92561843011	MCM-19	EPA 9315	466263		
92561843012	MCM-20	EPA 9315	466263		
92561843013	DPZ-2	EPA 9315	466263		
92561843014	DUP-1	EPA 9315	466263		
92561843015	DUP-2	EPA 9315	466263		
92561843016	FB-2	EPA 9315	466263		
92561843017	EB-1	EPA 9315	466263		
92561843018	MCM-05	EPA 9315	466264		
92561843019	MCM-06	EPA 9315	466264		
92561843020	MCM-07	EPA 9315	466264		
92561843021	MCM-17	EPA 9315	466264		
92561843001	MCM-12	EPA 9320	466409		
92561843002	FB-1	EPA 9320	466409		
92561843003	MCM-14	EPA 9320	466409		
92561843004	MCM-01	EPA 9320	466409		
92561843005	MCM-02	EPA 9320	466409		
92561843006	MCM-04	EPA 9320	466409		
92561843007	MCM-11	EPA 9320	466409		
92561843008	MCM-15	EPA 9320	466409		
92561843009	MCM-16	EPA 9320	466409		
92561843010	MCM-18	EPA 9320	466409		
92561843011	MCM-19	EPA 9320	466409		
92561843012	MCM-20	EPA 9320	466409		
92561843013	DPZ-2	EPA 9320	466409		
92561843014	DUP-1	EPA 9320	466409		
92561843015	DUP-2	EPA 9320	466409		
92561843016	FB-2	EPA 9320	466409		
92561843017	EB-1	EPA 9320	466409		
92561843018	MCM-05	EPA 9320	466409		
92561843019	MCM-06	EPA 9320	466409		
92561843020	MCM-07	EPA 9320	466409		
92561843021	MCM-17	EPA 9320	466410		
92561843001	MCM-12	Total Radium Calculation	470455		
92561843002	FB-1	Total Radium Calculation	470455		
92561843003	MCM-14	Total Radium Calculation	470455		
92561843004	MCM-01	Total Radium Calculation	470455		
92561843005	MCM-02	Total Radium Calculation	470455		

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR RADS
Pace Project No.: 92561843

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92561843006	**MCM-04**	Total Radium Calculation	470455		
92561843007	**MCM-11**	Total Radium Calculation	470455		
92561843008	**MCM-15**	Total Radium Calculation	470455		
92561843009	**MCM-16**	Total Radium Calculation	470455		
92561843010	**MCM-18**	Total Radium Calculation	470455		
92561843011	**MCM-19**	Total Radium Calculation	470455		
92561843012	**MCM-20**	Total Radium Calculation	470455		
92561843013	**DPZ-2**	Total Radium Calculation	470455		
92561843014	**DUP-1**	Total Radium Calculation	470455		
92561843015	**DUP-2**	Total Radium Calculation	470455		
92561843016	**FB-2**	Total Radium Calculation	470455		
92561843017	**EB-1**	Total Radium Calculation	470455		
92561843018	**MCM-05**	Total Radium Calculation	470459		
92561843019	**MCM-06**	Total Radium Calculation	470459		
92561843020	**MCM-07**	Total Radium Calculation	470459		
92561843021	**MCM-17**	Total Radium Calculation	470459		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☒ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Georgia Power

Project #:

WO# : 92561843

92561843

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

Custody Seal Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Date/Initials Person Examining Contents: 6 9/6/21

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

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☒ IR Gun ID: 93T071 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp: 2.9/2.4/2.5 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 2.9/2.4/2.5

USDA Regulated Soil (☒ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

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

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

Field Data Required? ☐ Yes ☐ No

COMMENTS/SAMPLE DISCREPANCY

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

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

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

Project #

WO# : 92561843

PM: NMG Due Date: 10/07/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH < 2)	AG1U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(BG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-MPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP1N	BP3A-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AGBU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG8U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																			2	X		
2		2	1			1																			2	X		
3		2	1			1																			2			
4																												
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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.

*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 #

Items	BP4U-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH < 2)	AG8U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BP1N	BP3B-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGUB-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			2 1																		2	1				
2		1	1			2 1																		2	1				
3		1	1			2 1																		2	1				
4		1	1			2 1																		2	1				
5																								2	1				
6		1	1			2 1																		2	1				
7		1	1			2 1																		2	1				
8		1	1			2 1																		2	1				
9		1	1			2 1																		2	1				
10		1	1			2 1																		2	1				
11		1	1			2 1																		2	1				
12		1	1			2 1																		2	1				

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.

*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 #

Items#	BP4U-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BPIN	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																			2	1			
2		2	1			1																			2	1			
3		2	1			1																			2	1			
4		2	1			1																			2	1			
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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.

*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 #

Items	pPGU-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	BPH	BP3A-250 mL Plastic (NH2)2SO4 (5.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation Vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1																		2	1			
2		2	1			1																		2	1			
3		2	1			1																		2	1			
4																												
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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.

CHAIN-OF-CUSTODY / Analytical Request Document

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page: 1 Of 1

Section A – Required Client Information:

Company: Georgia Power
Address: 1003 Weatherstone Parkway
Woodstock, GA 30188
Email: kevin.stephenson@resolutesrv.com
Phone: (678)548-9415 Fax:
Requested Due Date:

Section B – Required Project Information:

Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus CCR
Project #:

Section C – Invoice Information:

Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'oleo@pacelabs.com
Pace Profile #: 10768-17.18

Regulatory Agency: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
1	~~MCM-01~~	WT																	X		X		X	X		
2	~~MCM-02~~	WT																	X		X		X	X		
3	~~MCM-04~~	WT																	X		X		X	X		
4	~~MCM-11~~	WT																	X		X		X	X		
5	MCM-12	WT		9/13/21	1753				5	2		3							X		X		X	X		pH: 6.24
6	~~MCM-15~~	WT																	X		X		X	X		
7	~~MCM-16~~	WT																	X		X		X	X		
8	~~MCM-18~~	WT																	X		X		X	X		
9	~~MCM-19~~	WT																	X		X		X	X		
10	~~MCM-20~~	WT																	X		X		X	X		
11	~~DUP-2~~	WT																	X		X		X	X		
12	~~DUP-1~~	WT																	X		X		X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	William Lacker	9/15/21	1100	Fedex	9/15/21	1100	
				AL	9/16/21	1030	2.9/2.4
							2.8

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lacker, Robert Mell, Calvin Layman, Kevin Stephenson
SIGNATURE of SAMPLER:
DATE Signed: 9/13/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.9/2.4	Y	Y	W
2.8			

CHAIN-OF-CUSTODY / Analytical Request Document

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Page : 2 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
Woodstock, GA 30188				Address:	
Email:	kevin.stephenson@resoluteenv.com	Purchase Order #:		Pace Quote:	
Phone:	(678)548-9415 Fax:	Project Name:	McManus CCR	Pace Project Manager:	nicole.d'cleo@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10708-17,18

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: Y/N	III/IV Metals	III/IV + Mg, K, Na	CL, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)
13	~~SUP-2~~	WT																	X		X		X	X	
14	FB-1	WT		9/13/21	1100				6	3		3							X	X	X	X	X	X	
15	~~FB-2~~	WT																	X		X		X	X	
16	~~FB-3~~	WT																	X		X		X	X	
17	~~EB-1~~	WT																	X		X		X	X	
18	~~EB-2~~	WT																	X		X		X	X	
19		WT																	X		X		X	X	
20		WT																	X		X		X	X	
21		WT																	X		X		X	X	
22		WT																	X		X		X	X	
23		WT																	X		X		X	X	
24	~~MW-60~~	WT																	X		X		X	X	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	William Lecker	9/15/21	1100	Fedex	9/15/21	1100	
					9/15/21	1630	2.5 / 2.4 / 2.5 — Y — Y — N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lecker, Reiner Mull, Calvin Layman, Kevin Stephenson

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/13/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.5 / 2.4 / 2.5	Y	Y	N

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@resoluteenv.com	Purchase Order #:		Pace Quote:	
Phone:	(678)546-9415 Fax:	Project Name:	McManus CCR	Pace Project Manager:	nicole.d'oleo@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10763-17,19

Regulatory Agency: —

State / Location: GA

Requested Analysis Filtered (Y/N): Y/N

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
25	~~MCM-05~~	WT																	X	X	X	X	X		
26	~~MCM-07~~	WT																	X	X	X	X	X		
27	MCM-14	WT		9/13/21	1732				6	3		3							X	X	X	X	X		pH: 6.30
28	~~MCM-17~~	WT																	X	X	X	X	X		
29																									
30																									
31																									
32																									
33																									
34																									
35																									
36																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Lacker	9/15/21	1100	Fedex	9/15/21	1100				
					9/15/21	11:30	2.4 / 2.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lacker, Robert Mull, Calvin Leyman, Kevin Stephenson

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/13/21

Pace Analytical®

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 Of 1

Section A – Required Client Information:
- Company: Georgia Power
- Address: 1003 Weatherstone Parkway
- Woodstock, GA 30188
- Email: kevin.stephenson@resolutearm.com
- Phone: (678)548-9415 Fax:
- Requested Due Date:

Section B – Required Project Information:
- Report To: Kevin Stephenson
- Copy To:
- Purchase Order #:
- Project Name: McManus CCR
- Project #:

Section C – Invoice Information:
- Attention:
- Company Name:
- Address:
- Pace Quote:
- Pace Project Manager: nicole.d'oleo@pacelabs.com
- Pace Profile #: 10768-17,18

Regulatory Agency:
State / Location: GA

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

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

Preservatives: Unpreserved, H2SO4, HNO3, HCl, NaOH, Na2S2O3, Methanol, Other. Requested Analysis Filtered (Y/N).

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Collected Start DATE	Start TIME	End DATE	End TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	III/IV Metals	III/IV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320						Residual Chlorine (Y/N)	
1	MCM-01	WT		9/14/21	0959				5	2		3							x		x		x	x							pH: 5.13
2	MCM-02	WT		9/14/21	1126				5	2		3							x		x		x	x							pH: 5.04
3	MCM-04	WT		9/14/21	0952				5	2		3							x		x		x	x							pH: 5.09
4	MCM-11	WT		9/14/21	1303				5	2		3							x		x		x	x							pH: 5.50
5	~~MCM-12~~	WT																	x		x		x	x							
6	MCM-15	WT		9/14/21	1648				5	2		3							x		x		x	x							pH: 5.39
7	MCM-16	WT		9/14/21	1110				5	2		3							x		x		x	x							pH: 4.69
8	MCM-18	WT		9/14/21	1328				5	2		3							x		x		x	x							pH: 4.23
9	MCM-19	WT		9/14/21	1501				5	2		3							x		x		x	x							pH: 5.31
10	MCM-20	WT		9/14/21	1627				5	2		3							x		x		x	x							pH: 3.72
11	DPZ-2	WT		9/14/21	1452				5	2		3							x		x		x	x							pH: 7.11
12	DUP-1	WT		9/14/21	—				5	2		3							x		x		x	x							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	William Lacker	9/15/21	1100	Fedex	9/15/21	1100				
				[signature]	9/16/21	11:30	2.4 / 1.1 / 2.8	Y	Y	N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: William Lacker Robert Muil Calvin Layman

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/14/21

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

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Page: 2 Of 2

Section A — Required Client Information:
Company: Georgia Power
Address: 1003 Weatherstone Parkway
Woodstock, GA 30189
Email: kevin.stephenson@resolutionenv.com
Phone: (678)549-6415 Fax:
Requested Due Date:

Section B — Required Project Information:
Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus CCR
Project #:

Section C — Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'olo@pacelabs.com,
Pace Profile #: 10768-17,18

Regulatory Agency:
State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	Requested Analysis Filtered (Y/N): IIIIV Metals	IIIIV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)
13	DUP-2	WT	G	9/14/21	—				5	2		3							x		x		x	x	
14	~~FB-1~~	WT																	x		x		x	x	
15	FB-2	WT	G	9/14/21	1705				6	3		3							x	x	x	x	x	x	
16	~~FB-3~~	WT																	x		x		x	x	
17	EB-1	WT	G	9/14/21	1710				6	3		3							x	x	x	x	x	x	
18	~~EB-2~~	WT																	x		x		x	x	
19		WT																	x		x		x	x	
20		WT																	x		x		x	x	
21		WT																	x		x		x	x	
22		WT																	x		x		x	x	
23		WT																	x		x		x	x	
24	MCM-05	WT	G	9/14/21	1335				6	3		3								x	x	x	x	x	pH: 6.67

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	William Lasker	9/15/21	1100	Fedex	9/15/21	1100	
					9/16/21	11:30	2.9 / 2.4

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: William Lasker, Robert Mull, Calvin Layman
SIGNATURE of SAMPLER:
DATE Signed: 9/14/21

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.9 / 2.4	Y	Y	N

CHAIN-OF-CUSTODY / Analytical Request Document

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Page : 3 Of 3

Section A
Required Client Information:
Company: Georgia Power
Address: 1003 Weatherstarm Parkway
Woodstock, GA 30188
Email: kevin.stephenson@resoluteenv.com
Phone: (678)549-5415 Fax
Requested Due Date:

Section B
Required Project Information:
Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus CCR
Project #:

Section C
Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'oleo@pacelabs.com
Pace Profile #: 10769-17,18

Regulatory Agency
State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): IIIIV Metals	IIIIV + Mg, K, Na	Cl, F, SO4	alk	TDS	RAD 9315/9320	Residual Chlorine (Y/N)	
26	MCM-06	WT		9/14/21	1143				6	3		3														
26	MCM-07	WT		9/14/21	0923				6	3		3								x	x	x	x	x		pH: 6.94
27	~~MCM-14~~	WT																		x	x	x	x	x		pH: 6.28
28	MCM-17	WT		9/14/21	1128				6	3		3								x	x	x	x	x		pH: 6.77
29																										
30																										
31																										
32																										
33																										
34																										
35																										
36																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	William Looker	9/15/21	1100	Fedex	9/15/21	1100				
					9/16/21	1130	2.9 2.5 2.8	Y	Y	N/A

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: William Looker, Robert Mull, Calvin Layman
SIGNATURE of SAMPLER: DATE Signed: 9/14/21

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

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test:	Ra-226
Analyst:	JJY
Date:	10/5/2021
Worklist:	62912
Matrix:	DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2251638
MB concentration:	0.284
M/B Counting Uncertainty:	0.225
MB MDC:	0.421
MB Numerical Performance Indicator:	2.47
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS62912	LCSD62912
Count Date:	10/8/2021	10/8/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.033	24.033
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.505	0.513
Target Conc. (pCi/L, g, F):	4.762	4.681
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	3.783	4.467
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.618	0.667
Numerical Performance Indicator:	-3.09	-0.63
Percent Recovery:	79.43%	95.43%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS62912	92561675014
Duplicate Sample I.D.	LCSD62912	92561675014DUP
Sample Result (pCi/L, g, F):	3.783	0.346
Sample Result Counting Uncertainty (pCi/L, g, F):	0.618	0.147
Sample Duplicate Result (pCi/L, g, F):	4.467	0.199
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.667	0.131
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	-1.476	1.469
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	18.29%	54.06%
Duplicate Status vs Numerical Indicator:	N/A	N/A
Duplicate Status vs RPD:	Pass	Fail***
% RPD Limit:	25%	25%

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

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

Comments:

~~***Batch must be re-prepped due to unacceptable precision.~~ N/A
LAM 10/20/21

CW 10/20/21

LAM 10/20/21

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	JC2
Date:	10/5/2021
Worklist:	62921
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2252274
MB concentration:	0.304
M/B 2 Sigma CSU:	0.374
MB MDC:	0.792
MB Numerical Performance Indicator:	1.59
MB Status vs Numerical Indicator:	Pass
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS62921	LCSD62921
Count Date:	10/7/2021	10/7/2021
Spike I.D.:	21-029	21-029
Decay Corrected Spike Concentration (pCi/mL):	37.936	37.936
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.831	0.822
Target Conc. (pCi/L, g, F):	4.566	4.614
Uncertainty (Calculated):	0.224	0.226
Result (pCi/L, g, F):	4.643	4.372
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.088	1.022
Numerical Performance Indicator:	0.14	-0.45
Percent Recovery:	101.69%	94.75%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS62921	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD62921	
Sample Result (pCi/L, g, F):	4.643	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.088	
Sample Duplicate Result (pCi/L, g, F):	4.372	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.022	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	0.356	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	7.06%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

10/28/21

Quality Control Sample Performance Assessment

Pace Analytical™ www.pacelabs.com

Test:	Ra-228
Analyst:	VAL
Date:	10/5/2021
Worklist:	62922
Matrix:	WT

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2252279
MB concentration:	0.420
M/B 2 Sigma CSU:	0.367
MB MDC:	0.738
MB Numerical Performance Indicator:	2.25
MB Status vs Numerical Indicator:	Warning
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS62922	LCSD62922
Count Date:	10/7/2021	10/7/2021
Spike I.D.:	21-029	21-029
Decay Corrected Spike Concentration (pCi/mL):	37.936	37.936
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.810	0.810
Target Conc. (pCi/L, g, F):	4.684	4.683
Uncertainty (Calculated):	0.229	0.229
Result (pCi/L, g, F):	4.993	5.479
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):	1.158	1.201
Numerical Performance Indicator:	0.51	1.27
Percent Recovery:	106.61%	116.98%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	135%	135%
Lower % Recovery Limits:	60%	60%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS62922	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.	LCSD62922	
Sample Result (pCi/L, g, F):	4.993	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.158	
Sample Duplicate Result (pCi/L, g, F):	5.479	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.201	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.571	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	9.28%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

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

Comments:

VAL 10/11/21

Quality Control Sample Performance Assessment

Pace Analytical™
www.pacelabs.com

Test: Ra-226
Analyst: JJY
Date: 10/5/2021
Worklist: 62911
Matrix: DW

Analyst Must Manually Enter All Fields Highlighted in Yellow.

Method Blank Assessment	
MB Sample ID	2251636
MB concentration:	0.112
M/B Counting Uncertainty:	0.184
MB MDC:	0.410
MB Numerical Performance Indicator:	1.20
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	Y
	LCS62911	LCSD62911
Count Date:	10/7/2021	10/7/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.033	24.033
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.504	0.512
Target Conc. (pCi/L, g, F):	4.771	4.692
Uncertainty (Calculated):	0.057	0.056
Result (pCi/L, g, F):	5.159	4.040
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.791	0.692
Numerical Performance Indicator:	0.96	-1.84
Percent Recovery:	108.12%	86.11%
Status vs Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

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

Duplicate Sample Assessment		
Sample I.D.:	LCS62911	92561843004
Duplicate Sample I.D.	LCSD62911	92561843004DUP
Sample Result (pCi/L, g, F):	5.159	0.180
Sample Result Counting Uncertainty (pCi/L, g, F):	0.791	0.243
Sample Duplicate Result (pCi/L, g, F):	4.040	0.795
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.692	0.304
Are sample and/or duplicate results below RL?	NO	See Below ##
Duplicate Numerical Performance Indicator:	2.087	-3.097
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	22.67%	126.04%
Duplicate Status vs Numerical Indicator:	N/A	N/A
Duplicate Status vs RPD:	Pass	Fail***
% RPD Limit:	25%	25%

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

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

Comments:

***Batch must be re-prepped ~~due to unacceptable precision.~~ N/A
LAM 10/29/21

Olw 10/29/21

LAM 10/29/21

ENVIRONMENTAL® STANDARDS

Setting the Standards for Innovative Environmental Solutions

Stage 2A Data Verification Report
Georgia Power
McManus Fossil Plant
Coal Combustion Residuals Project
Groundwater Samples

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the 16 groundwater samples collected as part of the September 2021 semi-annual monitoring at the Georgia Power McManus Fossil Plant facility. These samples were collectively analyzed by Pace Analytical Services, LLC (Pace) in Asheville, North Carolina (Pace Asheville) for total metals by SW-846 Method 6010D and 6020B; for mercury by SW-846 Method 7470A; for total dissolved solids (TDS) by Standard Method (SM) 2540C; for anions (specifically, chloride, fluoride, and sulfate) by US EPA Method 300.0; and for alkalinity by SM 2320B. In addition, these samples were collectively analyzed by Pace of Greensburg, Pennsylvania (Pace Pittsburgh), for total radium-226 by SW-846 Method 9315, for total radium-228 by SW-846 Method 9320, and for combined radium-226+228 by calculation.

This review was performed with guidance from the US EPA Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (November 2001); the US EPA Region IV Data Validation Standard Operating Procedures (SOPs; US EPA Region IV, September 2011); and the applied analytical methods. These validation guidance documents, with the exception of the analytical methods, specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the SM, SW-846, and US EPA methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the SM, SW-846, and US EPA methods utilized by the laboratory.

Summary

The analytical results and associated laboratory quality control (QC) samples were reviewed to determine the integrity of the reported analytical results and to verify that the data met the established data quality objectives.

The samples collected 9/13/2021 through 9/14/2021 were evaluated as part of this QA review.

The following samples were evaluated as part of this QA review: MCM-01, MCM-02, MCM-04, MCM-05, MCM-06, MCM-07, MCM-11, MCM-12, MCM-14, MCM-15, MCM-16, MCM-17, MCM-18, MCM-19, MCM-20, and DPZ-2.

The following Pace inorganic SDG were evaluated as part of this QA review: 92561848.

The following Pace radiological SDG was evaluated as part of this QA review: 92561843.

All data are considered usable as reported, or usable after integration of data validation qualifications.

Inorganic and Radiological Data Review

Data validation was performed for these samples based on the sample results, summary QC data, and raw data provided by the laboratory. The findings offered in this report for the inorganic and radiological analyses are based upon a review of the following QC measures:

- Sample condition upon laboratory receipt
- Sample holding times
- Chain-of-Custody (COC) Records
- Case Narratives
- Blank analysis results
- Chemical yield
- Laboratory control sample (LCS) recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision
- Laboratory duplicate precision
- Field duplicate precision

The above QC measures were evaluated against the analytical method requirements and QC acceptance criteria. The data were validated based on guidance from the US EPA Region IV Data Validation SOPs, the referenced procedures, and were qualified as appropriate as described in the sections below.

Comments and Exceptions

1. In all SDGs, the laboratory did not provide a Case Narrative associated with the inorganic and radiological analyses. As this item was not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

2. In SDG 92561843, the laboratory did not provide the subcontract COC Record or the Sample Login Receipt Checklist for Pace Pittsburgh. As these items were not needed to complete the data validation, the laboratory had not been requested to provide this information. Qualification of data due to this issue was not warranted.

3. In the anion fraction of SDG 92561848, the laboratory performed matrix QC (MS/MSD) analyses on an associated field blank. Matrix QC analyses are performed to evaluate the impact of matrix interferences on target analyte results in investigative samples, which would not be present in a field blank sample.

4. The data validator applied qualification to combined radium-226+228 based upon the QC samples associated with the analyses of the individual isotopes, radium-226 and radium-228. The database only includes the laboratory results for the combined radium-226+228; therefore, qualification of the individual isotopes is not addressed in this QA review.

5. SW-846 Method 9315 includes all alpha-emitting isotopes of radium. In order to analyze for only radium-226, a 21-day ingrowth period must be used. The radium-226 reported by the laboratory did not undergo a 21-day ingrowth; therefore, the results reported as radium-226 potentially contain additional alpha-emitting radium isotopes and could be high biased.

6. Combined radium-226+228 was reported as the summation of the calculated activities for radium-226 and radium-228. As consistent with routine radiological reporting conventions, negative activities were reported for the radium-226 and radium-228 analyses; however, all negative activities were entered as zero in the calculation of combined radium-226+228 activity.

7. The combined radium-226+228 sample-specific minimum detectable concentration (MDC) was reported as the summation of the MDCs for radium-226 and radium-228. Consequently, there may be instances where a detection was observed in one of the individual isotopes but the combined radium-226+228 result was reported as "not-detected" due to the laboratory's reporting convention for combined radium-226+228.

8. The combined radium-226+228 result uncertainty was reported as the summation of the calculated uncertainties for radium-226 and radium-228. If routine statistical uncertainty reporting conventions were followed, the result uncertainty would have been reported as the root sum square (RSS; the square root of the sum of the squared individual uncertainties).

9. The laboratory did not flag results < the MDC as "not-detected" in the data package provided. The data validator qualified these samples as "U" on the data tables.

10. The following field duplicate pairs (see table) were submitted and analyzed for inorganic and radiological parameters with this data set. Acceptable precision and sample representativeness were demonstrated by the reported results in the field duplicate pair evaluation (the relative percent difference [RPD] between results was ≤ 20% when both results were ≥ 5× the reporting limit [RL], the difference between results was ≤ the RL when at least one result was < 5× the RL, or replicate error ratio [RER] < 3).

Laboratory SDG(s)	Sample	Field Duplicate
92561848 92561843	MCM-16	DUP-1
92561848 92561843	MCM-19	DUP-2

Overall Assessment of Data

Based on a review of the data, qualification of data was warranted as noted below.

Laboratory SDG(s)	Sample(s)	Analyte(s)	Qualifier	Reason(s) for Qualification
92561848	MCM-12 and MCM-14	TDS	J	H – Hold time exceeded
92561848	MCM-17	Selenium	UJ	M- – Low MS/MSD recoveries

Laboratory SDG(s)	Sample(s)	Analyte(s)	Qualifier	Reason(s) for Qualification
92561848	MCM-04, MCM-11, MCM-15, MCM-16, MCM-18, MCM-19, MCM-20, DPZ-2, MCM-05, MCM-06, MCM-07, and MCM-17	Sulfate	J	M- – Low MS/MSD recoveries
92561848	MCM-11 and MCM-16	Fluoride	J	M+ – High MS/MSD recoveries
92561848	MCM-16	TDS	J	FD – Field duplicate imprecision
92561843	MCM-05, MCM-06, MCM-07, and MCM-17	combined radium-226+228	J	L- – Low LCS recovery

- All inorganic positive results reported between the method detection limit (MDL) and RL have been flagged “J”

- All radiological results reported below the MDC have been flagged “U.”

Report prepared by: Abigail P. Bossbaly, Quality Assurance Chemist
Report reviewed by: Alyssa M. Reed, Senior Quality Assurance Chemist/Project Manager
Report approved by: David I. Thal, CEAC, CQA, Principal Chemist
Date: 12/10/2021

INORGANIC DATA QUALIFIERS

U - The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit.

U* - This analyte should be considered “not-detected” because it was detected in an associated blank at a similar level.

UJ - The analyte was analyzed for, but was not detected above the level of the reported sample reporting/method detection limit. The reported method detection limit is approximate and may be inaccurate or imprecise.

J - The analyte was positively identified but the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R - The data are unusable. The sample results are rejected due to serious analytical deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

UR - The analyte was analyzed for, but was not detected above the level of the reported sample reporting or method detection; however, the data are unusable. The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The analyte may or may not be present in the sample.

Reason Codes and Explanations

Reason Code	Explanation
BE	Equipment blank contamination.
BF	Field blank contamination.
BL	Laboratory blank contamination.
BN	Negative laboratory blank contamination.
C	Initial and/or continuing calibration issue, indeterminate bias.
C+	Initial and/or continuing calibration issue. The result may be biased high.
C-	Initial and/or continuing calibration issue. The result may be biased low.
FD	Field duplicate imprecision.
FG	Total versus dissolved imprecision.
H	Holding time exceeded.
I	Internal standard recovery outside of acceptance limits.
L	LCS and LCSD recoveries outside of acceptance limits, indeterminate bias.
L+	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased high.
L-	LCS and/or LCSD recoveries outside of acceptance limits. The result may be biased low.
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits, indeterminate bias.
M+	MS and/or MSD recoveries outside of acceptance limits. The result may be biased high.
M-	MS and/or MSD recoveries outside of acceptance limits. The result may be biased low.
MP	MS/MSD imprecision.
P	Post-digestion spike recoveries outside of acceptance limits, indeterminate bias.
P+	Post-digestion spike recovery outside of acceptance limits. The result may be biased high.
P-	Post-digestion spike recovery outside of acceptance limits. The result may be biased low.
Q	Chemical preservation issue.
R	RL standards outside of acceptance limits, indeterminate bias.
R+	RL standard(s) outside of acceptance limits. The result may be biased high.
R-	RL standard(s) outside of acceptance limits. The result may be biased low.
T	Temperature preservation issue.
SD	Serial dilution imprecision.
Y	Chemical yields outside of acceptance limits, indeterminate bias.
Y+	Chemical yield(s) outside of acceptance limits. The result may be biased high.
Y-	Chemical yield(s) outside of acceptance limits. The result may be biased low.
ZZ	Other

APPENDIX B2

Field Sampling Forms and Calibration Reports

Low-Flow Test Report:

Test Date / Time: 9/14/2021 9:36:11 AM
Project: September 2021 McManus CCR Event
Operator Name: William Laaker

Location Name: MCM-01 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 17.32 ft** **Total Depth: 27.32 ft** **Initial Depth to Water: 4.34 ft**	**Pump Type: QED Dedicated** **Tubing Type: LDPE** **Pump Intake From TOC: 22.32 ft** **Estimated Total Volume Pumped: 2600 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 130 ml/min** **Final Draw Down: 0.03 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789301**

Test Notes:
Prepurged 1 L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 9:36 AM	00:00	5.11 pH	25.42 °C	152.20 µS/cm	0.79 mg/L	1.44 NTU	102.3 mV	4.37 ft	0.07 PSU	130.00 ml/min
9/14/2021 9:40 AM	04:00	5.11 pH	25.23 °C	154.47 µS/cm	0.75 mg/L	0.99 NTU	96.6 mV	4.37 ft	0.07 PSU	130.00 ml/min
9/14/2021 9:44 AM	08:00	5.11 pH	25.19 °C	154.71 µS/cm	0.65 mg/L	1.18 NTU	94.4 mV	4.37 ft	0.07 PSU	130.00 ml/min
9/14/2021 9:48 AM	12:00	5.10 pH	25.42 °C	154.10 µS/cm	0.49 mg/L	0.66 NTU	93.4 mV	4.37 ft	0.07 PSU	130.00 ml/min
9/14/2021 9:52 AM	16:00	5.13 pH	25.64 °C	155.45 µS/cm	0.38 mg/L	0.46 NTU	90.9 mV	4.37 ft	0.07 PSU	130.00 ml/min
9/14/2021 9:56 AM	20:00	5.13 pH	25.71 °C	155.44 µS/cm	0.33 mg/L	0.43 NTU	89.6 mV	4.37 ft	0.07 PSU	130.00 ml/min

Samples

Sample ID:	Description:
MCM-01	Metals, Inorganics, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 10:49:00 AM
Project: September 2021 McManus CCR Event
Operator Name: Robert Mull

Location Name: MCM-02 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 17.35 ft** **Total Depth: 27.35 ft** **Initial Depth to Water: 4.46 ft**	**Pump Type: Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 22.5 m** **Estimated Total Volume Pumped: 6720 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 210 ml/min** **Final Draw Down: 0.13 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
Prepurged 750mL

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 10:49 AM	00:00	5.08 pH	22.89 °C	163.41 µS/cm	0.30 mg/L	0.05 NTU	60.2 mV	4.58 ft	0.08 PSU	210.00 ml/min
9/14/2021 10:53 AM	04:00	5.11 pH	22.52 °C	174.00 µS/cm	0.22 mg/L	0.02 NTU	54.4 mV	4.59 ft	0.08 PSU	210.00 ml/min
9/14/2021 10:57 AM	08:00	5.11 pH	22.50 °C	168.19 µS/cm	0.18 mg/L	0.09 NTU	49.1 mV	4.59 ft	0.08 PSU	210.00 ml/min
9/14/2021 11:01 AM	12:00	5.10 pH	22.45 °C	165.77 µS/cm	0.16 mg/L	0.06 NTU	45.5 mV	4.59 ft	0.08 PSU	210.00 ml/min
9/14/2021 11:05 AM	16:00	5.08 pH	22.44 °C	162.01 µS/cm	0.14 mg/L	0.17 NTU	43.4 mV	4.59 ft	0.08 PSU	210.00 ml/min
9/14/2021 11:09 AM	20:00	5.07 pH	22.40 °C	157.15 µS/cm	0.13 mg/L	0.10 NTU	41.5 mV	4.59 ft	0.07 PSU	210.00 ml/min
9/14/2021 11:13 AM	24:00	5.05 pH	22.49 °C	155.54 µS/cm	0.12 mg/L	0.16 NTU	40.5 mV	4.59 ft	0.07 PSU	210.00 ml/min
9/14/2021 11:17 AM	28:00	5.04 pH	22.44 °C	153.48 µS/cm	0.11 mg/L	0.03 NTU	39.9 mV	4.59 ft	0.07 PSU	210.00 ml/min
9/14/2021 11:21 AM	32:00	5.04 pH	22.49 °C	155.74 µS/cm	0.10 mg/L	0.06 NTU	39.0 mV	4.59 ft	0.07 PSU	210.00 ml/min

Samples

Sample ID:	Description:
MCM-02	Metals, Inorganics, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 9:31:59 AM
Project: September 2021 McManus CCR EVENT
Operator Name: Robert Mull

Location Name: MCM-04 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 m** **Top of Screen: 18.57 m** **Total Depth: 28.57 m** **Initial Depth to Water: 9.49 ft**	**Pump Type: Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 23.5 m** **Estimated Total Volume Pumped: 2560 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 160 ml/min** **Final Draw Down: 0.23 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
Prepurged 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 9:31 AM	00:00	5.08 pH	22.54 °C	340.61 µS/cm	0.26 mg/L	0.10 NTU	85.1 mV	9.69 ft	0.16 PSU	160.00 ml/min
9/14/2021 9:35 AM	04:00	5.09 pH	22.36 °C	341.85 µS/cm	0.20 mg/L	0.22 NTU	79.9 mV	9.70 ft	0.16 PSU	160.00 ml/min
9/14/2021 9:39 AM	08:00	5.09 pH	22.26 °C	342.65 µS/cm	0.17 mg/L	0.02 NTU	75.5 mV	9.70 ft	0.17 PSU	160.00 ml/min
9/14/2021 9:43 AM	12:00	5.08 pH	22.19 °C	341.62 µS/cm	0.15 mg/L	0.05 NTU	71.5 mV	9.71 ft	0.16 PSU	160.00 ml/min
9/14/2021 9:47 AM	16:00	5.09 pH	22.17 °C	340.75 µS/cm	0.13 mg/L	0.13 NTU	68.2 mV	9.72 ft	0.16 PSU	160.00 ml/min

Samples

Sample ID:	Description:
MCM-04	Metals, Inorganics, TDS, Radium

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/14/2021 1:10:42 PM
Project: September 2021 McManus CCR Event
Operator Name: Calvin Layman

Location Name: MCM-05 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18.05 ft** **Total Depth: 28.05 ft** **Initial Depth to Water: 7.98 ft**	**Pump Type: QED Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 23.05 ft** **Estimated Total Volume Pumped: 2800 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 140 ml/min** **Final Draw Down: -0.13 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789310**

Test Notes:
Prepurge 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 1:10 PM	00:00	6.68 pH	35.67 °C	11,015 µS/cm	1.31 mg/L	1.96 NTU	-122.1 mV	7.98 ft	6.34 PSU	140.00 ml/min
9/14/2021 1:14 PM	04:00	6.66 pH	28.20 °C	14,002 µS/cm	0.33 mg/L	1.11 NTU	-127.4 mV	7.98 ft	8.22 PSU	140.00 ml/min
9/14/2021 1:18 PM	08:00	6.67 pH	27.37 °C	14,436 µS/cm	0.21 mg/L	0.56 NTU	-127.5 mV	7.94 ft	8.50 PSU	140.00 ml/min
9/14/2021 1:22 PM	12:00	6.67 pH	27.12 °C	14,608 µS/cm	0.17 mg/L	0.28 NTU	-128.1 mV	7.86 ft	8.61 PSU	140.00 ml/min
9/14/2021 1:26 PM	16:00	6.67 pH	27.18 °C	14,676 µS/cm	0.15 mg/L	0.07 NTU	-128.3 mV	7.88 ft	8.65 PSU	140.00 ml/min
9/14/2021 1:30 PM	20:00	6.67 pH	27.05 °C	14,659 µS/cm	0.14 mg/L	0.14 NTU	-127.7 mV	7.85 ft	8.64 PSU	140.00 ml/min

Samples

Sample ID:	Description:
MCM-5	Metals, Inorganics, Alkalinity, TDS, Radium

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/14/2021 11:14:38 AM
Project: September 2021 McManus CCR Event
Operator Name: Calvin Layman

Location Name: MCM-06 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 17.2 ft** **Total Depth: 27.2 ft** **Initial Depth to Water: 9.09 ft**	**Pump Type: QED Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 22.2 ft** **Estimated Total Volume Pumped: 2880 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 120 ml/min** **Final Draw Down: 0.05 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789310**

Test Notes:
Prepurge 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 11:14 AM	00:00	6.85 pH	35.52 °C	17,732 µS/cm	1.98 mg/L	4.71 NTU	-173.2 mV	9.14 ft	10.62 PSU	120.00 ml/min
9/14/2021 11:18 AM	04:00	6.89 pH	28.61 °C	19,426 µS/cm	0.08 mg/L	5.30 NTU	-188.5 mV	9.14 ft	11.74 PSU	120.00 ml/min
9/14/2021 11:22 AM	08:00	6.91 pH	28.06 °C	19,597 µS/cm	0.06 mg/L	6.07 NTU	-200.1 mV	9.14 ft	11.85 PSU	120.00 ml/min
9/14/2021 11:26 AM	12:00	6.94 pH	28.03 °C	19,552 µS/cm	0.06 mg/L	5.49 NTU	-211.1 mV	9.14 ft	11.82 PSU	120.00 ml/min
9/14/2021 11:30 AM	16:00	6.94 pH	28.06 °C	19,435 µS/cm	0.06 mg/L	3.90 NTU	-219.7 mV	9.14 ft	11.74 PSU	120.00 ml/min
9/14/2021 11:34 AM	20:00	6.94 pH	28.09 °C	19,489 µS/cm	0.05 mg/L	3.41 NTU	-227.5 mV	9.14 ft	11.78 PSU	120.00 ml/min
9/14/2021 11:38 AM	24:00	6.94 pH	28.07 °C	19,452 µS/cm	0.05 mg/L	2.62 NTU	-232.8 mV	9.14 ft	11.75 PSU	120.00 ml/min

Samples

Sample ID:	Description:
MCM-6	Metals, Inorganics, Alkalinity, TDS, Radium

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/14/2021 9:20:39 AM
Project: September 2021 McManus CCR Event
Operator Name: Calvin Layman

Location Name: MCM-07 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 13.75 ft** **Total Depth: 23.75 ft** **Initial Depth to Water: 7.97 ft**	**Pump Type: QED Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 18.75 ft** **Estimated Total Volume Pumped: 2600 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 130 ml/min** **Final Draw Down: 0.18 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789310**

Test Notes:
Prepurge 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 9:20 AM	00:00	6.15 pH	28.81 °C	20,719 µS/cm	2.95 mg/L	2.31 NTU	-74.4 mV	8.21 ft	12.59 PSU	130.00 ml/min
9/14/2021 9:24 AM	04:00	6.22 pH	26.82 °C	20,875 µS/cm	1.16 mg/L	1.78 NTU	-84.0 mV	8.21 ft	12.69 PSU	130.00 ml/min
9/14/2021 9:28 AM	08:00	6.26 pH	26.70 °C	21,045 µS/cm	0.72 mg/L	1.66 NTU	-90.5 mV	8.21 ft	12.80 PSU	130.00 ml/min
9/14/2021 9:32 AM	12:00	6.27 pH	26.78 °C	21,195 µS/cm	0.38 mg/L	1.75 NTU	-95.2 mV	8.15 ft	12.90 PSU	130.00 ml/min
9/14/2021 9:36 AM	16:00	6.28 pH	26.95 °C	21,317 µS/cm	0.22 mg/L	1.63 NTU	-97.1 mV	8.15 ft	12.98 PSU	130.00 ml/min
9/14/2021 9:40 AM	20:00	6.28 pH	26.93 °C	21,587 µS/cm	0.16 mg/L	1.84 NTU	-100.0 mV	8.15 ft	13.16 PSU	130.00 ml/min

Samples

Sample ID:	Description:
MCM-7	Metals, Inorganics, Alkalinity, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 12:42:10 PM
Project: September 2021 McManus CCR Event
Operator Name: Robert Mull

Location Name: MCM-11 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 14 ft** **Total Depth: 24 ft** **Initial Depth to Water: 5.43 ft**	**Pump Type: Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 19 ft** **Estimated Total Volume Pumped: 3720 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 170 ml/min** **Final Draw Down: 1.16 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
Prepurged 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 12:42 PM	00:00	5.53 pH	27.70 °C	355.13 µS/cm	0.31 mg/L	0.56 NTU	97.1 mV	6.43 ft	0.17 PSU	210.00 ml/min
9/14/2021 12:46 PM	04:00	5.52 pH	27.46 °C	333.15 µS/cm	0.21 mg/L	0.25 NTU	96.4 mV	6.58 ft	0.16 PSU	210.00 ml/min
9/14/2021 12:50 PM	08:00	5.52 pH	27.46 °C	323.45 µS/cm	0.21 mg/L	0.02 NTU	97.5 mV	6.60 ft	0.16 PSU	170.00 ml/min
9/14/2021 12:54 PM	12:00	5.51 pH	27.15 °C	326.65 µS/cm	0.19 mg/L	0.08 NTU	98.8 mV	6.59 ft	0.16 PSU	170.00 ml/min
9/14/2021 12:58 PM	16:00	5.49 pH	27.45 °C	328.94 µS/cm	0.19 mg/L	0.01 NTU	101.6 mV	6.59 ft	0.16 PSU	170.00 ml/min
9/14/2021 1:02 PM	20:00	5.50 pH	27.50 °C	333.23 µS/cm	0.17 mg/L	0.03 NTU	103.6 mV	6.59 ft	0.16 PSU	170.00 ml/min

Samples

Sample ID:	Description:
MCM-11	Metals, Inorganics, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/13/2021 5:09:33 PM
Project: September 2021 McManus CCR Event
Operator Name: Calvin Layman

Location Name: MCM-12 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 19 ft** **Total Depth: 29 ft** **Initial Depth to Water: 8.84 ft**	**Pump Type: QED Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 24 ft** **Estimated Total Volume Pumped: 5040 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 140 ml/min** **Final Draw Down: 1.26 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789310**

Test Notes:
Prepurge 2L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/13/2021 5:09 PM	00:00	6.22 pH	30.84 °C	2,247.3 µS/cm	0.54 mg/L	1.15 NTU	55.1 mV	9.80 ft	1.16 PSU	140.00 ml/min
9/13/2021 5:13 PM	04:00	6.25 pH	26.95 °C	2,360.9 µS/cm	0.12 mg/L	1.08 NTU	40.8 mV	9.85 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:17 PM	08:00	6.24 pH	26.53 °C	2,370.0 µS/cm	0.09 mg/L	1.50 NTU	39.7 mV	9.87 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:21 PM	12:00	6.24 pH	26.49 °C	2,361.3 µS/cm	0.06 mg/L	2.41 NTU	39.1 mV	9.89 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:25 PM	16:00	6.24 pH	26.25 °C	2,357.2 µS/cm	0.05 mg/L	3.46 NTU	40.9 mV	9.94 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:29 PM	20:00	6.24 pH	26.00 °C	2,363.4 µS/cm	0.04 mg/L	4.29 NTU	40.5 mV	9.97 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:33 PM	24:00	6.24 pH	25.72 °C	2,362.0 µS/cm	0.04 mg/L	4.89 NTU	40.4 mV	10.02 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:37 PM	28:00	6.24 pH	25.57 °C	2,368.1 µS/cm	0.03 mg/L	4.95 NTU	41.2 mV	10.06 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:41 PM	32:00	6.24 pH	25.43 °C	2,371.0 µS/cm	0.02 mg/L	4.98 NTU	40.6 mV	10.07 ft	1.23 PSU	140.00 ml/min
9/13/2021 5:45 PM	36:00	6.24 pH	25.40 °C	2,373.6 µS/cm	0.02 mg/L	4.69 NTU	40.4 mV	10.10 ft	1.24 PSU	140.00 ml/min

Samples

Sample ID:	Description:
MCM-12	Metals, Inorganics, Alkalinity, TDS, Radium

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/13/2021 5:08:14 PM
Project: September 2021 McManus CCR Event
Operator Name: Robert Mull

Location Name: MCM-14 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18.11 ft** **Total Depth: 28.11 ft** **Initial Depth to Water: 8.55 ft**	**Pump Type: QED Dedicated Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 23 ft** **Estimated Total Volume Pumped: 4000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: 0.38 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
Prepurged 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 10	
9/13/2021 5:08 PM	00:00	6.48 pH	26.79 °C	14,542 µS/cm	2.05 mg/L	0.70 NTU	-212.0 mV	8.74 ft	8.56 PSU	200.00 ml/min
9/13/2021 5:12 PM	04:00	6.41 pH	25.50 °C	14,808 µS/cm	0.73 mg/L	0.39 NTU	-240.9 mV	8.75 ft	8.73 PSU	200.00 ml/min
9/13/2021 5:16 PM	08:00	6.36 pH	25.24 °C	14,868 µS/cm	0.46 mg/L	0.23 NTU	-247.8 mV	8.79 ft	8.77 PSU	200.00 ml/min
9/13/2021 5:20 PM	12:00	6.32 pH	25.12 °C	14,819 µS/cm	0.31 mg/L	0.26 NTU	-249.5 mV	8.86 ft	8.74 PSU	200.00 ml/min
9/13/2021 5:24 PM	16:00	6.30 pH	24.99 °C	14,718 µS/cm	0.24 mg/L	0.24 NTU	-248.6 mV	8.90 ft	8.67 PSU	200.00 ml/min
9/13/2021 5:28 PM	20:00	6.30 pH	24.90 °C	14,731 µS/cm	0.19 mg/L	0.22 NTU	-250.6 mV	8.93 ft	8.68 PSU	200.00 ml/min

Samples

Sample ID:	Description:
MCM-14	Metals, Inorganics, Alkalinity, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 4:04:00 PM
Project: September 2021 McManus CCR Event
Operator Name: Robert Mull

Location Name: MCM-15 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 16.6 ft** **Total Depth: 26.6 ft** **Initial Depth to Water: 8.86 ft**	**Pump Type: Dedicated Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 21.6 ft** **Estimated Total Volume Pumped: 8000 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 160 ml/min** **Final Draw Down: 0.02 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:
Prepurged 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 4:04 PM	00:00	5.49 pH	27.60 °C	58.68 µS/cm	0.85 mg/L	2.82 NTU	80.1 mV	8.92 ft	0.03 PSU	240.00 ml/min
9/14/2021 4:08 PM	04:00	5.33 pH	26.14 °C	61.57 µS/cm	0.85 mg/L	1.17 NTU	66.9 mV	8.95 ft	0.03 PSU	240.00 ml/min
9/14/2021 4:12 PM	08:00	5.25 pH	25.58 °C	55.36 µS/cm	0.48 mg/L	1.09 NTU	60.9 mV	8.95 ft	0.03 PSU	240.00 ml/min
9/14/2021 4:16 PM	12:00	5.23 pH	25.24 °C	59.74 µS/cm	0.26 mg/L	1.52 NTU	55.0 mV	8.94 ft	0.03 PSU	240.00 ml/min
9/14/2021 4:20 PM	16:00	5.42 pH	24.96 °C	110.33 µS/cm	0.19 mg/L	2.70 NTU	29.6 mV	8.94 ft	0.05 PSU	240.00 ml/min
9/14/2021 4:24 PM	20:00	5.40 pH	25.10 °C	112.54 µS/cm	0.19 mg/L	3.01 NTU	27.7 mV	8.91 ft	0.05 PSU	160.00 ml/min
9/14/2021 4:28 PM	24:00	5.41 pH	25.49 °C	118.73 µS/cm	0.15 mg/L	3.65 NTU	26.5 mV	8.90 ft	0.06 PSU	160.00 ml/min
9/14/2021 4:32 PM	28:00	5.39 pH	25.77 °C	116.80 µS/cm	0.13 mg/L	4.07 NTU	28.0 mV	8.88 ft	0.05 PSU	160.00 ml/min
9/14/2021 4:36 PM	32:00	5.39 pH	25.86 °C	117.80 µS/cm	0.14 mg/L	3.90 NTU	28.0 mV	8.89 ft	0.06 PSU	160.00 ml/min
9/14/2021 4:40 PM	36:00	5.39 pH	25.92 °C	121.56 µS/cm	0.13 mg/L	4.05 NTU	26.2 mV	8.88 ft	0.06 PSU	160.00 ml/min
9/14/2021 4:44 PM	40:00	5.39 pH	25.83 °C	121.74 µS/cm	0.14 mg/L	4.03 NTU	25.5 mV	8.88 ft	0.06 PSU	160.00 ml/min

Samples

Sample ID:	Description:
MCM-15	Metals, Inorganics, TDS, Radium

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/14/2021 10:50:10 AM
Project: September 2021 McManus CCR Event
Operator Name: William Laaker

Location Name: MCM-16 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18.39 ft** **Total Depth: 28.39 ft** **Initial Depth to Water: 9.05 ft**	**Pump Type: QED Dedicated** **Tubing Type: LDPE** **Pump Intake From TOC: 23.39 ft** **Estimated Total Volume Pumped: 2240 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 140 ml/min** **Final Draw Down: 0.08 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789301**

Test Notes:
Prepurged 1 L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 10:50 AM	00:00	4.67 pH	23.42 °C	174.67 µS/cm	0.52 mg/L	0.24 NTU	109.2 mV	9.13 ft	0.08 PSU	140.00 ml/min
9/14/2021 10:54 AM	04:00	4.66 pH	22.93 °C	177.65 µS/cm	0.35 mg/L	0.60 NTU	100.9 mV	9.13 ft	0.08 PSU	140.00 ml/min
9/14/2021 10:58 AM	08:00	4.67 pH	22.76 °C	177.77 µS/cm	0.33 mg/L	0.12 NTU	98.5 mV	9.13 ft	0.08 PSU	140.00 ml/min
9/14/2021 11:02 AM	12:00	4.70 pH	22.70 °C	174.21 µS/cm	0.28 mg/L	0.06 NTU	96.4 mV	9.13 ft	0.08 PSU	140.00 ml/min
9/14/2021 11:06 AM	16:00	4.69 pH	22.64 °C	175.65 µS/cm	0.31 mg/L	0.01 NTU	95.3 mV	9.13 ft	0.08 PSU	140.00 ml/min

Samples

Sample ID:	Description:
MCM-16	Metals, Inorganics, TDS, Radium
DUP-1	Metals, Inorganics, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 2:58:52 PM
Project: September 2021 McManus CCR Event
Operator Name: Calvin Layman

Location Name: MCM-17 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 17.44 ft** **Total Depth: 27.44 ft** **Initial Depth to Water: 9.12 ft**	**Pump Type: QED Bladder** **Tubing Type: LDPE** **Pump Intake From TOC: 22.44 ft** **Estimated Total Volume Pumped: 26240 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 200 ml/min** **Final Draw Down: -0.51 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789310**

Test Notes:
Prepurge 1L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 2:58 PM	00:00	6.28 pH	30.91 °C	13,304 µS/cm	1.01 mg/L	0.90 NTU	-59.5 mV	9.12 ft	7.78 PSU	120.00 ml/min
9/14/2021 3:02 PM	04:00	6.26 pH	28.17 °C	14,041 µS/cm	0.26 mg/L	0.53 NTU	-56.6 mV	9.12 ft	8.25 PSU	120.00 ml/min
9/14/2021 3:06 PM	08:00	6.26 pH	28.40 °C	14,107 µS/cm	0.27 mg/L	0.40 NTU	-57.2 mV	9.06 ft	8.29 PSU	120.00 ml/min
9/14/2021 3:10 PM	12:00	6.25 pH	28.10 °C	14,111 µS/cm	0.27 mg/L	0.79 NTU	-55.1 mV	9.06 ft	8.29 PSU	120.00 ml/min
9/14/2021 3:14 PM	16:00	6.24 pH	27.72 °C	14,233 µS/cm	0.16 mg/L	3.34 NTU	-56.1 mV	9.04 ft	8.37 PSU	120.00 ml/min
9/14/2021 3:18 PM	20:00	6.24 pH	27.24 °C	14,250 µS/cm	0.13 mg/L	6.75 NTU	-55.6 mV	9.04 ft	8.38 PSU	120.00 ml/min
9/14/2021 3:22 PM	24:00	6.23 pH	27.16 °C	14,274 µS/cm	0.10 mg/L	11.68 NTU	-55.0 mV	9.00 ft	8.39 PSU	120.00 ml/min
9/14/2021 3:26 PM	28:00	6.22 pH	27.83 °C	14,262 µS/cm	0.08 mg/L	14.61 NTU	-57.6 mV	8.96 ft	8.39 PSU	120.00 ml/min
9/14/2021 3:30 PM	32:00	6.24 pH	26.85 °C	13,991 µS/cm	0.08 mg/L	11.40 NTU	-51.5 mV	8.98 ft	8.21 PSU	200.00 ml/min
9/14/2021 3:34 PM	36:00	6.24 pH	25.58 °C	14,177 µS/cm	0.09 mg/L	12.00 NTU	-50.9 mV	8.92 ft	8.33 PSU	200.00 ml/min
9/14/2021 3:38 PM	40:00	6.25 pH	25.50 °C	14,181 µS/cm	0.08 mg/L	12.20 NTU	-57.9 mV	8.92 ft	8.33 PSU	200.00 ml/min
9/14/2021 3:42 PM	44:00	6.28 pH	25.53 °C	14,234 µS/cm	0.08 mg/L	11.90 NTU	-68.1 mV	8.92 ft	8.37 PSU	200.00 ml/min
9/14/2021 3:46 PM	48:00	6.32 pH	25.43 °C	14,205 µS/cm	0.08 mg/L	11.20 NTU	-58.2 mV	8.92 ft	8.35 PSU	200.00 ml/min
9/14/2021 3:50 PM	52:00	6.39 pH	25.43 °C	14,301 µS/cm	0.08 mg/L	14.53 NTU	-61.1 mV	8.84 ft	8.41 PSU	200.00 ml/min
9/14/2021 3:54 PM	56:00	6.45 pH	25.40 °C	14,351 µS/cm	0.08 mg/L	13.52 NTU	-64.3 mV	8.86 ft	8.44 PSU	200.00 ml/min

9/14/2021 3:58 PM	01:00:00	6.50 pH	25.50 °C	14,392 µS/cm	0.07 mg/L	12.39 NTU	-66.4 mV	8.86 ft	8.47 PSU	200.00 ml/min
9/14/2021 4:02 PM	01:04:00	6.54 pH	25.52 °C	14,354 µS/cm	0.09 mg/L	12.45 NTU	-66.4 mV	8.78 ft	8.44 PSU	200.00 ml/min
9/14/2021 4:06 PM	01:08:00	6.56 pH	24.82 °C	14,443 µS/cm	0.09 mg/L	11.72 NTU	-65.0 mV	8.81 ft	8.50 PSU	200.00 ml/min
9/14/2021 4:10 PM	01:12:00	6.60 pH	24.54 °C	14,512 µS/cm	0.08 mg/L	10.69 NTU	-66.8 mV	8.81 ft	8.54 PSU	200.00 ml/min
9/14/2021 4:14 PM	01:16:00	6.63 pH	24.41 °C	14,568 µS/cm	0.08 mg/L	9.25 NTU	-66.7 mV	8.81 ft	8.58 PSU	200.00 ml/min
9/14/2021 4:18 PM	01:20:00	6.65 pH	24.27 °C	14,630 µS/cm	0.08 mg/L	8.68 NTU	-66.4 mV	8.74 ft	8.61 PSU	200.00 ml/min
9/14/2021 4:22 PM	01:24:00	6.67 pH	24.59 °C	14,694 µS/cm	0.07 mg/L	8.64 NTU	-65.8 mV	8.69 ft	8.66 PSU	200.00 ml/min
9/14/2021 4:26 PM	01:28:00	6.68 pH	24.86 °C	14,779 µS/cm	0.07 mg/L	7.76 NTU	-67.9 mV	8.68 ft	8.71 PSU	200.00 ml/min
9/14/2021 4:30 PM	01:32:00	6.70 pH	24.81 °C	14,755 µS/cm	0.07 mg/L	7.58 NTU	-66.7 mV	8.68 ft	8.70 PSU	200.00 ml/min
9/14/2021 4:34 PM	01:36:00	6.71 pH	24.97 °C	14,802 µS/cm	0.07 mg/L	7.53 NTU	-66.8 mV	8.68 ft	8.73 PSU	200.00 ml/min
9/14/2021 4:38 PM	01:40:00	6.72 pH	24.90 °C	14,825 µS/cm	0.07 mg/L	7.11 NTU	-65.7 mV	8.68 ft	8.74 PSU	200.00 ml/min
9/14/2021 4:42 PM	01:44:00	6.73 pH	24.86 °C	14,838 µS/cm	0.06 mg/L	6.24 NTU	-65.0 mV	8.68 ft	8.75 PSU	200.00 ml/min
9/14/2021 4:46 PM	01:48:00	6.73 pH	24.81 °C	14,930 µS/cm	0.07 mg/L	5.98 NTU	-66.3 mV	8.68 ft	8.81 PSU	200.00 ml/min
9/14/2021 4:50 PM	01:52:00	6.74 pH	24.74 °C	14,970 µS/cm	0.07 mg/L	5.96 NTU	-65.2 mV	8.68 ft	8.83 PSU	200.00 ml/min
9/14/2021 4:54 PM	01:56:00	6.74 pH	24.59 °C	15,015 µS/cm	0.07 mg/L	5.60 NTU	-65.7 mV	8.68 ft	8.86 PSU	200.00 ml/min
9/14/2021 4:58 PM	02:00:00	6.75 pH	24.41 °C	15,056 µS/cm	0.07 mg/L	5.65 NTU	-64.5 mV	8.65 ft	8.89 PSU	200.00 ml/min
9/14/2021 5:02 PM	02:04:00	6.75 pH	24.32 °C	15,062 µS/cm	0.07 mg/L	5.63 NTU	-65.8 mV	8.61 ft	8.89 PSU	200.00 ml/min
9/14/2021 5:06 PM	02:08:00	6.76 pH	24.23 °C	15,094 µS/cm	0.08 mg/L	5.01 NTU	-64.5 mV	8.61 ft	8.91 PSU	200.00 ml/min
9/14/2021 5:10 PM	02:12:00	6.76 pH	24.23 °C	15,083 µS/cm	0.07 mg/L	5.16 NTU	-63.1 mV	8.61 ft	8.90 PSU	200.00 ml/min
9/14/2021 5:14 PM	02:16:00	6.77 pH	24.18 °C	15,104 µS/cm	0.07 mg/L	4.92 NTU	-64.5 mV	8.61 ft	8.92 PSU	200.00 ml/min
9/14/2021 5:18 PM	02:20:00	6.77 pH	24.27 °C	15,186 µS/cm	0.07 mg/L	4.82 NTU	-64.7 mV	8.61 ft	8.97 PSU	200.00 ml/min
9/14/2021 5:22 PM	02:24:00	6.77 pH	24.36 °C	15,155 µS/cm	0.07 mg/L	4.54 NTU	-64.4 mV	8.61 ft	8.95 PSU	200.00 ml/min

Samples

Sample ID:	Description:
MCM-17	Metals, Inorganics, Alkalinity, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 1:09:37 PM
Project: September 2021 McManus CCR Event
Operator Name: William Laaker

Location Name: MCM-18 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 17.86 ft** **Total Depth: 27.86 ft** **Initial Depth to Water: 6.34 ft**	**Pump Type: GeoTech Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 22.86 ft** **Estimated Total Volume Pumped: 2400 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 150 ml/min** **Final Draw Down: 0.16 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789301**

Test Notes:
Prepurged 1 L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 1:09 PM	00:00	4.25 pH	25.70 °C	4,174.9 µS/cm	0.32 mg/L	0.64 NTU	116.0 mV	6.49 ft	2.25 PSU	150.00 ml/min
9/14/2021 1:13 PM	04:00	4.27 pH	24.78 °C	4,175.2 µS/cm	0.24 mg/L	0.12 NTU	110.4 mV	6.49 ft	2.25 PSU	150.00 ml/min
9/14/2021 1:17 PM	08:00	4.28 pH	24.45 °C	4,150.8 µS/cm	0.19 mg/L	0.04 NTU	108.1 mV	6.49 ft	2.23 PSU	150.00 ml/min
9/14/2021 1:21 PM	12:00	4.28 pH	24.93 °C	4,141.7 µS/cm	0.16 mg/L	0.34 NTU	111.8 mV	6.50 ft	2.23 PSU	150.00 ml/min
9/14/2021 1:25 PM	16:00	4.28 pH	25.23 °C	4,094.3 µS/cm	0.15 mg/L	0.13 NTU	114.1 mV	6.50 ft	2.20 PSU	150.00 ml/min

Samples

Sample ID:	Description:
MCM-18	Metals, Inorganics, TDS, Radium

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Low-Flow Test Report:

Test Date / Time: 9/14/2021 2:38:20 PM
Project: September 2021 McManus CCR Event
Operator Name: William Laaker

Location Name: MCM-19 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18.32 ft** **Total Depth: 28.32 ft** **Initial Depth to Water: 6.39 ft**	**Pump Type: GeoTech Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 23.32 ft** **Estimated Total Volume Pumped: 3400 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 170 ml/min** **Final Draw Down: -0.1 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789301**

Test Notes:
Prepurged 1 L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 2:38 PM	00:00	5.29 pH	24.60 °C	24,939 µS/cm	0.29 mg/L	0.08 NTU	104.2 mV	6.48 ft	15.40 PSU	170.00 ml/min
9/14/2021 2:42 PM	04:00	5.31 pH	24.24 °C	25,038 µS/cm	0.22 mg/L	0.46 NTU	100.1 mV	6.46 ft	15.46 PSU	170.00 ml/min
9/14/2021 2:46 PM	08:00	5.31 pH	24.19 °C	24,967 µS/cm	0.17 mg/L	0.15 NTU	98.2 mV	6.42 ft	15.41 PSU	170.00 ml/min
9/14/2021 2:50 PM	12:00	5.31 pH	24.24 °C	24,818 µS/cm	0.16 mg/L	0.13 NTU	97.2 mV	6.38 ft	15.31 PSU	170.00 ml/min
9/14/2021 2:54 PM	16:00	5.31 pH	24.06 °C	24,829 µS/cm	0.15 mg/L	0.59 NTU	95.4 mV	6.34 ft	15.32 PSU	170.00 ml/min
9/14/2021 2:58 PM	20:00	5.31 pH	24.08 °C	24,714 µS/cm	0.14 mg/L	0.11 NTU	94.4 mV	6.29 ft	15.24 PSU	170.00 ml/min

Samples

Sample ID:	Description:
MCM-19	Metals, Inorganics, TDS, Radium
DUP-2	Metals, Inorganics, TDS, Radium

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 9/14/2021 4:08:52 PM
Project: September 2021 McManus CCR Event
Operator Name: William Laaker

Location Name: MCM-20 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 13.05 ft** **Total Depth: 23.05 ft** **Initial Depth to Water: 6.99 ft**	**Pump Type: GeoTech Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 18.05 ft** **Estimated Total Volume Pumped: 2880 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 180 ml/min** **Final Draw Down: 0.44 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789301**

Test Notes:
Prepurged 1 L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 4:08 PM	00:00	3.73 pH	25.30 °C	17,732 µS/cm	0.23 mg/L	0.37 NTU	147.6 mV	7.42 ft	10.62 PSU	180.00 ml/min
9/14/2021 4:12 PM	04:00	3.73 pH	25.01 °C	17,843 µS/cm	0.19 mg/L	0.66 NTU	142.9 mV	7.43 ft	10.69 PSU	180.00 ml/min
9/14/2021 4:16 PM	08:00	3.73 pH	24.74 °C	17,802 µS/cm	0.17 mg/L	0.34 NTU	138.5 mV	7.44 ft	10.66 PSU	180.00 ml/min
9/14/2021 4:20 PM	12:00	3.72 pH	24.64 °C	17,856 µS/cm	0.16 mg/L	0.21 NTU	134.4 mV	7.43 ft	10.70 PSU	180.00 ml/min
9/14/2021 4:24 PM	16:00	3.72 pH	24.69 °C	17,838 µS/cm	0.14 mg/L	0.09 NTU	130.6 mV	7.43 ft	10.68 PSU	180.00 ml/min

Samples

Sample ID:	Description:
MCM-20	Metals, Inorganics, TDS, Radium

Low-Flow Test Report:

Test Date / Time: 9/14/2021 2:30:03 PM
Project: September 2021 McManus CCR Event
Operator Name: Robert Mull

Location Name: DPZ-02 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 33.46 ft** **Total Depth: 43.46 ft** **Initial Depth to Water: 7.23 ft**	**Pump Type: Peristaltic** **Tubing Type: LDPE** **Pump Intake From TOC: 38.5 ft** **Estimated Total Volume Pumped: 3360 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 210 ml/min** **Final Draw Down: 0.02 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 728566**

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
9/14/2021 2:30 PM	00:00	7.15 pH	27.21 °C	25,374 µS/cm	0.41 mg/L	2.72 NTU	-237.9 mV	7.36 ft	15.71 PSU	210.00 ml/min
9/14/2021 2:34 PM	04:00	7.11 pH	26.17 °C	24,859 µS/cm	0.20 mg/L	0.49 NTU	-247.1 mV	7.33 ft	15.36 PSU	210.00 ml/min
9/14/2021 2:38 PM	08:00	7.10 pH	25.96 °C	25,312 µS/cm	0.14 mg/L	0.09 NTU	-254.9 mV	7.31 ft	15.66 PSU	210.00 ml/min
9/14/2021 2:42 PM	12:00	7.11 pH	25.71 °C	25,908 µS/cm	0.11 mg/L	0.05 NTU	-259.0 mV	7.28 ft	16.06 PSU	210.00 ml/min
9/14/2021 2:46 PM	16:00	7.11 pH	25.63 °C	26,002 µS/cm	0.10 mg/L	0.03 NTU	-260.2 mV	7.25 ft	16.13 PSU	210.00 ml/min

Samples

Sample ID:	Description:
DPZ-02	Metals, Inorganics, TDS, Radium

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EQUIPMENT CALIBRATION LOG

Field Technician	Robert M-11	Date	9/13/21	Time (Calibration)	1600
				Time (Mid-day Check)	1739
Aqua Troll SN	728566	Turbidity Meter Type	LaMotte 2020 WC	SN	1729-5011
Project	Sept. 2021 McManus CCR	Weather Conditions	Partly Cloudy, 85°F		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (1pt, 100% water saturated air cal)				85.6%	
Specific Conductance (µS/cm)	21070193 8/22	31.89	4490	5,428	
pH (4)	21070193 8/22	31.82	4	4.44	
pH (7)	21010066 8/22	31.79	7	7.12	
pH (10)	21080189 6/22	30.48	10	9.68	
ORP (mV)	21140141 8/22	30.10	228	211.8	

	Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU	0	0.01	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU	1	1.00	+/-0.5 NTU	Yes	No	
Turbidity 10 NTU	10	9.80	+/-0.5 NTU	Yes	No	

	Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check	30.76	4	3.90	0.1 SU	Yes	No	
Mid-Day pH (7) check	29.38	7	7.09	+/-0.1 SU	Yes	No	
Mid-Day pH (10) check	29.88	10	10.10	+/-0.1 SU	Yes	No	

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EQUIPMENT CALIBRATION LOG

Field Technician: CALVIN LAYMAN	Date: 9/13/21	Time (Calibration): 16:15	Time (Mid-day Check): 18:30
AquaTroll SN: 789310	Turbidity Meter Type: LAMOTTE	SN: 5896-3715	
Project: MCMANUS	Weather Conditions: 65°/94°		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (1pt, 100% water saturated air cal)				98.31	
Specific Conductance (uS/cm)	21070193 8/22	28.96	4490	4514.4	
pH (4)	21070193 8/22	29.17	4	3.81	
pH (7)	21010066 8/22	28.66	7	6.71	
pH (10)	21080189 6/22	28.49	10	9.48	
ORP (mV)	21140141 8/22	28.44	228	215.3	

		Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU		0	.01	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU		1	.96	+/- 0.5 NTU	Yes	No	
Turbidity 10 NTU		10	11.17	+/- 0.5 NTU	Yes	No	

		Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check		29.73	4	4.14	+/- 0.1 SU	Yes	No	
Mid-Day pH (7) check		29.54	7	7.22	+/- 0.1 SU	Yes	No	
Mid-Day pH (10) check		30.54	10	10.12	+/- 0.1 SU	Yes	No	

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EQUIPMENT CALIBRATION LOG

Field Technician: CALVIN LAYMAN	Date: 9/14/21	Time (Calibration): 8:05	Time (Mid-day Check): 18:01
AquaTroll SN: 789310	Turbidity Meter Type: LAMOTTE	N: 5896 - 3715	
Project: SEPTEMBER 2021 MCMANUS CCR	Weather Conditions: 70°/87°		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (1pt. 100% water saturated air cal)				100.57	
Specific Conductance (µS/cm)	21070193 8/22	25.86	4490	4384.1	
pH (4)	21070193 8/22	25.79	4	4.00	
pH (7)	21010066 8/22	25.49	7	6.97	
pH (10)	21080189 6/22	25.36	10	9.47	
ORP (mV)	21140141 8/22	25.26	228	232.0	

	Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU	0	.02	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU	1	.66	+/- 0.5 NTU	Yes	No	
Turbidity 10 NTU	10	9.64	+/- 0.5 NTU	Yes	No	

	Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check	31.02	4	4.21	+/- 0.1 SU	Yes	No	
Mid-Day pH (7) check	30.79	7	7.35	+/- 0.1 SU	Yes	No	
Mid-Day pH (10) check	30.46	10	~~10.32~~ 10.59	+/- 0.1 SU	Yes	No	

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EQUIPMENT CALIBRATION LOG

Field Technician: Robert Mull	Date: 9/14/21	Time (Calibration): 0805	Time (Mid-day Check): 1727
AquaTroll SN: 728566	Turbidity Meter Type: LaMotte 2020 we	SN: 1729-5011	
Sept. M. Manus CCR	Weather Conditions: Sunny, 83°F		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (Opt. 100% water saturated air cal)				107.847.	
Specific Conductance (µS/cm)	21070193 8/22	22.58	4490	3717.1	
pH (4)	21070193 8/22	22.63	4	3.75	
pH (7)	21010066 8/22	23.16	7	6.941	
pH (10)	21080189 6/22	23.48	10	10.21	
ORP (mV)	21140141 8/22	23.59	228	238.2	

		Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU		0	0.01	+/- 0.5 NTU	Yes	No	
Turbidity 1 NTU		1	1.11	+/- 0.5 NTU	Yes	No	
Turbidity 10 NTU		10	10.05	+/- 0.5 NTU	Yes	No	

		Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check		32.16	4	4.08	+/- 0.1 SU	Yes	No	
Mid-Day pH (7) check		33.03	7	7.09	+/- 0.1 SU	Yes	No	
Mid-Day pH (10) check		32.69	10	9.98	+/- 0.1 SU	Yes	No	

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EQUIPMENT CALIBRATION LOG

Field Technician: William Lasker	Date: 9/14/21	Time (Calibration): 8:07	Time (Mid-day Check): 17 25
AquaTroll SN: 789301	Turbidity Meter Type: LaMotte 2020wi	SN: 7042-3018	
Project: Sept 2021 McManus CCR	Weather Conditions: 87°/66° sunny		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (1pt, 100% water saturated air cal)				101.42	
Specific Conductance (µS/cm)	21070193 8/22	23.30	4490	4501.9	
pH (4)	21070193 8/22	23.52	4	4.00	
pH (7)	21010066 8/22	24.07	7	7.01	
pH (10)	21080189 6/22	24.48	10	10.01	
ORP (mV)	21140141 8/22	24.39	228	223.7	

	Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU	0	0.02	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU	1	1.07	+/-0.5 NTU	Yes	No	
Turbidity 10 NTU	10	9.95	+/-0.5 NTU	Yes	No	

	Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check	36.20	4	4.15	+/-0.1 SU	Yes	No	
Mid-Day pH (7) check	35.45	7	7.15	+/-0.1 SU	Yes	No	
Mid-Day pH (10) check	34.68	10	10.20	+/-0.1 SU	Yes	No	

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-01
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-02
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-03
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring **Well Integrity Form**

Site Name: Plant McManus
Permit Number:
Well ID: MCM-04
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-05
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-06
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-07
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-08
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-10
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-11
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-12
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-13
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-14
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-15
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-16
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-17
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-18
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-19
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: MCM-20
Date: 9/13/20

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: DPZ-1
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: DPZ-2
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: DPZ-3
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: DPZ-4
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: OPZ-5
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: DPZ-6
Date: 9/15/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: PZ-9
Date: 9/13/21

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

7 Corrective actions as needed, by date.

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: PZ-10
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: PZ-11
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

Groundwater Monitoring Well Integrity Form

Site Name: Plant McManus
Permit Number:
Well ID: PZ-12
Date: 9/13/21

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

7 Corrective actions as needed, by date:

Signature and Seal of PE/PG responsible for inspection

APPENDIX C

Semiannual Remedy Selection & Design Progress Report

SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

Plant McManus – Former Ash Pond 1
Brunswick, Georgia

February 2021

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SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

Plant McManus – Former Ash Pond 1
Brunswick, Georgia

Kathryn Farris, M. Sc.
Environmental Engineer

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Technical Expert

Geoffrey Gay, P.E
Georgia Registration No. 27801
Technical Expert (Eng)
Project Manager

Prepared for:

Georgia Power Company

Prepared by:

Arcadis U.S., Inc.
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Tel 770 431 8666
Fax 770 435 2666

Our Ref.:

30052922

Date:

February 26, 2021

CONTENTS

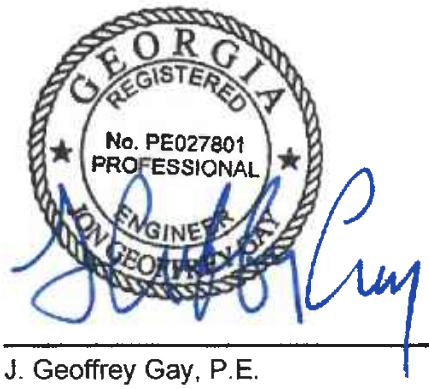
TABLES

FIGURES

ATTACHMENTS

PROFESSIONAL CERTIFICATION

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



2.26.21

J. Geoffrey Gay, P.E.
Technical Expert (Eng)
Georgia Registration No. PE 27801

Date

ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis U.S., Inc.
ACM	Assessment of Corrective Measures
AP-1	Ash Pond 1
As(III)	Trivalent arsenic
As(V)	Pentavalent arsenic
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
Georgia Power	Georgia Power Company
GWPS	Groundwater Protection Standard
ISS	In Situ Stabilization/Solidification
mg/L	milligram per liter
MNA	Monitored Natural Attenuation
PRB	Permeable Reactive Barrier
P&T	Pump and Treat
Semiannual Progress Report	Semiannual Remedy Selection and Design Progress Report
SSL	statistically significant level
USEPA	United States Environmental Protection Agency

1 INTRODUCTION

1.1 Purpose

This Semiannual Remedy Selection and Design Progress Report (Semiannual Progress Report) has been prepared for the Georgia Power Company (Georgia Power) Plant McManus former Ash Pond (AP)-1 (the site; Figure 1) in accordance with the United States Environmental Protection Agency (USEPA) coal combustion residuals (CCR) rule (40 Code of Federal Regulations [CFR] 257 Subpart D; published in 80 Fed. Reg. 21302-21501, April 17, 2015), and pursuant to 40 CFR § 257.97(a) and the Georgia Environmental Protection Division Rule 391-3-4.10(6)(a). The Semiannual Progress Report was prepared to document activities conducted in support of the previously submitted Assessment of Corrective Measures (ACM) Report (Arcadis U.S., Inc. [Arcadis] 2020a). As required by the rules, this Semiannual Progress Report describes the progress made in selecting and designing a remedy for the site. This Semiannual Progress Report has been included as an appendix to the *2020 Semiannual Groundwater Monitoring and Corrective Action Report* (Resolute 2020). GPC will include future semiannual remedy selection progress reports as an appendix to the routine semiannual groundwater monitoring and corrective action reports.

Georgia Power completed the ACM Report on December 4, 2020 to address the occurrence of arsenic in groundwater at statistically significant levels (SSLs). The ACM Report was placed in the site's operating record and posted to the site's CCR Rule Compliance website. Lithium was also identified as an SSL at former AP-1, and an alternate source demonstration (ASD) was completed for lithium and submitted under a separate cover (Arcadis 2020b). The ASD is provided in the *2020 Semiannual Groundwater Monitoring and Corrective Action Report* (Semiannual Report; Resolute 2020) for reference. The ASD results indicated that concentrations of lithium in groundwater are naturally occurring.

Georgia Power conducted a human health and ecological risk evaluation to evaluate constituents that exhibit SSLs in groundwater including arsenic and lithium at former AP-1. To be conservative, lithium was carried forward into the refined risk evaluation that included multiple conservative assumptions protective of human health and the environment. The results indicated concentrations of arsenic and lithium detected in groundwater at former AP-1 do not pose a risk to human health or the environment. The *Risk Evaluation Report* (Wood Environment & Infrastructure Solutions, Inc. 2020) was provided in the ACM Report.

Pursuant to 40 CFR § 257.97, Georgia Power is evaluating the potential corrective measures presented in the ACM Report to identify an appropriate remedy or combination of remedies as soon as feasible.

The ACM Report presented the following corrective measures as potentially feasible for use at the site:

1. Geochemical Manipulation (In-Situ Injection)
2. Hydraulic Containment (Pump and Treat [P&T])
3. In Situ Stabilization/Solidification (ISS)
4. Monitored Natural Attenuation (MNA)
5. Permeable Reactive Barrier (PRB)

6. Phytoremediation
7. Subsurface Vertical Barrier Walls.

This evaluation was first completed in the ACM Report, as summarized in Table 1. Data obtained during site investigations and evaluations of corrective action alternatives in 2020 are included in this remedy selection update report.

Georgia Power will proactively initiate adaptive site management as outlined in the ACM Report (Arcadis 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 evaluate the existing and long-term effectiveness of these processes in the aquifer and reduce uncertainty for decision making at each screening step as listed in the EPA guidelines for MNA (USEPA 2007, 2015) summarized below.

- Tier I: Constituent concentrations & plume stability
- Tier II: Constituent attenuation mechanisms
- Tier III: Aquifer capacity and stability
- Tier IV: Performance monitoring

1.2 Site Location and Description

Plant McManus is an electrical power generation plant located on Crispen Island in Glynn County, near Brunswick, Georgia (**Figure 1**). The physical address of the plant is 1 Crispen Island Drive, Brunswick, GA 31523. Crispen Island originally consisted of several smaller islands that were joined to construct Plant McManus. It was separated from the mainland to the northeast by tidal marsh and bound to the west and southwest by the Turtle River.

The plant was originally constructed in 1952 and consisted of two boilers and nine diesel-fired combustion turbines. Use of coal for production ceased in 1972, and Georgia Power retired all coal power generating assets at Plant McManus prior to April 16, 2015. During operation of the coal-fired units from 1959 until 1972, CCR was disposed in an approximately 80-acre surface impoundment (AP-1) on the Plant McManus Site northeast of the plant.

AP-1 was formed by the construction of a dike from the northeast corner of Crispen Island to the mainland. This dike formed the northwest side of AP-1, while Crispen Island, the mainland, and a southern roadway and dike (Crispen Boulevard) formed the other sides of AP-1.

1.3 Closure Activities

Source control has been implemented at the site as part of the closure process and was not specifically intended as a corrective measure. However, there is a strong potential for source control to limit future impact and improve groundwater quality.

Georgia Power completed closure of AP-1 between 2016 and October 2019 by dewatering and removing the CCR material. A notification of intent to close the former CCR Unit was placed in the operating record on December 7, 2015 and posted to the Plant McManus CCR Rule Compliance website within 30 days.

The initial Closure Plan was submitted to GAEPD on April 17, 2018 as part of the permit application package describing the closure activities and requirements in accordance with § 257.102. The Closure Plan and notification of closure completion are posted on the Plant McManus CCR Rule Compliance website, available to the public. The final CCR removal certification report was submitted in November 2019 (Arcadis 2019). The Georgia Environmental Protection Division (GAEPD) acknowledged the report and that the removal activities within the identified boundaries of AP-1 had occurred in a letter in January 2020 (GAEPD 2020).

1.4 Nature and Extent of Appendix IV Constituents

Groundwater monitoring of the surficial aquifer has been performed for former AP-1 since 2016. Groundwater results through January 2021 have shown an SSL of arsenic at MCM-06. The recent groundwater assessment data are provided in the 2020 Semiannual Groundwater Monitoring and Corrective Action Report (Resolute 2020). Investigations to characterize the nature and extent of Appendix IV constituents exceeding GWPS in 2020 included: installation of deep piezometers, collection and analysis of surface water samples, and collection and arsenic analysis of additional samples from existing wells (Arcadis 2020). Sampling locations are shown on Figure 2.

Vertical delineation at MCM-06 was evaluated with installation of deep piezometer DPZ-02 in March 2020 (Figure 3), which has since been incorporated into the monitoring well network as a delineation well. DPZ-02 was sampled in March and October 2020. October 2020 results are presented Table 7 of the Semiannual Report. Arsenic concentrations from DPZ-02 ranged from non-detect at less than the method detection limit of 0.0012 mg/L in March 2020 to 0.021 mg/L in October 2020. This indicates that arsenic concentrations above the GWPS present in groundwater at MCM-06 do not extend to the deeper portion of the aquifer, and that DPZ-02 provides vertical delineation of arsenic at MCM-06.

Due to space limitations on the dikes, additional monitoring wells could not be installed between the existing detection monitoring network wells in the vicinity of MCM-06 (MCM-04, MCM-05, MCM-07, MCM-08, and MCM-14) and the tidal marsh to evaluate the nature and extent of arsenic. Georgia Power proactively completed additional sampling to assess concentrations of arsenic in surface water in the tidal salt marsh in February, March, October, and November 2020. The October and November 2020 results are presented in Table 5 of the Semiannual Report. Arsenic concentrations in surface water samples ranged from not detected at <0.0012 mg/L to 0.0037 mg/L (estimated). These results are below the Georgia instream water quality chronic standard for dissolved arsenic (0.036 mg/L) for marine estuary environments. Arsenic concentrations in background surface water sample locations ranged from 0.0014 mg/L (estimated) to 0.0033 mg/L (estimated). Based on the data collected, no impacts to surface water have been detected and horizontal delineation is complete.

In addition to samples collected from the assessment monitoring well network, samples were collected in October 2020 from the wells used for dewatering during ash removal (RW-1 through RW-10, with RW well screen depths of 10 to 20 feet) to evaluate the extent of arsenic concentrations in groundwater along the dike between MCM-05, MCM-06, and MCM-07. The results of the sampling event are presented in Table 2, and laboratory analytical reports are included in Attachment 1. The results show that arsenic above the GWPS was limited to MCM-06 (0.45 mg/L) and RW-9 (0.038 mg/L). The updated isoconcentration contours on Figure 4 reflect these results.

2 SUMMARY OF WORK COMPLETED

2.1 Supplemental Groundwater Data Collection

Groundwater samples collected from the October 2020 semiannual assessment monitoring event were also analyzed for additional geochemical parameters to evaluate treatment technologies under consideration that are sensitive to geochemical conditions (i.e., in situ injections, P&T, ISS, MNA, PRB). Groundwater collected at former dewatering wells, MCM-05, MCM-06, MCM-07, and DPZ-02 was analyzed for major cations and anions, select total and dissolved metals, sulfide, total organic carbon, and biological oxygen demand. Field parameters (pH, dissolved oxygen, oxidation reduction potential [ORP], temperature, specific conductance, and depth to water) were also recorded. In addition, arsenic speciation analysis was conducted. Geochemical parameters, including alkalinity, biological oxygen demand, nitrate/nitrite, several forms of iron, manganese, orthophosphate, total organic carbon, and sulfide were analyzed at Pace Analytical. Samples for arsenic speciation were analyzed by Brooks Applied Laboratories. The results are presented in Table 2. Laboratory analytical reports are provided in Attachment 1.

Reducing conditions were observed in groundwater collected from wells along the northern dike (MCM-06, MCM-07, RW-7, RW-9, DPZ-02). Based on iron, manganese, sulfate and sulfide data, redox conditions varied from metal reducing to strongly sulfate reducing (Table 2). Elevated arsenic concentrations (>0.01 mg/L) coincided with elevated sulfide (>20 mg/L) and alkalinity (>200 mg/L) at wells located across the northern dike. Speciation analysis found that the arsenic consisted of reduced trivalent arsenic, As(III), and an unknown species, with a low concentration of oxidized pentavalent arsenic, As(V), also observed at MCM-06. These results highlight that the treatment technologies under consideration that are sensitive to geochemical conditions must be capable of treating arsenic species present in the reduced groundwater with elevated sulfide. The elevated total dissolved solids and alkalinity concentrations can also influence the effectiveness of several remedial options through altering reaction chemistry or through formation of fouling precipitates, such as carbonates.

2.2 Bench Testing for In Situ Injections

To evaluate the effectiveness of potential reagents for treatment of arsenic in groundwater by in situ injections, bench tests were conducted in 2020. The reagents tested were various formulations of the MetaFix® reagents from PeroxyChem that seek to immobilize arsenic in groundwater. Groundwater from MCM-06 and soil from DPZ-02 from 7-10 feet below ground surface were sent to the Resolution Partners LLC laboratory in Madison, Wisconsin for testing. The memorandum by PeroxyChem, provided in Attachment 2, details the bench testing experimental procedures and results. The results show several of the MetaFix® formulations were capable of substantial reductions in arsenic concentrations at the bench scale and are potential candidates for in situ injections. Additional field pilot testing would be needed to further evaluate the feasibility of injection and effectiveness of these reagents in situ. Feasibility will depend upon the ability to distribute the reagent in the subsurface. Effectiveness may differ in situ compared to the bench conditions. As discussed within Attachment 2, the removal of arsenic from solution in the bench scale was attributed to oxic conditions at the bench, which would not be present in situ.

3 PLANNED ACTIVITIES AND SCHEDULE

The former AP-1 closure was completed in late 2019 (Arcadis 2019, GAEPD 2020). The closure by removal approach provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Current conditions include management of the water levels in the former AP-1. As the aquifer adjusts to the closed conditions, concentrations of arsenic may improve. Georgia Power will implement an adaptive site management approach to support the remedial strategy and address potential changes in site conditions as appropriate. The adaptive site management approach may be adjusted over the site's life cycle as new site information and technologies become available. To this end, Georgia Power will continue its data collection efforts as necessary to support refinement of the conceptual site model and to further evaluate the feasibility of the retained list of potential corrective measures proposed in the ACM Report. At this time, all corrective measures outlined in Table 1 are being retained. Once sufficient data are available to make technically-sound decisions regarding the ability to implement one or more specific corrective measures, necessary steps will be taken to design and implement a remedy for the former AP-1 in accordance with 40 CFR § 257.98.

To achieve this goal and further the understanding of site conditions in support of remedy selection, the following activities are recommended for 2021 (summarized in Table 3):

- Continue routine groundwater sampling at Appendix III and Appendix IV constituent delineation locations to analyze and evaluate trends for effectiveness of source control and plume stability. Multiple datasets will be needed to assess temporal variations in conditions. An additional set of samples for arsenic speciation will be collected from MCM-05, MCM-06, MCM-07, and RW-9.
- Conduct a high-resolution investigation of arsenic mass flux, using a Hydraulic Profiling Tool to map aquifer permeability and Direct Push Technology to collect samples of soil and groundwater for arsenic analysis. The understanding of mass flux derived in this analysis will inform the comparative evaluation of technologies for remedy selection. Soil samples collected during the investigation will be analyzed for mineralogical analysis and physical parameters listed in Table 3.
- Conduct an evaluation of MNA as a potential remedy using the USEPA tiered analysis framework (USEPA 2007, 2015).

Georgia Power will include future semiannual remedy selection progress reports in routine groundwater monitoring 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). Record keeping, notifications, and publicly accessible internet site requirements for the semiannual remedy selection progress reports will be provided in accordance with 40 CFR §§ 257.105(h)(12), 257.106(h)(9), and 257.107(h)(9), respectively.

4 REFERENCES

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TABLES

Table 1
Remedy Evaluation Summary
Semi-Annual Remedy Selection and Design Progress Report
Georgia Power Company
Plant McManus Former Ash Pond 1, Brunswick, Georgia

Technology	Description	Evaluation Criteria		
		Performance 40 CFR 257.96(c)(1)	**Reliability 40 CFR 257.96(c)(1)**	**Ease of Implementation 40 CFR 257.96(c)(1)**
Geochemical Manipulation (In Situ Injection)	Injection of a chemical or organic substrate to alter geochemical conditions to those more favorable for immobilization of arsenic.	*Moderate:* Effective immobilization of arsenic has been demonstrated at the bench scale; however, the effectiveness is uncertain under site-specific conditions and would require additional data and field testing. Remedial approaches to reducing constituents are typically more compatible with groundwater geochemistry and, therefore, are more viable than oxic remedial approaches.	*Moderate:* Reliability depends on: (i) the amendment distribution as a function of properties (reactivity, particle size, etc.) of the selected reagents and the permeability and heterogeneity of the subsurface; and (ii) the effectiveness of reagent chemistries for arsenic immobilization, which vary according to site-specific conditions. The approach has not been extensively used in field applications, and the most applicable methodology would require bench- and/or pilot-scale treatability testing. Stability of the precipitated phase may vary based on conditions of precipitation versus ambient conditions. Immobilization under similar conditions to ambient, reducing in this case, would promote long-term stability of the immobilized arsenic.	*Moderate:* The installation of an injection well network or placement of reagents via other injection methods would be required. Injection of reagents along the existing northern dike is likely feasible, although the workspace is narrow. The ability and scale over which reagents can be distributed depends on reagent properties, such as reactivity and, in the case of solid reagents, particle size. The feasibility of implementation will vary with scale. There is potential for clogging. An evaluation of the amendment distribution during injections (i.e., radius of influence) is needed to support full-scale design.
In Situ Stabilization/ Solidification (ISS)	Use of amendments such as cement to reduce the bioavailability and mobility of contaminants through either physical encapsulation (solidification) or a reduction in solubility/mobility (stabilization).	*Moderate:* ISS is a proven technology for reducing the leachability and mobility of inorganic constituents above and below the water table but may be limited due to the potential size of the treatment area. Treatability depth limitations vary with application method. Within the context of former AP-1, ISS may be used either as a spot-treatment or as an impermeable barrier along the boundary of the former impoundment. Due to the size of the potential treatment area, and anticipated diffuse nature of residual arsenic, the performance of ISS is expected to be moderate. It may be used in conjunction with other treatment methods to achieve standards	*Moderate to High:* Monitoring is typically needed to confirm ISS effectiveness. Reagents such as Portland cement can cause pH changes, which may cause a release of secondary contaminants, which should also be monitored during implementation.	*Difficult:* The difficulty of ISS implementation increases with scale. If ISS is applied over a small area in the vicinity of MCM-06, the technology could be viable, whereas application over a greater scale would become difficult and impractical. ISS implementation along the narrow dike would be difficult and likely require widening.
Hydraulic Containment	Use of a groundwater extraction system with a surface treatment system to remove target analytes from the subsurface and/or to control/prevent constituent migration.	*High:* Pump and treat (P&T) is an effective, demonstrated technology for hydraulic control. The design of the P&T system requires groundwater modeling for the well network and, potentially, design of an above-ground treatment system. However, this remedy typically is not immediately effective for the treatment of trace level metals. There is also a possibility of rebounding when operations cease.	*Moderate to High:* Reliability may also depend on the operation and performance of an ex-situ treatment system, if needed. System downtime for maintenance may impact reliability.	*Difficult:* P&T is a longstanding, proven approach that requires installation of extraction wells/trenches. A variety of treatment technologies exist for ex-situ treatment of arsenic. The level of effort for construction and operations and maintenance (O&M) is relatively high compared to other options and requires onsite staff.
Monitored Natural Attenuation (MNA)	A remedial solution that takes advantage of natural attenuation processes to reduce constituents in soil and groundwater.	*Moderate:* Under the conditions of site groundwater, potential arsenic attenuation mechanisms include sorption, precipitation, oxidation-reduction reactions, dilution, and dispersion. Under the reducing conditions present at MCM-06, sorption of arsenic species, including arsenite, are likely occurring, as well as potential precipitation in reduced iron and sulfide minerals. Downgradient of MCM-06, there are likely redox gradients where aerobic conditions promote oxidation of arsenic, enhanced sorption, and potential for co-precipitation with iron oxides. The slow groundwater velocity and tidal gradient fluctuations further promote attenuation of arsenic concentrations with distance from MCM-06. Additional characterization would be needed to fully understand the attenuation processes and performance.	*Moderate to High:* The reliability of MNA is moderate to high as long as aquifer attenuation capacity is present and aquifer conditions that result in attenuation remain favorable and/or are being enhanced. Long-term monitoring well rehabilitation, replacement, or repair may be needed. Due to its location along the coast, large weather events such as hurricanes may cause fluctuations in groundwater conditions that affect attenuation processes (Northrup et al. 2017).[1]	*Easy:* A well network for MNA is already in place. Additional wells may be needed to monitor progress in select areas. Additional data would be needed to show that the existing aquifer attenuation capacity is sufficient to achieve the Groundwater Protection Standard (GWPS) within a reasonable timeframe.

[1] Northrup, K., M. Capooci, and A. Seyfferth. 2017. Effects of Extreme Events on Arsenic Cycling in Salt Marshes. *Journal of Geophysical Research: Biogeosciences*. 123, 1086-1100. https://doi.org/10.1002/2017JG004259.

Table 1
Remedy Evaluation Summary
Semi-Annual Remedy Selection and Design Progress Report
Georgia Power Company
Plant McManus Former Ash Pond 1, Brunswick, Georgia

Technology	Description	Evaluation Criteria		
		Performance 40 CFR 257.96(c)(1)	Reliability 40 CFR 257.96(c)(1)	Ease of Implementation 40 CFR 257.96(c)(1)
Permeable Reactive Barrier (PRB)	Use of reactive material that extends below the water table to intercept and treat groundwater.	*Moderate to High:* PRBs have been shown to effectively address arsenic in groundwater. Performance may be affected by tidal cycles. Due to the elevated salts and alkalinity in groundwater at MCM-06, there is a risk for scaling and fouling of the reactive media, which will need to be considered during design. Delineation data will need to be collected to design an effective placement of a PRB.	*Moderate to High:* A PRB has been demonstrated effective for arsenic. Loss of reactivity over time, potentially exacerbated by brackish groundwater at the site, may require media replacement depending on the duration of the remedy. Additional data collection, including conducting a laboratory treatability test and/or field pilot study, would be needed to select the appropriate reactive media for a PRB.	*Moderate to difficult:* The practical location for the PRB is along the northern dike. Construction using trenching methods would be difficult on the narrow dike and would potentially require widening the dike. The PRB can be keyed into a relatively low permeability unit at 37 to 45 feet below ground surface (bgs) in the vicinity of MCM-06 (*refer to Appendix B*), but continuity must be confirmed. The presence of flowing sands may complicate the trenching process. Injection-style emplacements would likely be more feasible along the dike. Once installed, treatment would be passive and O&M requirements would be minimal, with the exception of media replacement.
Phytoremediation	Use of plants to remove, transfer, or stabilize constituents in soil or groundwater.	*Low:* While phytoremediation has been shown to have a degree of success treating deep contamination, site features may prove challenging for implementation of these deeper phytoremediation technologies. Brackish groundwater quality may limit the types of hyper-accumulative plants that are able to grow. A phytoremediation system may also be susceptible to damage and disruption by high winds associated with hurricanes.	*Low to Moderate:* The depth of the contamination and challenges for implementation at depth at the site make this option low to moderate in reliability. The well where Statistically Significant Levels for arsenic were identified (MCM-06) is screened at approximately 25 feet bgs, which is outside the typical rooting depth for common arsenic hyperaccumulators.	*Difficult:* The practical location for use of phytoremediation to capture arsenic and reduce concentrations at the compliance boundary is along the northern dike. Given the depths of the impacts, a TreeWell® system would be required. TreeWells® are installed in 3- to 5-foot-diameter boreholes extending to the target depth. Drilling borings within the narrow width of the dike may be challenging and require widening the dike. Depending on the number of TreeWells® and borings required, the construction could impact the stability of the dike. The presence of flowing sands and brackish water chemistry may complicate the installation process and viability of plants.
Subsurface Barrier Walls	Use of barriers to physically control the migration of impacted groundwater either directly or through manipulation of groundwater flow.	*Moderate:* Barrier walls are a proven technology for seepage control and/or groundwater cutoff at impoundments. Sheet pile walls are limited by the depth of installation, which is typically approximately 60 to 65 feet bgs with a single sheet. Within the context of former AP-1, a barrier wall as the sole remedial measure would likely be moderately effective. An alternative use of this strategy is in a “funnel and gate” system with a PRB. As such, groundwater with arsenic above the GWPS could be directed to “treatment gates” for passive treatment (in a PRB). Additional subsurface investigations and compatibility testing with groundwater from former AP-1 would be needed prior to selection and implementation. Performance may be affected by the fluctuating groundwater flow directions during tidal cycles.	*High – With proper installation*: O&M requirements can range significantly, depending on whether groundwater extraction and subsequent treatment from inside the wall is required.	*Moderate to difficult:* Limited space for construction activities along the dike makes implementation moderate to difficult. Widening the dike would likely be necessary prior to implementation. A relatively low permeability unit at 37 to 45 feet bgs in the vicinity of MCM-06 is present to key the barrier into (*refer to Appendix B*), but continuity needs to be confirmed. The presence of flowing sands may complicate the trenching process. Jet-grouting is another alternative but is typically more difficult compared to other barrier wall installation methods. Depending on design, groundwater extraction may be needed because of the inflow of water from the mainland and island.

Table 1
Remedy Evaluation Summary
Semi-Annual Remedy Selection and Design Progress Report
Georgia Power Company
Plant McManus Former Ash Pond 1, Brunswick, Georgia

Technology	Evaluation Criteria			
	Potential Impact 40 CFR 257.96(c)(1)	Estimated Time to Begin/Complete Remedy 40 CFR 257.96(c)(2)	Institutional Requirements and Other Env or Public Health Requirements 40 CFR 257.96(c)(3)	Relative Costs
Geochemical Manipulation (In Situ Injection)	*Low:* Low impacts are expected if the remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and bench/pilot study results. Consideration of groundwater flow to nearby sensitive environments may be needed. This remedial alternative may unintentionally alter the geochemistry within the aquifer, which may result in the mobilization of other constituents that require treatment. Short-term risks during remedial activities such as drilling and operating pressurized injection equipment can be mitigated through appropriate planning and health and safety (H&S) measures.	A thorough pre-design investigation, geochemical modeling, and/or bench scale treatability study and/or field-scale pilot testing may take up to 24 months to obtain the design parameters needed for design and construction of the corrective measure. Well construction is relatively quick (i.e., 1 to 2 months; potentially longer depending on the scale of the remedy) and time for an injection event is variable. Time to achieve the GWPS for arsenic is dependent on the attenuation process kinetics of the constituent as well as amendment longevity, injection layout, and arsenic transport properties. Additional injection events may be needed to maintain redox conditions and/or address additional flux of impacted groundwater into the treatment area.	Deed restrictions may be necessary until in situ treatment has achieved the GWPS. An Underground Injection Control Permit would be required to implement this corrective measure. No other institutional expected. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment. Potential mobilization of redox constituents may occur with in situ injections.	Medium
In Situ Stabilization/ Solidification (ISS)	*Low:* Short-term impacts during remedy construction can be mitigated through appropriate planning and H&S measures. Changes to groundwater flow patterns due to stabilized media can occur, which can affect other aspects of the groundwater corrective action. Application of ISS mixture can also alter the geochemistry and may result in the mobilization of other constituents that require treatment. In addition, bulk mixing with reagents can occur.	Design phase and additional compatibility testing may be required, which may take up to 18 months. Completion of ISS may take an additional 12 to 18 months, depending on the final design, mixing method, and scale. Since this approach would likely not be applied to all of the impacted groundwater but rather applied to a specific source area to prevent migration, it may take an extended period of time to complete the remedy.	Deed restrictions may be necessary until groundwater concentrations are below the GWPS. No other institutional requirements expected. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment.	Medium to high (depending on area stabilized)
Hydraulic Containment	*Low:* Potential impacts are anticipated to be low. Short-term impacts during the construction of the remedy and long-term impacts during O&M can be mitigated through appropriate planning and H&S measures. Groundwater extraction may unintentionally alter the geochemistry within the hydraulic capture zone.	A thorough pre-design investigation, flow modeling, bench-scale treatability studies, and/or field-scale pilot testing may be needed. These activities may take 12 to 24 months prior to design, permitting, and construction of the corrective measure. Installation of extraction wells and/or trenches can be accomplished relatively quickly, while the time until startup is contingent on ex-situ treatment infrastructure. Hydraulic containment can be achieved relatively quickly after startup of the extraction system. However, uncertainty exists with respect to the time to achieve and maintain the GWPS and complete operations; additional data collection may be needed to better understand site mobility and attenuation mechanisms for arsenic.	A revision to the current permit may be required to withdraw water (e.g., water or consumptive use permit). Depending on the effluent management strategy, modifications to the existing National Pollutant Discharge Elimination System permit may be required for surface water discharge. In addition, deed restrictions may be necessary until groundwater concentrations are below the GWPS. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment. Potential mobilization of redox constituents may occur with in situ injections. Treatment system residuals require proper disposal.	Medium to high (depending on remedy duration and complexity of above-ground treatment system)
Monitored Natural Attenuation (MNA)	*Negligible:* Potential impacts of the remedy will be negligible because MNA relies on natural processes active in the aquifer matrix without significant disturbance to the surface or subsurface.	Implementation of the MNA remedy would require time for additional data collection and documentation, even though an existing monitoring network is already in place. Additional data collection activities may take up to 24 months to complete. The additional data would be needed for statistical analysis and to evaluate whether additional monitoring wells need to be installed to supplement the existing monitoring network. MNA timeframes range from a few years to a few decades.	Deed restrictions may be necessary until natural attenuation processes have achieved the GWPS. No other institutional requirements expected. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment. Minimally disruptive technology.	Low

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Technology	Evaluation Criteria			
	Potential Impact 40 CFR 257.96(c)(1)	Estimated Time to Begin/Complete Remedy 40 CFR 257.96(c)(2)	Institutional Requirements and Other Env or Public Health Requirements 40 CFR 257.96(c)(3)	Relative Costs
Permeable Reactive Barrier (PRB)	*Low:* Impacts are expected to be low if the remedy works as designed, based on a thorough pre-design investigation, geochemical modeling, and geophysical testing. Short-term impacts during construction of the remedy can be mitigated through appropriate planning and H&S measures. Consideration of groundwater flow to nearby sensitive environments may be needed. This remedial alternative may unintentionally alter the geochemistry within the wall, which may result in the mobilization of other constituents that require treatment.	Installation of a PRB can be accomplished relatively quickly (6 to 12 months), depending on the final location and configuration. However, bench-scale treatability studies and/or compatibility testing would be required to obtain design parameters prior to design and construction of the remedy. These processes may take up to 24 months. Media may need to be replaced periodically to maintain reactive conditions and/or address additional flux of impacted groundwater into the PRB.	Deed restrictions may be necessary until groundwater concentrations are below the GWPS. No other institutional requirements expected. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment. Passive remedy with minimal disruption after installation.	Medium (for installation) with minimal O&M requirements
Phytoremediation	*Low:* Phytoremediation typically has low expected impacts. Depending on the phytoremediation strategy, disposal methods for vegetation with bioaccumulated arsenic may need to be considered. Short-term impacts during the construction of the remedy can be mitigated through appropriate planning and H&S measures.	Installation of a phytoremediation system can be accomplished relatively quickly (within 6 to 12 months), depending on the final location and configuration. However, treatability studies and pilot testing would be required to ensure effective treatment. These studies may take up to 24 months. Once installed, the time to achieve the GWPS downgradient of the phytoremediation system is anticipated to be long and can take multiple years before system is treating at design capacity	Deed restrictions may be necessary until groundwater concentrations are below the GWPS. No other institutional requirements expected. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment. Passive remedy with minimal disruption after installation.	Medium (for installation) with minimal O&M requirements
Subsurface Barrier Walls	*Low:* Impacts are expected to be low following construction of the remedy. Short-term impacts during remedy construction can be mitigated through appropriate planning and H&S measures. Changes to groundwater flow patterns due to installation of the barrier wall are expected and may require dewatering.	Design phase and additional compatibility testing may be required, which may take up to 24 months. Installation of a barrier wall can be accomplished relatively quickly (i.e., 6 to 12 months), depending on the final location and configuration. Once installed, preventing migration of constituents in groundwater is anticipated to be similar to a companion technology (e.g., PRBs or P&T). Since this approach does not treat the downgradient area of impacted groundwater but rather prevents migration from a source area, it will likely have to be maintained long-term and coupled with other approaches.	Deed restrictions may be necessary until groundwater concentrations are below the GWPS. No other institutional requirements expected. Based on the Risk Evaluation Report (Wood 2020), the arsenic SSL is not expected to pose a risk to human health or the environment. Passive remedy with minimal disruption after installation. If implemented in conjunction with P&T, treatment system residuals require proper disposal	Medium (for installation) with minimal O&M requirements

Acronyms and Abbreviations:

CFR = Code of Federal Regulations

bgs = below ground surface

GWPS = Groundwater Protection Standard

H&S = health and safety

ISS = in situ stabilization/solidification

MNA = monitored natural attenuation

O&M = operation and maintenance

P&T = pump and treat

PRB = permeable reactive barrier

SSL = statistically significant level

Table 2
October 2020 Analytical Summary
Semi-annual Remedy Selection and Design Progress Report
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Monitoring Well Locations Sample Date	Units	DPZ-02 10/15/2020	MCM-05 10/15/2020	MCM-06 10/14/2020	MCM-07 10/14/2020	MCM-14 10/13/2020	RW-01 10/14/2020	RW-02 10/14/2020	RW-03 10/14/2020	RW-04 10/15/2020	RW-05 10/15/2020	RW-06 10/15/2020	RW-07 10/14/2020	RW-08 10/14/2020	RW-09 10/14/2020	RW-10 10/14/2020
Arsenic	mg/L	0.021	<0.0017 (0.024)	0.45 (0.43)	0.015 (0.013)	<0.0017 (<0.0017)	0.0018 J	<0.0017	<0.0017	0.0028 J	0.0026 J	0.0029 J	0.013	0.0024 J	0.038	0.0058
Boron	mg/L	2.1	0.67 (0.61)	1.5 (1.5)	1.7 (1.8)	1.2 (1.1)	2.3	3.1	2.5	2.1	2.7	2.5	1.0	2.5	1.6	1.8
Calcium	mg/L	225 (194)	60.7 (69.1)	193 (245)	216 (207)	177 (40.9)	151	132	118	128	152	153	160	131	256	138
Chloride	mg/L	8000	1660 (1660)	6930 (6630)	8170 (7910)	6230 (6230)	7340	7870	7370	5600	6190	7030	3980	6810	7160	5880
Iron	mg/L	<0.83	<0.83	<0.21	<0.21	<0.21	1.0	<0.21	1.5	2.6	1.3	<0.83	<0.21	1.4	<0.83	<0.83
Iron, Ferric[1]	mg/L	0.35 J	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	0.79	1.6	0.94	<0.25	<0.25	0.65	<0.25	<0.25
Iron, Ferrous[1,2]	mg/L	<0.084	<0.084	0.099 J	< 0.084	<0.084	1.1	<0.084	0.71	1.1	0.32 J	0.41 J	<0.084	0.75	<0.084	<0.084
Magnesium	mg/L	485	138	445	614	379	418	436	380	373	397	447	309	422	567	378
Manganese	mg/L	0.26	<0.069	0.24	0.13	0.29	0.18	0.12	0.14	0.23	0.14	<0.069	0.13	0.11	0.28	0.16
Potassium	mg/L	151	<60.8	121	148	107	158	171	156	145	159	164	94.1 J	151	151	136
Sodium	mg/L	4720	996	<30.5	4310	3420	4280	4540	4220	3370	3770	4050	2150	3790	3820	3200
Nitrate as N	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrite as N	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L	989 (1060)	148 (147)	552 (510)	938 (904)	682 (695)	836	984	930	732	806	839	310	829	731	701
Sulfide	mg/L	41.6	21	50.8	25.7	15.7	<0.050	0.19	2.1	0.44	0.95	8.3	52.5	0.054 J	50.8	1.6
Orthophosphate		0.13 J	0.37	0.81	0.59	0.58	0.65	0.66	0.47	0.21	1.0	0.23	0.68	0.27	0.6	0.51
Alkalinity,Bicarbonate (CaCO3)	mg/L	349	174	532	253	164	234	151	147	131	197	108	301	127	307	192
Alkalinity,Carbonate (CaCO3)	mg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Dissolved Solids	mg/L	(19300)	(5100)	(15200)	(18400)	(15600)	17800	20600	19100	13100	15500	16400	9700	17200	17500	11800
Total Organic Carbon	mg/L	7.0	6.6	9.3	15.9	5.0	15.1	7.9	10.2	11.0	11.9	7.6	8.7	8.0	9.5	9.4
Biochemical Oxygen Demand	mg/L	<2.0	4.2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Arsenic Speciation - Brooks Applied Laboratories[2]																
Trivalent arsenic (As[III])	µg/L	0.461 J	1.13 J	53.6	<0.400	<0.400	0.687 J	<0.400	<0.400	1.27 J	0.401 J	0.714 J	<0.400	0.541 J	0.46 J	<0.400
Pentavalent arsenic (As[V])	µg/L	<0.400	<0.400	1.69 J	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400
Dimethylarsinic acid (DMA)	µg/L	<0.500	<0.500	<0.5	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500
Monomethylarsonic acid (MMA)	µg/L	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400
Unknown arsenic species	µg/L	17.3	<0.500	291	8.98	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	0.946 J	10.3	<0.500	32.5	3.92
Field Parameters																
pH (field)	SU	7.08	6.52	6.93	6.32	6.50	6.45	6.53	6.26	6.24	6.62	6.15	6.74	6.25	6.55	6.63
Temperature	°C	25.74	25.55	25.32	27.3	25.5	26.46	27.71	26.62	27.74	26.69	27.99	26.33	26.78	25.3	26.41
Specific Conductivity	µS/cm	26033	6398.1	21942	25574	20468	23526	24632	23260	18606	21578	23045	13350	21848	22441	19245
Dissolved Oxygen	mg/L	0.11	0.10	0.04	0.05	0.02	0.16	0.15	0.33	0.10	0.11	0.09	0.12	0.05	0.15	0.04
Turbidity	NTU	0.35	0.60	2.85	4.87	0.31	0.26	0.26	0.34	4.79	2.99	0.38	0.14	0.67	0.23	0.53
Oxidation Reduction Potential	mV	-178.1	-135.2	-279.5	-158.6	-179	-40.2	-156.5	-116	-47.2	-61.7	-76.1	-217.3	-70.2	-155.9	-173

Notes:

Data collected as part of semi-annual monitoring (laboratory report #92500314) indicated in parentheses. All other data presented was collected as part of supplemental groundwater data collection (laboratory report #92500569)

1. Laboratory not certified for analyte.

2. Ferrous iron samples were analyzed outside of the holding time. Results are still useful for interpretation of variation in geochemical conditions, given that sum of ferric and ferrous iron is consistent with total iron.

3. Arsenic speciation samples from MCM-06, MCM-07, MCM-14, RW-01, RW-02, MW-03, RW-07, RW-08, RW-09, and RW-10 arrived at the lab at 7.1°C, above the lab recommended temperature of 6°C. The results do not appear to have been affected, i.e. oxic species were not dominant and results were comparable to DPZ-02 that was maintained below 6°C. Arsenic speciation will be resampled at MCM-05, MCM-06 and MCM-07 to verify.

J - Estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

< not detect above method detection limited listed

Acronyms and Abbreviations:

°C - degrees Centigrade
µg/L - micrograms per liter
µS/cm - microsiemens per centimeter
CaCO3 - calcium carbonate
mg/L - milligram per liter
mV - millivolts
NTU - Nepholometric Turbidity Units
SU - standard units

Table 3
Supplementary Data Collection
Semi-Annual Remedy Selection and Design Progress Report
Georgia Power Company
Plant McManus Former Ash Pond 1, Brunswick, Georgia

Data Collection Event	Applicable Technology	Applicability/Rationale	Field/Office Component	Parameters of Interest	Analytical Lab Performing Analysis
Groundwater sampling from MCM-06	MNA	• Characterize concentration trends overtime for plume stability analysis (MNA evaluation Tier I)	• Ongoing collection of groundwater samples	• Arsenic	Pace
Groundwater sampling from existing wells along dike (completed)	MNA, PRB, P&T, In Situ, ISS, Phyto	• Evaluate lateral extent of arsenic with dewatering wells • Characterize variability in geochemical conditions to evaluate effectiveness and likely treatment chemistries for several technologies (PRB, In Situ, P&T, MNA) • Characterize geochemical conditions in groundwater to evaluate attenuation mechanism and capacity (MNA evaluation Tier II and III)	• Collect groundwater from existing wells along northern dike	• Standard Analytes: total and dissolved As, Fe, Mn, Mg, Ca, Na, K, B; Alkalinity, TDS, Sulfate/Sulfide, Phosphate, Nitrate/Nitrite, DOC/TOC/BOD • Arsenic speciation	Standard analytes – Pace Arsenic speciation – Brooks Applied Laboratory
High Resolution Investigation	MNA, PRB, In Situ, P&T, ISS, Phyto	• Characterize arsenic mass flux to inform comparative analysis of technologies • Characterize geochemical conditions in groundwater to evaluate attenuation mechanism and capacity (MNA evaluation Tier II and III)	• HPT/DPT investigation • DPT: Soil sampling (dual-tube coring) and groundwater sampling (vertical aquifer profiling tool) and laboratory analysis	• Small scale permeability • Lithology • Groundwater: total and dissolved As, Fe, Mn, Mg, Ca, Na, K, B; Alkalinity, Sulfate/Sulfide, Phosphate, Nitrate/Nitrite, DOC/TOC/BOD • Soil: As, Fe, Al, Mn, Ca, AVS, TOC, XRD, SSE, Grain Size, Atterberg Limits	HPT/DPT – Cascade Groundwater analytical – Pace Total Metals, AVS, TOC, Grain Size, Atterberg Limits, SSE – Eurofins Test America XRD – SGS

Technologies:

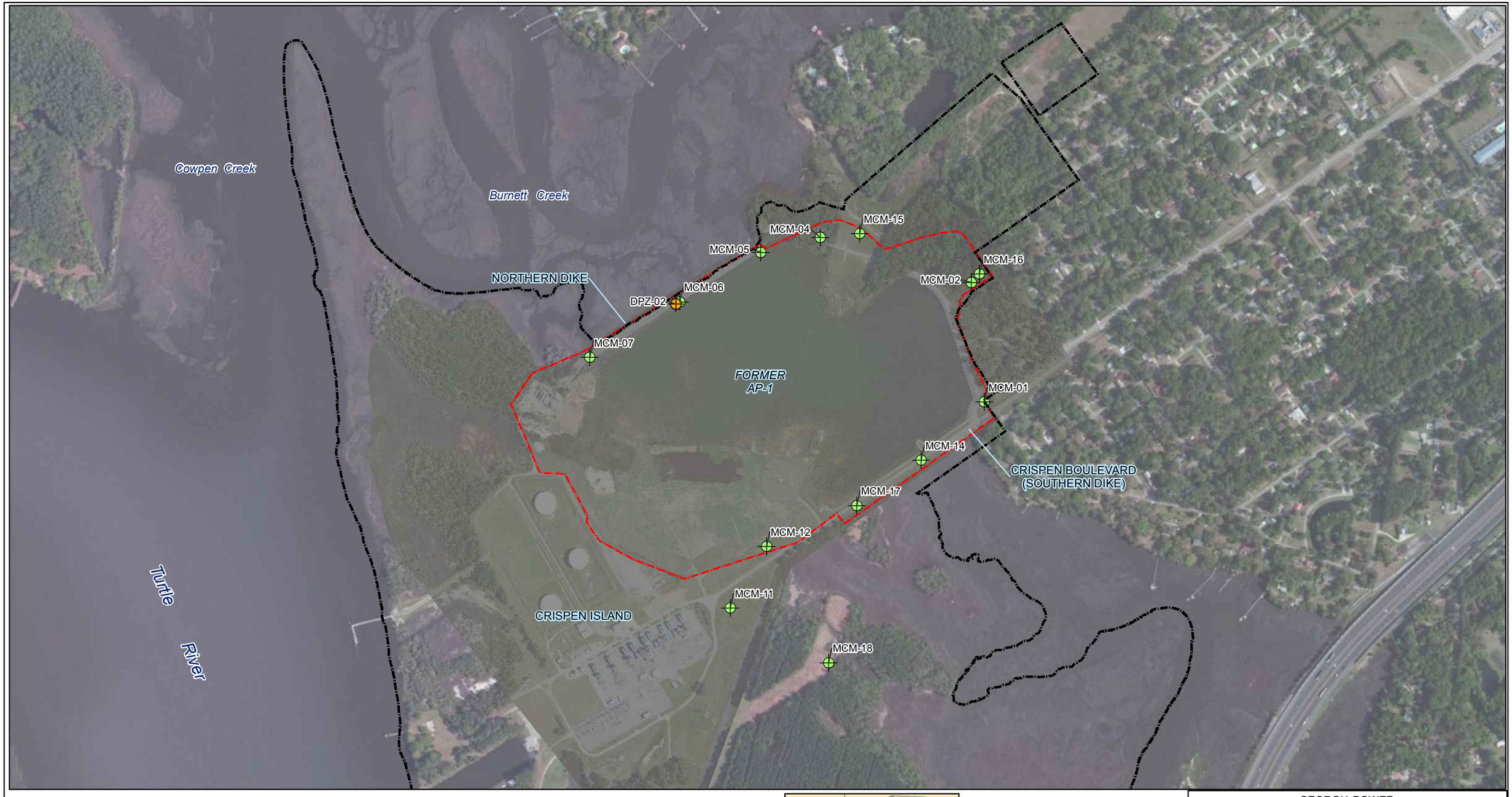
In Situ	In Situ Geochemical Manipulation (In Situ Injections)
ISS	In Situ Stabilization
MNA	Monitored Natural Attenuation
P&T	Pump and Treat
PRB	Permeable Reactive Barrier
Phyto	Phytoremediation

Abbreviations:

As	arsenic
AVS	acid volatile sulfide
B	boron
BOD	biological oxygen demand
Ca	calcium
DPT	Direct Push Technology
DOC	dissolved organic carbon
Fe	iron
HPT	Hydraulic Profiling Tool
K	potassium
Mg	magnesium
Mn	manganese
Na	sodium
ORP	Oxidation-Reduction Potential
SSE	Sequential Selective Extraction
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
XRD	X-ray diffraction

FIGURES

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- PERMITTED CCR BOUNDARY
- PROPERTY BOUNDARY
- COMPLIANCE MONITORING WELL
- DELINEATION WELL

0 600 1,200
Feet
1 inch = 600 feet

GEORGIA POWER
REMEDY SELECTION PROGRESS REPORT
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

SITE MAP AND COMPLIANCE MONITORING WELL NETWORK

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

User: KGPeters Location: On-Site Citrix
Path: F:\Brunswick_Crispin_Island_GA\Figure 1_ Site Map and Compliance Monitoring Well Network.mxd

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

- PERMITTED CCR BOUNDARY
- COMPLIANCE MONITORING WELL
- DEEP PIEZOMETER
- PIEZOMETER
- DELINEATION WELL
- DEWATERING WELLS

0 600 1,200
Feet
1 inch = 600 feet

GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

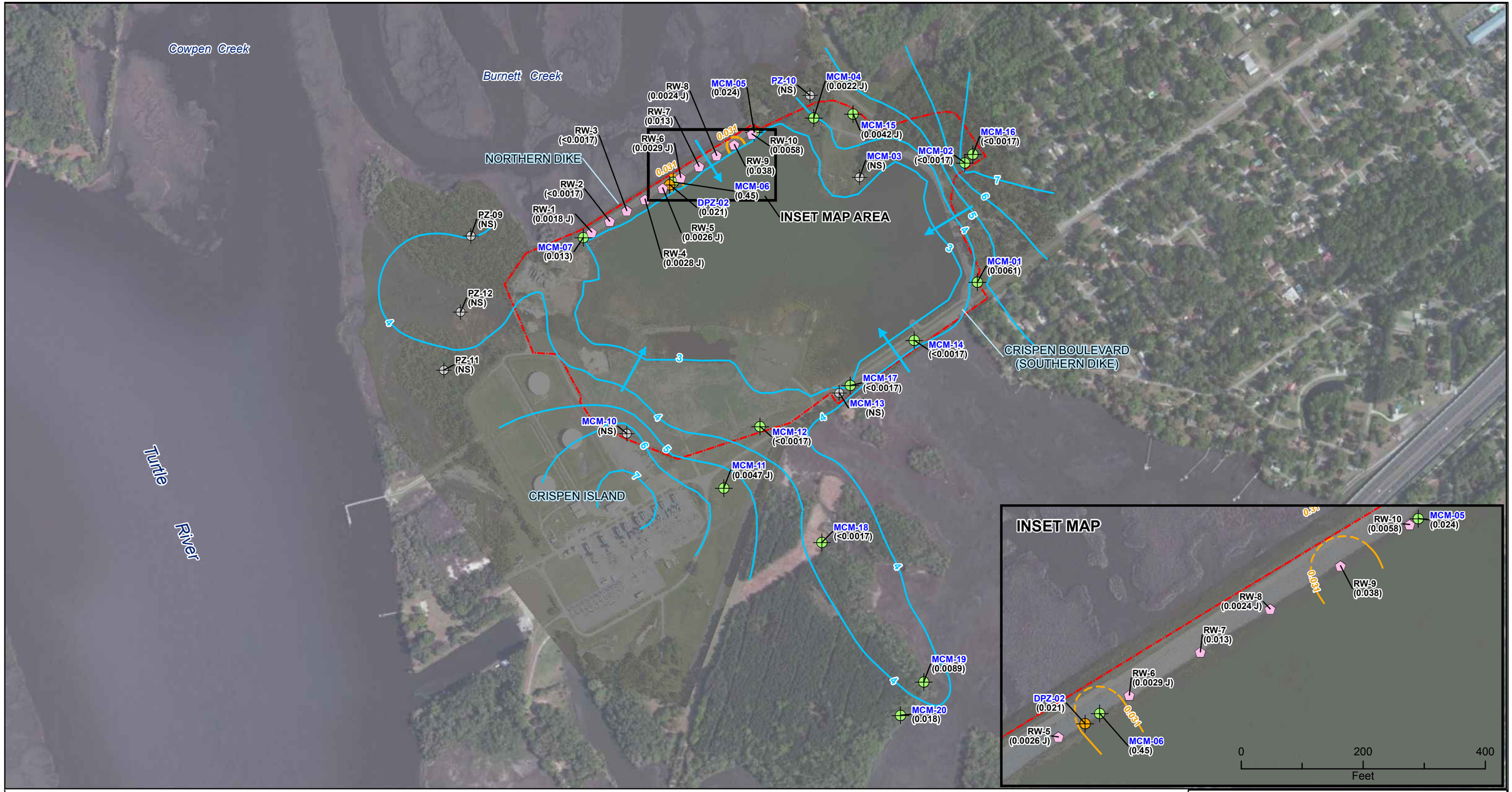
Supplemental Investigation and Dewatering Wells

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

User: KGPeters Location: On-Site Citrix
Path: F:\Brunswick_Crispin_Island_GA\Figure 2_Supplemental Investigation and Dewatering Wells.mxd

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



LEGEND

- PERMITTED CCR BOUNDARY
- COMPLIANCE MONITORING WELL
- PIEZOMETER
- DELINEATION WELL
- DEWATERING WELLS
- ARSENIC ISCONCENTRTION LINE DASHED WHERE INFERRED
- OCTOBER 2020 HIGH TIDE GROUNDWATER CONTOURS
- DIRECTION OF GROUNDWATER FLOW

NOTES:
BLUE LABELS INDICATE WELL WAS USED FOR GROUNDWATER ELEVATION MODELING.
BLACK LABELS ARE ARESENIC CONCENTRATIONS.
DATA SHOW FROM GROUNDWATER SAMPLING EVENT CONDUCTED OCTOBER 14-15, 2020.
ISOCONTOUR DASHED WHERE APPROXIMATE.
CONCENTRATIONS REPORTED IN MILLIGRAMS PER LITER (MG/L).
DELINEATION WELL DATA ARE NOT USED IN ISOCONTOUR DEVELOPMENT.
NS = NOT SAMPLED.
ND = NOT DETECTED.
GREYED LOCATIONS WERE NOT SAMPLED DURING OCTOBER 2020 SAMPLING EVENT.
ARSENIC GROUNDWATER PROTECTION STANDARD = 0.031 MILLIGRAMS PER LITER.
PZ-01 THROUGH PZ-08, MW-08, AND MCM-09 WERE ABANDONED IN 2019.

0 600 1,200
Feet
1 inch = 600 feet

GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

Isoconcentration Map Arsenic October 2020

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3

User: KGPeters Location: On-Site Citrix
Path: F:\Brunswick_Crispin_Island_GA\Figure 3_Isoconcentration Map Arsenic-October 2020.mxd

ATTACHMENT 1

Laboratory Analytical Reports

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

November 02, 2020

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

RE: Project: MCMANUS APP III
Pace Project No.: 92500569

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between October 15, 2020 and October 16, 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

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

Sincerely,

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

Enclosures

cc: Veronica Fay
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Co. Services
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

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Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: MCMANUS APP III
Pace Project No.: 92500569

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

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SAMPLE SUMMARY

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92500569001	**MCM-06**	Water	10/14/20 16:52	10/15/20 10:49
92500569002	**MCM-07**	Water	10/14/20 14:42	10/15/20 10:49
92500569003	**MCM-14**	Water	10/14/20 13:00	10/15/20 10:49
92500569004	**RW-1**	Water	10/14/20 12:19	10/15/20 10:49
92500569005	**RW-2**	Water	10/14/20 15:04	10/15/20 10:49
92500569006	**RW-3**	Water	10/14/20 17:17	10/15/20 10:49
92500569007	**RW-7**	Water	10/14/20 15:43	10/15/20 10:49
92500569008	**RW-8**	Water	10/14/20 16:30	10/15/20 10:49
92500569009	**RW-9**	Water	10/14/20 13:04	10/15/20 10:49
92500569010	**RW-10**	Water	10/14/20 15:00	10/15/20 10:49
92500569011	**DUP-1**	Water	10/14/20 15:00	10/15/20 10:49
92500569012	**FBL101420**	Water	10/14/20 16:47	10/15/20 10:49
92500569013	**MCM-05**	Water	10/15/20 13:48	10/16/20 10:30
92500569014	**DPZ-2**	Water	10/15/20 16:00	10/16/20 10:30
92500569015	**RW-4**	Water	10/15/20 14:46	10/16/20 10:30
92500569016	**RW-5**	Water	10/15/20 15:55	10/16/20 10:30
92500569017	**RW-6**	Water	10/15/20 14:03	10/16/20 10:30
92500569018	**DUP-2**	Water	10/15/20 00:00	10/16/20 10:30
92500569019	**FBL101520**	Water	10/15/20 17:36	10/16/20 10:30

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SAMPLE ANALYTE COUNT

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500569001	**MCM-06**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569002	**MCM-07**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569003	**MCM-14**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569004	**RW-1**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	RED	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569005	**RW-2**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569006	**RW-3**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569007	**RW-7**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569008	**RW-8**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569009	**RW-9**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569010	**RW-10**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569011	**DUP-1**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	CJL	2	PASI-A
		SM 4500-P E-2011	DMN	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569012	**FBL101420**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
92500569013	**MCM-05**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569014	**DPZ-2**	EPA 6010D	SH1	6	PASI-A

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569015	**RW-4**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569016	**RW-5**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569017	**RW-6**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569018	**DUP-2**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A
92500569019	**FBL101520**	EPA 6010D	SH1	6	PASI-A
		EPA 6020B	JOR	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		SM 3500-Fe D#4	EWS	1	PASI-A
		SM 3500-Fe B-2011	NAL	1	PASI-A
		SM 4500-S2D-2011	NAL	1	PASI-A
		SM 5210B-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	2	PASI-A
		EPA 353.2 Rev 2.0 1993	MFO	2	PASI-A
		SM 4500-P E-2011	JP1	1	PASI-A
		SM 5310B-2011	ECH	1	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569001	**MCM-06**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.93	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	193	mg/L	0.50	10/29/20 01:26	
EPA 6010D	Magnesium	445	mg/L	0.50	10/29/20 01:26	
EPA 6010D	Manganese	0.24	mg/L	0.025	10/29/20 01:26	
EPA 6010D	Potassium	121	mg/L	100	10/28/20 09:36	
EPA 6020B	Arsenic	0.45	mg/L	0.0050	10/20/20 13:34	
EPA 6020B	Boron	1.5	mg/L	0.75	10/20/20 13:34	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	532	mg/L	5.0	10/27/20 16:07	
SM 3500-Fe B-2011	Iron, Ferrous	0.099J	mg/L	0.50	10/22/20 12:36	H3,N2
SM 4500-S2D-2011	Sulfide	50.8	mg/L	10.0	10/19/20 20:08	
EPA 300.0 Rev 2.1 1993	Chloride	6930	mg/L	100	10/17/20 17:31	
EPA 300.0 Rev 2.1 1993	Sulfate	552	mg/L	100	10/17/20 17:31	
SM 4500-P E-2011	Orthophosphate as P	0.81	mg/L	0.25	10/15/20 20:59	
SM 5310B-2011	Total Organic Carbon	9.3	mg/L	1.0	10/28/20 03:18	
92500569002	**MCM-07**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.32	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	216	mg/L	0.50	10/29/20 01:29	
EPA 6010D	Magnesium	614	mg/L	2.0	10/28/20 09:39	
EPA 6010D	Manganese	0.13	mg/L	0.025	10/29/20 01:29	
EPA 6010D	Potassium	148	mg/L	100	10/28/20 09:39	
EPA 6010D	Sodium	4310	mg/L	250	10/30/20 14:14	
EPA 6020B	Arsenic	0.015	mg/L	0.0050	10/19/20 19:03	
EPA 6020B	Boron	1.7	mg/L	1.2	10/20/20 13:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	253	mg/L	5.0	10/27/20 16:18	
SM 4500-S2D-2011	Sulfide	25.7	mg/L	10.0	10/19/20 20:08	
EPA 300.0 Rev 2.1 1993	Chloride	8170	mg/L	100	10/17/20 18:13	
EPA 300.0 Rev 2.1 1993	Sulfate	938	mg/L	100	10/17/20 18:13	
SM 4500-P E-2011	Orthophosphate as P	0.59	mg/L	0.25	10/15/20 20:51	
SM 5310B-2011	Total Organic Carbon	15.9	mg/L	1.0	10/28/20 03:34	
92500569003	**MCM-14**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.50	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	177	mg/L	0.50	10/29/20 01:33	
EPA 6010D	Magnesium	379	mg/L	0.50	10/29/20 01:33	
EPA 6010D	Manganese	0.29	mg/L	0.025	10/29/20 01:33	
EPA 6010D	Potassium	107	mg/L	100	10/28/20 09:43	
EPA 6010D	Sodium	3420	mg/L	250	10/30/20 14:17	
EPA 6020B	Boron	1.2	mg/L	0.75	10/20/20 13:42	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	164	mg/L	5.0	10/27/20 16:41	
SM 4500-S2D-2011	Sulfide	15.7	mg/L	10.0	10/19/20 20:09	
EPA 300.0 Rev 2.1 1993	Chloride	6230	mg/L	100	10/17/20 18:26	
EPA 300.0 Rev 2.1 1993	Sulfate	682	mg/L	100	10/17/20 18:26	

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569003	**MCM-14**					
SM 4500-P E-2011	Orthophosphate as P	0.58	mg/L	0.25	10/15/20 20:41	M1
SM 5310B-2011	Total Organic Carbon	5.0	mg/L	1.0	10/28/20 04:27	
92500569004	**RW-1**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.45	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	151	mg/L	0.50	10/29/20 01:36	
EPA 6010D	Iron	1.0	mg/L	0.25	10/29/20 01:36	
EPA 6010D	Magnesium	418	mg/L	0.50	10/29/20 01:36	
EPA 6010D	Manganese	0.18	mg/L	0.025	10/29/20 01:36	
EPA 6010D	Potassium	158	mg/L	100	10/28/20 09:46	
EPA 6010D	Sodium	4280	mg/L	250	10/30/20 14:21	
EPA 6020B	Arsenic	0.0018J	mg/L	0.0050	10/19/20 19:11	
EPA 6020B	Boron	2.3	mg/L	1.2	10/20/20 13:46	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	234	mg/L	5.0	10/27/20 16:52	
SM 2540C-2011	Total Dissolved Solids	17800	mg/L	2500	10/19/20 18:33	
SM 3500-Fe B-2011	Iron, Ferrous	1.1	mg/L	0.50	10/22/20 12:16	H3,N2
EPA 300.0 Rev 2.1 1993	Chloride	7340	mg/L	100	10/17/20 18:40	
EPA 300.0 Rev 2.1 1993	Sulfate	836	mg/L	100	10/17/20 18:40	
SM 4500-P E-2011	Orthophosphate as P	0.65	mg/L	0.25	10/15/20 20:40	M1
SM 5310B-2011	Total Organic Carbon	15.1	mg/L	1.0	10/28/20 04:43	
92500569005	**RW-2**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.53	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	132	mg/L	0.50	10/29/20 01:40	
EPA 6010D	Magnesium	436	mg/L	0.50	10/29/20 01:40	
EPA 6010D	Manganese	0.12	mg/L	0.025	10/29/20 01:40	
EPA 6010D	Potassium	171	mg/L	100	10/28/20 09:49	
EPA 6010D	Sodium	4540	mg/L	250	10/30/20 14:24	
EPA 6020B	Boron	3.1	mg/L	1.2	10/20/20 13:49	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	151	mg/L	5.0	10/27/20 17:02	
SM 2540C-2011	Total Dissolved Solids	20600	mg/L	2500	10/19/20 18:33	
SM 4500-S2D-2011	Sulfide	0.19	mg/L	0.10	10/19/20 18:12	
EPA 300.0 Rev 2.1 1993	Chloride	7870	mg/L	100	10/17/20 18:54	
EPA 300.0 Rev 2.1 1993	Sulfate	984	mg/L	100	10/17/20 18:54	
SM 4500-P E-2011	Orthophosphate as P	0.66	mg/L	0.25	10/15/20 20:54	
SM 5310B-2011	Total Organic Carbon	7.9	mg/L	1.0	10/28/20 19:55	
92500569006	**RW-3**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.26	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	118	mg/L	0.50	10/29/20 01:43	
EPA 6010D	Iron	1.5	mg/L	0.25	10/29/20 01:43	
EPA 6010D	Magnesium	380	mg/L	0.50	10/29/20 01:43	
EPA 6010D	Manganese	0.14	mg/L	0.025	10/29/20 01:43	

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569006	**RW-3**					
EPA 6010D	Potassium	156	mg/L	100	10/28/20 09:53	
EPA 6010D	Sodium	4220	mg/L	250	10/30/20 14:27	
EPA 6020B	Boron	2.5	mg/L	1.2	10/21/20 12:35	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	147	mg/L	5.0	10/27/20 17:13	
SM 2540C-2011	Total Dissolved Solids	19100	mg/L	2500	10/19/20 18:33	
SM 3500-Fe D#4	Iron, Ferric	0.79	mg/L	0.50	11/02/20 17:20	N2
SM 3500-Fe B-2011	Iron, Ferrous	0.71	mg/L	0.50	10/22/20 12:38	H3,N2
SM 4500-S2D-2011	Sulfide	2.1	mg/L	0.50	10/19/20 20:09	
EPA 300.0 Rev 2.1 1993	Chloride	7370	mg/L	100	10/17/20 19:07	
EPA 300.0 Rev 2.1 1993	Sulfate	930	mg/L	100	10/17/20 19:07	
SM 4500-P E-2011	Orthophosphate as P	0.47	mg/L	0.25	10/15/20 21:00	
SM 5310B-2011	Total Organic Carbon	10.2	mg/L	1.0	10/28/20 20:11	
92500569007	**RW-7**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.74	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	160	mg/L	0.50	10/29/20 01:46	
EPA 6010D	Magnesium	309	mg/L	0.50	10/29/20 01:46	
EPA 6010D	Manganese	0.13	mg/L	0.025	10/29/20 01:46	
EPA 6010D	Potassium	94.1J	mg/L	100	10/28/20 09:56	
EPA 6010D	Sodium	2150	mg/L	250	10/30/20 14:37	
EPA 6020B	Arsenic	0.013	mg/L	0.0050	10/20/20 13:57	
EPA 6020B	Boron	1.0	mg/L	0.50	10/20/20 13:57	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	301	mg/L	5.0	10/27/20 17:22	
SM 2540C-2011	Total Dissolved Solids	9700	mg/L	1250	10/19/20 18:33	
SM 4500-S2D-2011	Sulfide	52.5	mg/L	10.0	10/19/20 20:09	
EPA 300.0 Rev 2.1 1993	Chloride	3980	mg/L	55.0	10/17/20 19:21	
EPA 300.0 Rev 2.1 1993	Sulfate	310	mg/L	55.0	10/17/20 19:21	
EPA 353.2 Rev 2.0 1993	Nitrogen, Nitrite	0.062	mg/L	0.040	10/16/20 00:23	
SM 4500-P E-2011	Orthophosphate as P	0.68	mg/L	0.25	10/15/20 20:55	
SM 5310B-2011	Total Organic Carbon	8.7	mg/L	1.0	10/28/20 20:28	
92500569008	**RW-8**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.25	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	131	mg/L	2.0	10/28/20 09:59	
EPA 6010D	Iron	1.4	mg/L	1.0	10/28/20 09:59	
EPA 6010D	Magnesium	422	mg/L	2.0	10/28/20 09:59	
EPA 6010D	Manganese	0.11	mg/L	0.10	10/28/20 09:59	
EPA 6010D	Potassium	151	mg/L	100	10/28/20 09:59	
EPA 6010D	Sodium	3790	mg/L	250	10/30/20 14:40	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	10/20/20 14:01	
EPA 6020B	Boron	2.5	mg/L	1.2	10/21/20 12:39	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	127	mg/L	5.0	10/27/20 17:53	
SM 2540C-2011	Total Dissolved Solids	17200	mg/L	2500	10/19/20 18:33	
SM 3500-Fe D#4	Iron, Ferric	0.65	mg/L	0.50	11/02/20 17:20	N2
SM 3500-Fe B-2011	Iron, Ferrous	0.75	mg/L	0.50	10/22/20 12:31	H3,N2

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569008	**RW-8**					
SM 4500-S2D-2011	Sulfide	0.054J	mg/L	0.10	10/19/20 18:14	
EPA 300.0 Rev 2.1 1993	Chloride	6810	mg/L	100	10/17/20 19:35	
EPA 300.0 Rev 2.1 1993	Sulfate	829	mg/L	100	10/17/20 19:35	
SM 4500-P E-2011	Orthophosphate as P	0.27	mg/L	0.050	10/15/20 21:21	
SM 5310B-2011	Total Organic Carbon	8.0	mg/L	1.0	10/28/20 21:20	
92500569009	**RW-9**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.55	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	256	mg/L	2.0	10/20/20 06:56	M6
EPA 6010D	Magnesium	567	mg/L	2.0	10/20/20 06:56	M6
EPA 6010D	Manganese	0.28	mg/L	0.10	10/20/20 06:56	
EPA 6010D	Potassium	151	mg/L	100	10/20/20 06:56	M6
EPA 6010D	Sodium	3820	mg/L	500	10/21/20 19:19	M6,R1
EPA 6020B	Arsenic	0.038	mg/L	0.0050	10/19/20 19:45	
EPA 6020B	Boron	1.6	mg/L	0.75	10/20/20 11:39	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	307	mg/L	5.0	10/27/20 18:02	
SM 2540C-2011	Total Dissolved Solids	17500	mg/L	2500	10/19/20 18:33	
SM 4500-S2D-2011	Sulfide	50.8	mg/L	10.0	10/19/20 20:10	
EPA 300.0 Rev 2.1 1993	Chloride	7160	mg/L	100	10/17/20 19:48	
EPA 300.0 Rev 2.1 1993	Sulfate	731	mg/L	100	10/17/20 19:48	
SM 4500-P E-2011	Orthophosphate as P	0.60	mg/L	0.25	10/15/20 20:45	
SM 5310B-2011	Total Organic Carbon	9.5	mg/L	1.0	10/28/20 21:36	
92500569010	**RW-10**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.63	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	138	mg/L	2.0	10/20/20 07:15	
EPA 6010D	Magnesium	378	mg/L	2.0	10/20/20 07:15	
EPA 6010D	Manganese	0.16	mg/L	0.10	10/20/20 07:15	
EPA 6010D	Potassium	136	mg/L	100	10/20/20 07:15	
EPA 6010D	Sodium	3200	mg/L	500	10/21/20 19:44	
EPA 6020B	Arsenic	0.0058	mg/L	0.0050	10/19/20 19:49	
EPA 6020B	Boron	1.8	mg/L	0.75	10/20/20 11:42	M6
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	192	mg/L	5.0	10/27/20 18:13	
SM 2540C-2011	Total Dissolved Solids	11800	mg/L	2500	10/20/20 12:07	D6
SM 4500-S2D-2011	Sulfide	1.6	mg/L	0.50	10/19/20 20:13	
EPA 300.0 Rev 2.1 1993	Chloride	5880	mg/L	100	10/18/20 14:44	
EPA 300.0 Rev 2.1 1993	Sulfate	701	mg/L	100	10/18/20 14:44	
SM 4500-P E-2011	Orthophosphate as P	0.51	mg/L	0.25	10/15/20 20:52	
SM 5310B-2011	Total Organic Carbon	9.4	mg/L	1.0	10/28/20 21:52	
92500569011	**DUP-1**					
EPA 6010D	Calcium	144	mg/L	2.0	10/20/20 07:19	
EPA 6010D	Iron	1.9	mg/L	1.0	10/20/20 07:19	
EPA 6010D	Magnesium	431	mg/L	2.0	10/20/20 07:19	
EPA 6010D	Manganese	0.16	mg/L	0.10	10/20/20 07:19	

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569011	**DUP-1**					
EPA 6010D	Potassium	171	mg/L	100	10/20/20 07:19	
EPA 6010D	Sodium	4290	mg/L	500	10/21/20 19:48	
EPA 6020B	Boron	2.8	mg/L	1.2	10/20/20 11:46	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	141	mg/L	5.0	10/28/20 13:07	
SM 2540C-2011	Total Dissolved Solids	17700	mg/L	2500	10/20/20 12:08	
SM 3500-Fe D#4	Iron, Ferric	0.64	mg/L	0.50	10/23/20 16:20	N2
SM 3500-Fe B-2011	Iron, Ferrous	1.2	mg/L	0.50	10/22/20 12:26	H3,N2
SM 4500-S2D-2011	Sulfide	2.3	mg/L	0.50	10/19/20 20:14	
EPA 300.0 Rev 2.1 1993	Chloride	7960	mg/L	100	10/19/20 22:54	
EPA 300.0 Rev 2.1 1993	Sulfate	1050	mg/L	100	10/19/20 22:54	
SM 4500-P E-2011	Orthophosphate as P	0.54	mg/L	0.25	10/15/20 20:53	
SM 5310B-2011	Total Organic Carbon	10.2	mg/L	1.0	10/28/20 22:09	
92500569012	**FBL101420**					
SM 2540C-2011	Total Dissolved Solids	26.0	mg/L	25.0	10/20/20 12:08	
EPA 300.0 Rev 2.1 1993	Chloride	1.3	mg/L	1.0	10/18/20 00:03	
92500569013	**MCM-05**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.53	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	60.7	mg/L	2.0	10/20/20 07:25	
EPA 6010D	Magnesium	138	mg/L	2.0	10/20/20 07:25	
EPA 6010D	Sodium	996	mg/L	100	10/20/20 07:25	
EPA 6020B	Boron	0.67	mg/L	0.50	10/20/20 11:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	174	mg/L	5.0	10/28/20 18:29	
SM 4500-S2D-2011	Sulfide	21.0	mg/L	5.0	10/19/20 20:15	
SM 5210B-2011	BOD, 5 day	4.2	mg/L	2.0	10/22/20 00:49	B2
EPA 300.0 Rev 2.1 1993	Chloride	1660	mg/L	100	10/21/20 09:59	
EPA 300.0 Rev 2.1 1993	Sulfate	148	mg/L	100	10/21/20 09:59	
SM 4500-P E-2011	Orthophosphate as P	0.37	mg/L	0.050	10/17/20 05:11	
SM 5310B-2011	Total Organic Carbon	6.6	mg/L	1.0	10/29/20 01:07	
92500569014	**DPZ-2**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	7.08	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	225	mg/L	2.0	10/20/20 07:29	
EPA 6010D	Magnesium	485	mg/L	2.0	10/20/20 07:29	
EPA 6010D	Manganese	0.26	mg/L	0.10	10/20/20 07:29	
EPA 6010D	Potassium	151	mg/L	100	10/20/20 07:29	
EPA 6010D	Sodium	4720	mg/L	500	10/21/20 19:51	
EPA 6020B	Arsenic	0.021	mg/L	0.0050	10/19/20 20:28	
EPA 6020B	Boron	2.1	mg/L	1.2	10/20/20 11:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	349	mg/L	5.0	10/28/20 18:42	
SM 3500-Fe D#4	Iron, Ferric	0.35J	mg/L	0.50	10/23/20 16:19	N2
SM 4500-S2D-2011	Sulfide	41.6	mg/L	10.0	10/19/20 20:15	
EPA 300.0 Rev 2.1 1993	Chloride	8000	mg/L	100	10/21/20 20:13	
EPA 300.0 Rev 2.1 1993	Sulfate	989	mg/L	19.0	10/21/20 10:13	

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569014	**DPZ-2**					
SM 4500-P E-2011	Orthophosphate as P	0.13J	mg/L	0.25	10/17/20 05:17	
SM 5310B-2011	Total Organic Carbon	7.0	mg/L	1.0	10/29/20 01:23	
92500569015	**RW-4**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.24	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	128	mg/L	2.0	10/20/20 07:32	
EPA 6010D	Iron	2.6	mg/L	1.0	10/20/20 07:32	
EPA 6010D	Magnesium	373	mg/L	2.0	10/20/20 07:32	
EPA 6010D	Manganese	0.23	mg/L	0.10	10/20/20 07:32	
EPA 6010D	Potassium	145	mg/L	100	10/20/20 07:32	
EPA 6010D	Sodium	3370	mg/L	500	10/21/20 19:54	
EPA 6020B	Arsenic	0.0028J	mg/L	0.0050	10/19/20 20:31	
EPA 6020B	Boron	2.1	mg/L	1.2	10/20/20 12:06	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	131	mg/L	5.0	10/28/20 18:52	
SM 2540C-2011	Total Dissolved Solids	13100	mg/L	2500	10/20/20 12:08	
SM 3500-Fe D#4	Iron, Ferric	1.6	mg/L	0.50	10/23/20 16:19	N2
SM 3500-Fe B-2011	Iron, Ferrous	1.1	mg/L	0.50	10/22/20 12:45	H3,N2
SM 4500-S2D-2011	Sulfide	0.44	mg/L	0.10	10/19/20 18:33	
EPA 300.0 Rev 2.1 1993	Chloride	5600	mg/L	100	10/21/20 10:27	
EPA 300.0 Rev 2.1 1993	Sulfate	732	mg/L	100	10/21/20 10:27	
SM 4500-P E-2011	Orthophosphate as P	0.21	mg/L	0.050	10/17/20 05:14	
SM 5310B-2011	Total Organic Carbon	11.0	mg/L	1.0	10/29/20 01:40	
92500569016	**RW-5**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.62	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	152	mg/L	2.0	10/20/20 07:35	
EPA 6010D	Iron	1.3	mg/L	1.0	10/20/20 07:35	
EPA 6010D	Magnesium	397	mg/L	2.0	10/20/20 07:35	
EPA 6010D	Manganese	0.14	mg/L	0.10	10/20/20 07:35	
EPA 6010D	Potassium	159	mg/L	100	10/20/20 07:35	
EPA 6010D	Sodium	3770	mg/L	500	10/21/20 19:57	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	10/19/20 20:35	
EPA 6020B	Boron	2.7	mg/L	1.2	10/20/20 12:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	197	mg/L	5.0	10/28/20 19:02	
SM 2540C-2011	Total Dissolved Solids	15500	mg/L	2500	10/20/20 12:08	
SM 3500-Fe D#4	Iron, Ferric	0.94	mg/L	0.50	10/23/20 16:19	N2
SM 3500-Fe B-2011	Iron, Ferrous	0.32J	mg/L	0.50	10/22/20 12:45	H3,N2
SM 4500-S2D-2011	Sulfide	0.95	mg/L	0.10	10/19/20 18:34	
EPA 300.0 Rev 2.1 1993	Chloride	6190	mg/L	100	10/21/20 10:41	
EPA 300.0 Rev 2.1 1993	Sulfate	806	mg/L	100	10/21/20 10:41	
SM 4500-P E-2011	Orthophosphate as P	1.0	mg/L	0.50	10/17/20 05:15	
SM 5310B-2011	Total Organic Carbon	11.9	mg/L	1.0	10/29/20 01:56	

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SUMMARY OF DETECTION

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500569017	**RW-6**					
	Performed by	CUSTOMER			10/27/20 13:57	
	pH	6.15	Std. Units		10/27/20 13:57	
EPA 6010D	Calcium	153	mg/L	2.0	10/20/20 07:39	
EPA 6010D	Magnesium	447	mg/L	2.0	10/20/20 07:39	
EPA 6010D	Potassium	164	mg/L	100	10/20/20 07:39	
EPA 6010D	Sodium	4050	mg/L	500	10/21/20 20:01	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	10/19/20 20:39	
EPA 6020B	Boron	2.5	mg/L	1.2	10/20/20 12:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	5.0	10/28/20 19:21	
SM 2540C-2011	Total Dissolved Solids	16400	mg/L	2500	10/20/20 12:09	
SM 3500-Fe B-2011	Iron, Ferrous	0.41J	mg/L	0.50	10/22/20 12:43	H3,N2
SM 4500-S2D-2011	Sulfide	8.3	mg/L	2.5	10/19/20 20:17	
EPA 300.0 Rev 2.1 1993	Chloride	7030	mg/L	100	10/21/20 10:54	
EPA 300.0 Rev 2.1 1993	Sulfate	839	mg/L	100	10/21/20 10:54	
SM 4500-P E-2011	Orthophosphate as P	0.23	mg/L	0.050	10/17/20 05:11	
SM 5310B-2011	Total Organic Carbon	7.6	mg/L	1.0	10/29/20 02:15	
92500569018	**DUP-2**					
EPA 6010D	Calcium	148	mg/L	2.0	10/20/20 07:55	
EPA 6010D	Iron	1.2	mg/L	1.0	10/20/20 07:55	
EPA 6010D	Magnesium	389	mg/L	2.0	10/20/20 07:55	
EPA 6010D	Manganese	0.14	mg/L	0.10	10/20/20 07:55	
EPA 6010D	Potassium	156	mg/L	100	10/20/20 07:55	
EPA 6010D	Sodium	3850	mg/L	500	10/21/20 20:04	
EPA 6020B	Arsenic	0.0027J	mg/L	0.0050	10/19/20 20:43	
EPA 6020B	Boron	2.5	mg/L	1.2	10/20/20 12:17	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	190	mg/L	5.0	10/28/20 19:47	
SM 2540C-2011	Total Dissolved Solids	14800	mg/L	2500	10/20/20 12:09	
SM 3500-Fe D#4	Iron, Ferric	0.80	mg/L	0.50	10/23/20 16:19	N2
SM 3500-Fe B-2011	Iron, Ferrous	0.39J	mg/L	0.50	10/22/20 12:40	H3,N2
EPA 300.0 Rev 2.1 1993	Chloride	6200	mg/L	100	10/21/20 11:08	
EPA 300.0 Rev 2.1 1993	Sulfate	805	mg/L	100	10/21/20 11:08	
SM 4500-P E-2011	Orthophosphate as P	0.64	mg/L	0.50	10/17/20 05:06	H1
SM 5310B-2011	Total Organic Carbon	11.9	mg/L	1.0	10/29/20 05:28	
92500569019	**FBL101520**					
EPA 300.0 Rev 2.1 1993	Chloride	6.0	mg/L	1.0	10/21/20 02:15	
EPA 300.0 Rev 2.1 1993	Sulfate	0.66J	mg/L	1.0	10/21/20 02:15	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-06 **Lab ID: 92500569001** Collected: 10/14/20 16:52 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.93**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**193**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:26	7440-70-2	
Iron	ND	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:26	7439-89-6	
Magnesium	**445**	mg/L	0.50	0.34	5	10/28/20 00:59	10/29/20 01:26	7439-95-4	
Manganese	**0.24**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:26	7439-96-5	
Potassium	**121**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:36	7440-09-7	
Sodium	ND	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:11	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.45**	mg/L	0.0050	0.0026	30	10/16/20 01:08	10/20/20 13:34	7440-38-2	
Boron	**1.5**	mg/L	0.75	0.19	30	10/16/20 01:08	10/20/20 13:34	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**532**	mg/L	5.0	5.0	1		10/27/20 16:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 16:07		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**0.099J**	mg/L	0.50	0.084	1		10/22/20 12:36		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**50.8**	mg/L	10.0	5.0	100		10/19/20 20:08	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 06:40	10/21/20 02:29		B2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6930**	mg/L	100	60.0	100		10/17/20 17:31	16887-00-6	
Sulfate	**552**	mg/L	100	50.0	100		10/17/20 17:31	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-06 **Lab ID: 92500569001** Collected: 10/14/20 16:52 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 01:02	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 01:02	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.81**	mg/L	0.25	0.059	5		10/15/20 20:59		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**9.3**	mg/L	1.0	0.50	1		10/28/20 03:18	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-07 **Lab ID: 92500569002** Collected: 10/14/20 14:42 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.32**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**216**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:29	7440-70-2	
Iron	ND	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:29	7439-89-6	
Magnesium	**614**	mg/L	2.0	1.4	20	10/28/20 00:59	10/28/20 09:39	7439-95-4	
Manganese	**0.13**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:29	7439-96-5	
Potassium	**148**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:39	7440-09-7	
Sodium	**4310**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:14	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.015**	mg/L	0.0050	0.0017	20	10/16/20 01:08	10/19/20 19:03	7440-38-2	
Boron	**1.7**	mg/L	1.2	0.31	50	10/16/20 01:08	10/20/20 13:38	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**253**	mg/L	5.0	5.0	1		10/27/20 16:18		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 16:18		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:21		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**25.7**	mg/L	10.0	5.0	100		10/19/20 20:08	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:38		B2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**8170**	mg/L	100	60.0	100		10/17/20 18:13	16887-00-6	
Sulfate	**938**	mg/L	100	50.0	100		10/17/20 18:13	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-07 **Lab ID: 92500569002** Collected: 10/14/20 14:42 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 01:04	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 01:04	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.59**	mg/L	0.25	0.059	5		10/15/20 20:51		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**15.9**	mg/L	1.0	0.50	1		10/28/20 03:34	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-14 **Lab ID: 92500569003** Collected: 10/14/20 13:00 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.50**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**177**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:33	7440-70-2	
Iron	ND	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:33	7439-89-6	
Magnesium	**379**	mg/L	0.50	0.34	5	10/28/20 00:59	10/29/20 01:33	7439-95-4	
Manganese	**0.29**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:33	7439-96-5	
Potassium	**107**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:43	7440-09-7	
Sodium	**3420**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:17	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.0017	20	10/16/20 01:08	10/19/20 19:07	7440-38-2	
Boron	**1.2**	mg/L	0.75	0.19	30	10/16/20 01:08	10/20/20 13:42	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**164**	mg/L	5.0	5.0	1		10/27/20 16:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 16:41		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:19		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**15.7**	mg/L	10.0	5.0	100		10/19/20 20:09	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:17		B2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6230**	mg/L	100	60.0	100		10/17/20 18:26	16887-00-6	
Sulfate	**682**	mg/L	100	50.0	100		10/17/20 18:26	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-14 **Lab ID: 92500569003** Collected: 10/14/20 13:00 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 01:05	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 01:05	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.58**	mg/L	0.25	0.059	5		10/15/20 20:41		M1
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**5.0**	mg/L	1.0	0.50	1		10/28/20 04:27	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-1 **Lab ID: 92500569004** Collected: 10/14/20 12:19 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.45**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**151**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:36	7440-70-2	
Iron	**1.0**	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:36	7439-89-6	
Magnesium	**418**	mg/L	0.50	0.34	5	10/28/20 00:59	10/29/20 01:36	7439-95-4	
Manganese	**0.18**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:36	7439-96-5	
Potassium	**158**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:46	7440-09-7	
Sodium	**4280**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:21	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0018J**	mg/L	0.0050	0.0017	20	10/16/20 01:08	10/19/20 19:11	7440-38-2	
Boron	**2.3**	mg/L	1.2	0.31	50	10/16/20 01:08	10/20/20 13:46	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**234**	mg/L	5.0	5.0	1		10/27/20 16:52		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 16:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**17800**	mg/L	2500	2500	1		10/19/20 18:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**1.1**	mg/L	0.50	0.084	1		10/22/20 12:16		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		10/19/20 18:11	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:13		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-1 **Lab ID: 92500569004** Collected: 10/14/20 12:19 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7340**	mg/L	100	60.0	100		10/17/20 18:40	16887-00-6	
Sulfate	**836**	mg/L	100	50.0	100		10/17/20 18:40	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 01:06	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 01:06	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.65**	mg/L	0.25	0.059	5		10/15/20 20:40		M1
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**15.1**	mg/L	1.0	0.50	1		10/28/20 04:43	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-2 **Lab ID: 92500569005** Collected: 10/14/20 15:04 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.53**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**132**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:40	7440-70-2	
Iron	ND	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:40	7439-89-6	
Magnesium	**436**	mg/L	0.50	0.34	5	10/28/20 00:59	10/29/20 01:40	7439-95-4	
Manganese	**0.12**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:40	7439-96-5	
Potassium	**171**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:49	7440-09-7	
Sodium	**4540**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:24	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.0017	20	10/16/20 01:08	10/19/20 19:14	7440-38-2	
Boron	**3.1**	mg/L	1.2	0.31	50	10/16/20 01:08	10/20/20 13:49	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**151**	mg/L	5.0	5.0	1		10/27/20 17:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 17:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20600**	mg/L	2500	2500	1		10/19/20 18:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:28		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.19**	mg/L	0.10	0.050	1		10/19/20 18:12	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:52		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-2 **Lab ID: 92500569005** Collected: 10/14/20 15:04 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7870**	mg/L	100	60.0	100		10/17/20 18:54	16887-00-6	
Sulfate	**984**	mg/L	100	50.0	100		10/17/20 18:54	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:21	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 00:21	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.66**	mg/L	0.25	0.059	5		10/15/20 20:54		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**7.9**	mg/L	1.0	0.50	1		10/28/20 19:55	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-3 **Lab ID: 92500569006** Collected: 10/14/20 17:17 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.26**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**118**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:43	7440-70-2	
Iron	**1.5**	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:43	7439-89-6	
Magnesium	**380**	mg/L	0.50	0.34	5	10/28/20 00:59	10/29/20 01:43	7439-95-4	
Manganese	**0.14**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:43	7439-96-5	
Potassium	**156**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:53	7440-09-7	
Sodium	**4220**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:27	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.0017	20	10/20/20 01:40	10/20/20 13:53	7440-38-2	
Boron	**2.5**	mg/L	1.2	0.31	50	10/20/20 01:40	10/21/20 12:35	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**147**	mg/L	5.0	5.0	1		10/27/20 17:13		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 17:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19100**	mg/L	2500	2500	1		10/19/20 18:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**0.79**	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**0.71**	mg/L	0.50	0.084	1		10/22/20 12:38		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**2.1**	mg/L	0.50	0.25	5		10/19/20 20:09	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 06:40	10/21/20 02:30		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-3 **Lab ID: 92500569006** Collected: 10/14/20 17:17 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7370**	mg/L	100	60.0	100		10/17/20 19:07	16887-00-6	
Sulfate	**930**	mg/L	100	50.0	100		10/17/20 19:07	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:22	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 00:22	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.47**	mg/L	0.25	0.059	5		10/15/20 21:00		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**10.2**	mg/L	1.0	0.50	1		10/28/20 20:11	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-7 **Lab ID: 92500569007** Collected: 10/14/20 15:43 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.74**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**160**	mg/L	0.50	0.47	5	10/28/20 00:59	10/29/20 01:46	7440-70-2	
Iron	ND	mg/L	0.25	0.21	5	10/28/20 00:59	10/29/20 01:46	7439-89-6	
Magnesium	**309**	mg/L	0.50	0.34	5	10/28/20 00:59	10/29/20 01:46	7439-95-4	
Manganese	**0.13**	mg/L	0.025	0.017	5	10/28/20 00:59	10/29/20 01:46	7439-96-5	
Potassium	**94.1J**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:56	7440-09-7	
Sodium	**2150**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:37	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.013**	mg/L	0.0050	0.0017	20	10/20/20 01:40	10/20/20 13:57	7440-38-2	
Boron	**1.0**	mg/L	0.50	0.12	20	10/20/20 01:40	10/20/20 13:57	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**301**	mg/L	5.0	5.0	1		10/27/20 17:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 17:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**9700**	mg/L	1250	1250	1		10/19/20 18:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:28		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**52.5**	mg/L	10.0	5.0	100		10/19/20 20:09	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 02:00		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-7 **Lab ID: 92500569007** Collected: 10/14/20 15:43 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3980**	mg/L	55.0	33.0	55		10/17/20 19:21	16887-00-6	
Sulfate	**310**	mg/L	55.0	27.5	55		10/17/20 19:21	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:23	14797-55-8	
Nitrogen, Nitrite	**0.062**	mg/L	0.040	0.010	1		10/16/20 00:23	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.68**	mg/L	0.25	0.059	5		10/15/20 20:55		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**8.7**	mg/L	1.0	0.50	1		10/28/20 20:28	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-8 **Lab ID: 92500569008** Collected: 10/14/20 16:30 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.25**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**131**	mg/L	2.0	1.9	20	10/28/20 00:59	10/28/20 09:59	7440-70-2	
Iron	**1.4**	mg/L	1.0	0.83	20	10/28/20 00:59	10/28/20 09:59	7439-89-6	
Magnesium	**422**	mg/L	2.0	1.4	20	10/28/20 00:59	10/28/20 09:59	7439-95-4	
Manganese	**0.11**	mg/L	0.10	0.069	20	10/28/20 00:59	10/28/20 09:59	7439-96-5	
Potassium	**151**	mg/L	100	60.8	20	10/28/20 00:59	10/28/20 09:59	7440-09-7	
Sodium	**3790**	mg/L	250	30.5	50	10/28/20 00:59	10/30/20 14:40	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0024J**	mg/L	0.0050	0.0017	20	10/20/20 01:40	10/20/20 14:01	7440-38-2	
Boron	**2.5**	mg/L	1.2	0.31	50	10/20/20 01:40	10/21/20 12:39	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**127**	mg/L	5.0	5.0	1		10/27/20 17:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 17:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**17200**	mg/L	2500	2500	1		10/19/20 18:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**0.65**	mg/L	0.50	0.25	1		11/02/20 17:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**0.75**	mg/L	0.50	0.084	1		10/22/20 12:31		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.054J**	mg/L	0.10	0.050	1		10/19/20 18:14	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 06:40	10/21/20 02:27		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-8 **Lab ID: 92500569008** Collected: 10/14/20 16:30 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6810**	mg/L	100	60.0	100		10/17/20 19:35	16887-00-6	
Sulfate	**829**	mg/L	100	50.0	100		10/17/20 19:35	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:24	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 00:24	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.27**	mg/L	0.050	0.012	1		10/15/20 21:21		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**8.0**	mg/L	1.0	0.50	1		10/28/20 21:20	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-9 **Lab ID: 92500569009** Collected: 10/14/20 13:04 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.55**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**256**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 06:56	7440-70-2	M6
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 06:56	7439-89-6	
Magnesium	**567**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 06:56	7439-95-4	M6
Manganese	**0.28**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 06:56	7439-96-5	
Potassium	**151**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 06:56	7440-09-7	M6
Sodium	**3820**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 19:19	7440-23-5	M6,R1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.038**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 19:45	7440-38-2	
Boron	**1.6**	mg/L	0.75	0.19	30	10/17/20 00:41	10/20/20 11:39	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**307**	mg/L	5.0	5.0	1		10/27/20 18:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 18:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**17500**	mg/L	2500	2500	1		10/19/20 18:33		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		10/23/20 16:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:21		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**50.8**	mg/L	10.0	5.0	100		10/19/20 20:10	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:26		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-9 **Lab ID: 92500569009** Collected: 10/14/20 13:04 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7160**	mg/L	100	60.0	100		10/17/20 19:48	16887-00-6	
Sulfate	**731**	mg/L	100	50.0	100		10/17/20 19:48	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:26	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 00:26	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.60**	mg/L	0.25	0.059	5		10/15/20 20:45		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**9.5**	mg/L	1.0	0.50	1		10/28/20 21:36	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-10 **Lab ID: 92500569010** Collected: 10/14/20 15:00 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.63**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**138**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:15	7440-70-2	
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:15	7439-89-6	
Magnesium	**378**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:15	7439-95-4	
Manganese	**0.16**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:15	7439-96-5	
Potassium	**136**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:15	7440-09-7	
Sodium	**3200**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 19:44	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0058**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 19:49	7440-38-2	
Boron	**1.8**	mg/L	0.75	0.19	30	10/17/20 00:41	10/20/20 11:42	7440-42-8	M6
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**192**	mg/L	5.0	5.0	1		10/27/20 18:13		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/27/20 18:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11800**	mg/L	2500	2500	1		10/20/20 12:07		D6
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		10/23/20 16:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:23		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**1.6**	mg/L	0.50	0.25	5		10/19/20 20:13	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:43		

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-10 **Lab ID: 92500569010** Collected: 10/14/20 15:00 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5880**	mg/L	100	60.0	100		10/18/20 14:44	16887-00-6	
Sulfate	**701**	mg/L	100	50.0	100		10/18/20 14:44	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 00:27	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.51**	mg/L	0.25	0.059	5		10/15/20 20:52		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**9.4**	mg/L	1.0	0.50	1		10/28/20 21:52	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: DUP-1 **Lab ID: 92500569011** Collected: 10/14/20 15:00 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**144**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:19	7440-70-2	
Iron	**1.9**	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:19	7439-89-6	
Magnesium	**431**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:19	7439-95-4	
Manganese	**0.16**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:19	7439-96-5	
Potassium	**171**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:19	7440-09-7	
Sodium	**4290**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 19:48	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:16	7440-38-2	
Boron	**2.8**	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 11:46	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**141**	mg/L	5.0	5.0	1		10/28/20 13:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 13:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**17700**	mg/L	2500	2500	1		10/20/20 12:08		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**0.64**	mg/L	0.50	0.25	1		10/23/20 16:20	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**1.2**	mg/L	0.50	0.084	1		10/22/20 12:26		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**2.3**	mg/L	0.50	0.25	5		10/19/20 20:14	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/16/20 04:44	10/21/20 01:44		B2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7960**	mg/L	100	60.0	100		10/19/20 22:54	16887-00-6	
Sulfate	**1050**	mg/L	100	50.0	100		10/19/20 22:54	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: DUP-1 **Lab ID: 92500569011** Collected: 10/14/20 15:00 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/16/20 00:30	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/16/20 00:30	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.54**	mg/L	0.25	0.059	5		10/15/20 20:53		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**10.2**	mg/L	1.0	0.50	1		10/28/20 22:09	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: FBL101420 **Lab ID: 92500569012** Collected: 10/14/20 16:47 Received: 10/15/20 10:49 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:22	7440-70-2	
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:22	7439-89-6	
Magnesium	ND	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:22	7439-95-4	
Manganese	ND	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:22	7439-96-5	
Potassium	ND	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:22	7440-09-7	
Sodium	ND	mg/L	100	12.2	20	10/17/20 00:45	10/20/20 07:22	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.000087	1	10/17/20 00:41	10/19/20 20:20	7440-38-2	
Boron	ND	mg/L	0.025	0.0062	1	10/17/20 00:41	10/20/20 10:38	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 12:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 12:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**26.0**	mg/L	25.0	25.0	1		10/20/20 12:08		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:33		H3,N2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1.3**	mg/L	1.0	0.60	1		10/18/20 00:03	16887-00-6	
Sulfate	ND	mg/L	1.0	0.50	1		10/18/20 00:03	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-05 **Lab ID: 92500569013** Collected: 10/15/20 13:48 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.53**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**60.7**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:25	7440-70-2	
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:25	7439-89-6	
Magnesium	**138**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:25	7439-95-4	
Manganese	ND	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:25	7439-96-5	
Potassium	ND	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:25	7440-09-7	
Sodium	**996**	mg/L	100	12.2	20	10/17/20 00:45	10/20/20 07:25	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:24	7440-38-2	
Boron	**0.67**	mg/L	0.50	0.12	20	10/17/20 00:41	10/20/20 11:50	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**174**	mg/L	5.0	5.0	1		10/28/20 18:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 18:29		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:43		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**21.0**	mg/L	5.0	2.5	50		10/19/20 20:15	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	**4.2**	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 00:49		B2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1660**	mg/L	100	60.0	100		10/21/20 09:59	16887-00-6	
Sulfate	**148**	mg/L	100	50.0	100		10/21/20 09:59	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: MCM-05 **Lab ID: 92500569013** Collected: 10/15/20 13:48 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:27	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:27	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.37**	mg/L	0.050	0.012	1		10/17/20 05:11		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**6.6**	mg/L	1.0	0.50	1		10/29/20 01:07	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: DPZ-2 **Lab ID: 92500569014** Collected: 10/15/20 16:00 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**7.08**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**225**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:29	7440-70-2	
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:29	7439-89-6	
Magnesium	**485**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:29	7439-95-4	
Manganese	**0.26**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:29	7439-96-5	
Potassium	**151**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:29	7440-09-7	
Sodium	**4720**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 19:51	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.021**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:28	7440-38-2	
Boron	**2.1**	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 11:54	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**349**	mg/L	5.0	5.0	1		10/28/20 18:42		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 18:42		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**0.35J**	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:47		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**41.6**	mg/L	10.0	5.0	100		10/19/20 20:15	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 01:05		B2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**8000**	mg/L	100	60.0	100		10/21/20 20:13	16887-00-6	
Sulfate	**989**	mg/L	19.0	9.5	19		10/21/20 10:13	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: DPZ-2 **Lab ID: 92500569014** Collected: 10/15/20 16:00 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:33	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:33	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.13J**	mg/L	0.25	0.059	5		10/17/20 05:17		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**7.0**	mg/L	1.0	0.50	1		10/29/20 01:23	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-4 **Lab ID: 92500569015** Collected: 10/15/20 14:46 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.24**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**128**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:32	7440-70-2	
Iron	**2.6**	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:32	7439-89-6	
Magnesium	**373**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:32	7439-95-4	
Manganese	**0.23**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:32	7439-96-5	
Potassium	**145**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:32	7440-09-7	
Sodium	**3370**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 19:54	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0028J**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:31	7440-38-2	
Boron	**2.1**	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 12:06	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**131**	mg/L	5.0	5.0	1		10/28/20 18:52		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 18:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13100**	mg/L	2500	2500	1		10/20/20 12:08		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**1.6**	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**1.1**	mg/L	0.50	0.084	1		10/22/20 12:45		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.44**	mg/L	0.10	0.050	1		10/19/20 18:33	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 00:56		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-4 **Lab ID: 92500569015** Collected: 10/15/20 14:46 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5600**	mg/L	100	60.0	100		10/21/20 10:27	16887-00-6	
Sulfate	**732**	mg/L	100	50.0	100		10/21/20 10:27	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:29	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:29	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.21**	mg/L	0.050	0.012	1		10/17/20 05:14		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**11.0**	mg/L	1.0	0.50	1		10/29/20 01:40	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-5 **Lab ID: 92500569016** Collected: 10/15/20 15:55 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.62**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**152**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:35	7440-70-2	
Iron	**1.3**	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:35	7439-89-6	
Magnesium	**397**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:35	7439-95-4	
Manganese	**0.14**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:35	7439-96-5	
Potassium	**159**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:35	7440-09-7	
Sodium	**3770**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 19:57	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0026J**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:35	7440-38-2	
Boron	**2.7**	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 12:09	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**197**	mg/L	5.0	5.0	1		10/28/20 19:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 19:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15500**	mg/L	2500	2500	1		10/20/20 12:08		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**0.94**	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**0.32J**	mg/L	0.50	0.084	1		10/22/20 12:45		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**0.95**	mg/L	0.10	0.050	1		10/19/20 18:34	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 01:04		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-5 **Lab ID: 92500569016** Collected: 10/15/20 15:55 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6190**	mg/L	100	60.0	100		10/21/20 10:41	16887-00-6	
Sulfate	**806**	mg/L	100	50.0	100		10/21/20 10:41	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:32	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:32	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**1.0**	mg/L	0.50	0.12	10		10/17/20 05:15		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**11.9**	mg/L	1.0	0.50	1		10/29/20 01:56	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-6 **Lab ID: 92500569017** Collected: 10/15/20 14:03 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/27/20 13:57		
pH	**6.15**	Std. Units			1		10/27/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**153**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:39	7440-70-2	
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:39	7439-89-6	
Magnesium	**447**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:39	7439-95-4	
Manganese	ND	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:39	7439-96-5	
Potassium	**164**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:39	7440-09-7	
Sodium	**4050**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 20:01	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0029J**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:39	7440-38-2	
Boron	**2.5**	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 12:13	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**108**	mg/L	5.0	5.0	1		10/28/20 19:21		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 19:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16400**	mg/L	2500	2500	1		10/20/20 12:09		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**0.41J**	mg/L	0.50	0.084	1		10/22/20 12:43		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**8.3**	mg/L	2.5	1.2	25		10/19/20 20:17	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 00:50		B2

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: RW-6 **Lab ID: 92500569017** Collected: 10/15/20 14:03 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7030**	mg/L	100	60.0	100		10/21/20 10:54	16887-00-6	
Sulfate	**839**	mg/L	100	50.0	100		10/21/20 10:54	14808-79-8	
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:28	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:28	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.23**	mg/L	0.050	0.012	1		10/17/20 05:11		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**7.6**	mg/L	1.0	0.50	1		10/29/20 02:15	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: DUP-2 **Lab ID: 92500569018** Collected: 10/15/20 00:00 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**148**	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:55	7440-70-2	
Iron	**1.2**	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:55	7439-89-6	
Magnesium	**389**	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:55	7439-95-4	
Manganese	**0.14**	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:55	7439-96-5	
Potassium	**156**	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:55	7440-09-7	
Sodium	**3850**	mg/L	500	61.1	100	10/17/20 00:45	10/21/20 20:04	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0027J**	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:43	7440-38-2	
Boron	**2.5**	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 12:17	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**190**	mg/L	5.0	5.0	1		10/28/20 19:47		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 19:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**14800**	mg/L	2500	2500	1		10/20/20 12:09		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	**0.80**	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	**0.39J**	mg/L	0.50	0.084	1		10/22/20 12:40		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		10/19/20 18:35	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 00:24		H2
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6200**	mg/L	100	60.0	100		10/21/20 11:08	16887-00-6	
Sulfate	**805**	mg/L	100	50.0	100		10/21/20 11:08	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: DUP-2 **Lab ID: 92500569018** Collected: 10/15/20 00:00 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:21	14797-55-8	H1
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:21	14797-65-0	H1
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	**0.64**	mg/L	0.50	0.12	10		10/17/20 05:06		H1
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	**11.9**	mg/L	1.0	0.50	1		10/29/20 05:28	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: FBL101520 **Lab ID: 92500569019** Collected: 10/15/20 17:36 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 07:58	7440-70-2	
Iron	ND	mg/L	1.0	0.83	20	10/17/20 00:45	10/20/20 07:58	7439-89-6	
Magnesium	ND	mg/L	2.0	1.4	20	10/17/20 00:45	10/20/20 07:58	7439-95-4	
Manganese	ND	mg/L	0.10	0.069	20	10/17/20 00:45	10/20/20 07:58	7439-96-5	
Potassium	ND	mg/L	100	60.8	20	10/17/20 00:45	10/20/20 07:58	7440-09-7	
Sodium	ND	mg/L	100	12.2	20	10/17/20 00:45	10/20/20 07:58	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.000087	1	10/17/20 00:41	10/19/20 20:47	7440-38-2	
Boron	ND	mg/L	0.025	0.0062	1	10/17/20 00:41	10/20/20 10:35	7440-42-8	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 19:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/28/20 19:56		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/20/20 12:09		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe D#4 Pace Analytical Services - Asheville								
Iron, Ferric	ND	mg/L	0.50	0.25	1		10/23/20 16:19	7439-89-6	N2
Iron, Ferrous	Analytical Method: SM 3500-Fe B-2011 Pace Analytical Services - Asheville								
Iron, Ferrous	ND	mg/L	0.50	0.084	1		10/22/20 12:48		H3,N2
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	ND	mg/L	0.10	0.050	1		10/19/20 18:36	18496-25-8	
5210B BOD, 5 day	Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville								
BOD, 5 day	ND	mg/L	2.0	2.0	1	10/17/20 04:03	10/22/20 01:07		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6.0**	mg/L	1.0	0.60	1		10/21/20 02:15	16887-00-6	
Sulfate	**0.66J**	mg/L	1.0	0.50	1		10/21/20 02:15	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS APP III
Pace Project No.: 92500569

Sample: FBL101520 **Lab ID: 92500569019** Collected: 10/15/20 17:36 Received: 10/16/20 10:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3 unpres	Analytical Method: EPA 353.2 Rev 2.0 1993 Pace Analytical Services - Asheville								
Nitrogen, Nitrate	ND	mg/L	0.040	0.010	1		10/17/20 00:34	14797-55-8	
Nitrogen, Nitrite	ND	mg/L	0.040	0.010	1		10/17/20 00:34	14797-65-0	
SM4500P-E, Phosphate, Ortho	Analytical Method: SM 4500-P E-2011 Pace Analytical Services - Asheville								
Orthophosphate as P	ND	mg/L	0.050	0.012	1		10/17/20 05:18		
5310B TOC	Analytical Method: SM 5310B-2011 Pace Analytical Services - Asheville								
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/29/20 05:46	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573915
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569009, 92500569010, 92500569011, 92500569012, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3038654 Matrix: Water
Associated Lab Samples: 92500569009, 92500569010, 92500569011, 92500569012, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/20/20 06:49	
Iron	mg/L	ND	0.050	0.042	10/20/20 06:49	
Magnesium	mg/L	ND	0.10	0.068	10/20/20 06:49	
Manganese	mg/L	ND	0.0050	0.0034	10/20/20 06:49	
Potassium	mg/L	ND	5.0	3.0	10/20/20 06:49	
Sodium	mg/L	ND	5.0	0.61	10/20/20 06:49	

LABORATORY CONTROL SAMPLE: 3038655

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.7	95	80-120	
Iron	mg/L	5	4.6	91	80-120	
Magnesium	mg/L	5	4.8	96	80-120	
Manganese	mg/L	0.5	0.47	95	80-120	
Potassium	mg/L	5	4.9J	98	80-120	
Sodium	mg/L	5	4.7J	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038656 3038657

Parameter	Units	92500569009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	256	5	5	255	243	-16	-248	75-125	5	20	M6
Iron	mg/L	ND	5	5	5.0	4.9	100	97	75-125	2	20	
Magnesium	mg/L	567	5	5	561	535	-120	-644	75-125	5	20	M6
Manganese	mg/L	0.28	0.5	0.5	0.78	0.75	100	94	75-125	4	20	
Potassium	mg/L	151	5	5	153	146	50	-94	75-125	5	20	M6
Sodium	mg/L	3820	5	5	7840	3770	80400	-980	75-125	70	20	M6,R1

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 576182
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008

METHOD BLANK: 3049575 Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/28/20 09:30	
Iron	mg/L	ND	0.050	0.042	10/28/20 09:30	
Magnesium	mg/L	ND	0.10	0.068	10/28/20 09:30	
Manganese	mg/L	ND	0.0050	0.0034	10/28/20 09:30	
Potassium	mg/L	ND	5.0	3.0	10/28/20 09:30	
Sodium	mg/L	ND	5.0	0.61	10/28/20 09:30	

LABORATORY CONTROL SAMPLE: 3049576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.5	91	80-120	
Iron	mg/L	5	4.6	92	80-120	
Magnesium	mg/L	5	4.8	96	80-120	
Manganese	mg/L	0.5	0.47	95	80-120	
Potassium	mg/L	5	4.8J	96	80-120	
Sodium	mg/L	5	4.9J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3049577 3049578

Parameter	Units	92501793016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	125000 ug/L	5	5	137	137	240	246	75-125	0	20	M1
Iron	mg/L	5540 ug/L	5	5	10.5	10.4	99	98	75-125	1	20	
Magnesium	mg/L	5110 ug/L	5	5	10	9.9	97	96	75-125	1	20	
Manganese	mg/L	1450 ug/L	0.5	0.5	2.0	2.0	109	104	75-125	1	20	
Potassium	mg/L	122000 ug/L	5	5	131	132	189	210	75-125	1	20	M1
Sodium	mg/L	1280000 ug/L	5	5	1270	1280	-241	-160	75-125	0	20	E

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573667
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005

METHOD BLANK: 3037373 Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	10/19/20 15:31	
Boron	mg/L	ND	0.025	0.0062	10/20/20 12:40	

LABORATORY CONTROL SAMPLE: 3037374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.011	107	80-120	
Boron	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037375 3037376

Parameter	Units	92500314013 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	0.01	0.01	0.012	0.011	115	108	75-125	6	20	
Boron	mg/L	1.8	0.05	0.05	1.8	1.8	-51	-9	75-125	1	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573916
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569009, 92500569010, 92500569011, 92500569012, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3038658 Matrix: Water
Associated Lab Samples: 92500569009, 92500569010, 92500569011, 92500569012, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	10/19/20 19:37	
Boron	mg/L	ND	0.025	0.0062	10/20/20 10:27	

LABORATORY CONTROL SAMPLE: 3038659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	101	80-120	
Boron	mg/L	0.05	0.050	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038660 3038661

Parameter	Units	92500569010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0058	0.01	0.01	0.016	0.016	106	103	75-125	1	20	
Boron	mg/L	1.8	0.05	0.05	1.7	1.7	-72	-198	75-125	4	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574264
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569006, 92500569007, 92500569008

METHOD BLANK: 3040362 Matrix: Water
Associated Lab Samples: 92500569006, 92500569007, 92500569008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	10/21/20 12:20	
Boron	mg/L	ND	0.025	0.0062	10/21/20 12:20	

LABORATORY CONTROL SAMPLE: 3040363

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.011	108	80-120	
Boron	mg/L	0.05	0.051	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040364 3040365

Parameter	Units	92501011001 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	0.01	0.01	0.011	0.011	107	105	75-125	2	20	
Boron	mg/L	ND	0.05	0.05	0.056	0.056	97	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 575956
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010

METHOD BLANK: 3048287
Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/27/20 14:59	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/27/20 14:59	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 575959 | Analysis Method: SM 2320B-2011
QC Batch Method: SM 2320B-2011 | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3048303 Matrix: Water
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/28/20 17:06	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/28/20 17:06	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 576297
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569011, 92500569012

METHOD BLANK: 3049850
Matrix: Water
Associated Lab Samples: 92500569011, 92500569012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/28/20 12:39	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/28/20 12:39	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574190 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009

METHOD BLANK: 3040151 Matrix: Water
Associated Lab Samples: 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/19/20 18:31	

LABORATORY CONTROL SAMPLE: 3040152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	266	106	90-110	

SAMPLE DUPLICATE: 3040153

Parameter	Units	92500314013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8750	8750	0	25	

SAMPLE DUPLICATE: 3040154

Parameter	Units	92500507001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	62.0	64.0	3	25	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574334
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569010, 92500569011, 92500569012, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3040507 Matrix: Water
Associated Lab Samples: 92500569010, 92500569011, 92500569012, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/20/20 12:07	

LABORATORY CONTROL SAMPLE: 3040508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	258	103	90-110	

SAMPLE DUPLICATE: 3040509

Parameter	Units	92500569010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11800	15500	27	25	D6

SAMPLE DUPLICATE: 3040510

Parameter	Units	92500569017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	16400	16000	2	25	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574953
QC Batch Method: SM 3500-Fe B-2011
Analysis Method: SM 3500-Fe B-2011
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569002, 92500569003, 92500569004, 92500569005, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

METHOD BLANK: 3043506 Matrix: Water
Associated Lab Samples: 92500569002, 92500569003, 92500569004, 92500569005, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.50	0.084	10/22/20 11:57	N2

LABORATORY CONTROL SAMPLE: 3043507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1.5	1.5	102	90-110	N2

SAMPLE DUPLICATE: 3043513

Parameter	Units	35585184001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.26J	0.24J		10	H3,N2

SAMPLE DUPLICATE: 3043514

Parameter	Units	35585183001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.74	0.71	3	10	H3,N2

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574956
QC Batch Method: SM 3500-Fe B-2011
Analysis Method: SM 3500-Fe B-2011
Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569006, 92500569012, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3043510 Matrix: Water
Associated Lab Samples: 92500569001, 92500569006, 92500569012, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	ND	0.50	0.084	10/22/20 12:31	N2

LABORATORY CONTROL SAMPLE: 3043511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	1.5	1.5	102	90-110	N2

SAMPLE DUPLICATE: 3043512

Parameter	Units	92500569012 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	ND	ND		10	H3,N2

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574003
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

METHOD BLANK: 3038954 Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	10/19/20 18:04	

LABORATORY CONTROL SAMPLE: 3038955

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038956 3038957

Parameter	Units	92500502010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	92	92	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038958 3038959

Parameter	Units	92500502011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.44	0.44	83	84	80-120	1	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574068 | Analysis Method: SM 4500-S2D-2011
QC Batch Method: SM 4500-S2D-2011 | Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3039206 Matrix: Water
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	10/19/20 18:32	

LABORATORY CONTROL SAMPLE: 3039207

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3039214 3039215

Parameter	Units	92500876001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.50	0.50	92	93	80-120	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3039216 3039217

Parameter	Units	92500876002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.49	0.49	93	93	80-120	1	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573671 — Analysis Method: SM 5210B-2011
QC Batch Method: SM 5210B-2011 — Analysis Description: 5210B BOD, 5 day
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569002, 92500569003, 92500569004, 92500569005, 92500569007, 92500569009, 92500569010, 92500569011

METHOD BLANK: 3037385 — Matrix: Water
Associated Lab Samples: 92500569002, 92500569003, 92500569004, 92500569005, 92500569007, 92500569009, 92500569010, 92500569011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	10/21/20 00:58	

LABORATORY CONTROL SAMPLE: 3037386

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	201	101	84.6-115	

SAMPLE DUPLICATE: 3037388

Parameter	Units	92500755001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	121	128	6	25	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573672 | Analysis Method: SM 5210B-2011
QC Batch Method: SM 5210B-2011 | Analysis Description: 5210B BOD, 5 day
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569006, 92500569008

METHOD BLANK: 3037389 Matrix: Water
Associated Lab Samples: 92500569001, 92500569006, 92500569008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	10/21/20 02:16	

LABORATORY CONTROL SAMPLE: 3037390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	202	102	84.6-115	

SAMPLE DUPLICATE: 3037392

Parameter	Units	92500677001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573919
QC Batch Method: SM 5210B-2011
Analysis Method: SM 5210B-2011
Analysis Description: 5210B BOD, 5 day
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3038668 Matrix: Water
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	10/22/20 00:15	

LABORATORY CONTROL SAMPLE: 3038669

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	189	95	84.6-115	

SAMPLE DUPLICATE: 3038671

Parameter	Units	92500914001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573642
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009

METHOD BLANK: 3037306 Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/17/20 05:12	
Sulfate	mg/L	ND	1.0	0.50	10/17/20 05:12	

LABORATORY CONTROL SAMPLE: 3037307

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.5	99	90-110	
Sulfate	mg/L	50	48.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037308 3037309

Parameter	Units	92500314017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.1	52.0	104	104	90-110	0	10	
Sulfate	mg/L	ND	50	50	50.5	50.2	101	100	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037310 3037311

Parameter	Units	92500314018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.1	52.4	104	105	90-110	1	10	
Sulfate	mg/L	ND	50	50	50.6	50.9	101	102	90-110	1	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573643
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569010, 92500569011, 92500569012

METHOD BLANK: 3037312 Matrix: Water
Associated Lab Samples: 92500569010, 92500569011, 92500569012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/17/20 23:06	
Sulfate	mg/L	ND	1.0	0.50	10/17/20 23:06	

LABORATORY CONTROL SAMPLE: 3037313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.5	103	90-110	
Sulfate	mg/L	50	51.3	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037314 3037315

Parameter	Units	92500569012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.3	50	50	53.3	53.5	104	104	90-110	0	10	
Sulfate	mg/L	ND	50	50	52.4	52.9	105	106	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037316 3037317

Parameter	Units	92499689018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	53.0	53.2	106	106	90-110	0	10	
Sulfate	mg/L	ND	50	50	52.5	52.6	105	105	90-110	0	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 574246
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3040304 Matrix: Water
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/20/20 20:54	
Sulfate	mg/L	ND	1.0	0.50	10/20/20 20:54	

LABORATORY CONTROL SAMPLE: 3040305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.0	100	90-110	
Sulfate	mg/L	50	48.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040306 3040307

Parameter	Units	92500860056 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.8	50	50	59.7	60.0	104	104	90-110	0	10	
Sulfate	mg/L	10	50	50	61.1	61.4	102	103	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040308 3040309

Parameter	Units	92500314023 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.3	51.8	102	103	90-110	1	10	
Sulfate	mg/L	ND	50	50	49.6	50.2	99	100	90-110	1	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573633
QC Batch Method: EPA 353.2 Rev 2.0 1993
Analysis Method: EPA 353.2 Rev 2.0 1993
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

METHOD BLANK: 3037270 Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.040	0.010	10/16/20 00:01	
Nitrogen, Nitrite	mg/L	ND	0.040	0.010	10/16/20 00:01	

LABORATORY CONTROL SAMPLE: 3037271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.5	1.5	100	90-110	
Nitrogen, Nitrite	mg/L	1	1.0	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037272 3037273

Parameter	Units	92500507001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	0.042	1.5	1.5	1.5	1.5	98	97	90-110	1	10	
Nitrogen, Nitrite	mg/L	ND	1	1	1.0	1.0	100	100	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037274 3037275

Parameter	Units	92500507002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	0.069	1.5	1.5	1.4	1.4	91	91	90-110	0	10	
Nitrogen, Nitrite	mg/L	ND	1	1	0.91	0.91	91	91	90-110	0	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573905
QC Batch Method: EPA 353.2 Rev 2.0 1993
Analysis Method: EPA 353.2 Rev 2.0 1993
Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3038616 Matrix: Water
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.040	0.010	10/17/20 00:19	
Nitrogen, Nitrite	mg/L	ND	0.040	0.010	10/17/20 00:19	

LABORATORY CONTROL SAMPLE: 3038617

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.5	1.5	101	90-110	
Nitrogen, Nitrite	mg/L	1	0.98	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038618 3038619

Parameter	Units	92500878001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Nitrate	mg/L	ND	1.5	1.5	1.5	1.5	101	100	90-110	1	10	
Nitrogen, Nitrite	mg/L	ND	1	1	0.99	0.99	99	99	90-110	0	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573616 — Analysis Method: SM 4500-P E-2011
QC Batch Method: SM 4500-P E-2011 — Analysis Description: SM4500P-E Phosphorus, Ortho
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

METHOD BLANK: 3037154 — Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004, 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	10/15/20 20:39	

LABORATORY CONTROL SAMPLE: 3037155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.25	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037156 3037157

Parameter	Units	92500569004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.65	0.25	0.25	0.81	0.80	62	61	90-110	0	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037158 3037159

Parameter	Units	92500569003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.58	0.25	0.25	1.0	1.0	169	167	90-110	1	10	M1

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 573921 — Analysis Method: SM 4500-P E-2011
QC Batch Method: SM 4500-P E-2011 — Analysis Description: SM4500P-E Phosphorus, Ortho
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

METHOD BLANK: 3038676 — Matrix: Water
Associated Lab Samples: 92500569013, 92500569014, 92500569015, 92500569016, 92500569017, 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	10/17/20 05:05	

LABORATORY CONTROL SAMPLE: 3038677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.25	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038678 — 3038679

Parameter	Units	92500878001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	0.015J	0.25	0.25	0.26	0.26	96	96	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038680 — 3038681

Parameter	Units	92500569019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Orthophosphate as P	mg/L	ND	0.25	0.25	0.24	0.24	92	92	90-110	0	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 576014 — Analysis Method: SM 5310B-2011
QC Batch Method: SM 5310B-2011 — Analysis Description: 5310B TOC
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004

METHOD BLANK: 3048566 — Matrix: Water
Associated Lab Samples: 92500569001, 92500569002, 92500569003, 92500569004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.50	10/28/20 01:16	

LABORATORY CONTROL SAMPLE: 3048567

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	26.3	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048568 — 3048569

Parameter	Units	92500507002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	1.3	25	25	27.9	28.3	106	108	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3048570 — 3048571

Parameter	Units	92501837001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	72.8	25	25	101	99.1	114	105	90-110	2	10	M1

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 576358
QC Batch Method: SM 5310B-2011
Analysis Method: SM 5310B-2011
Analysis Description: 5310B TOC
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017

METHOD BLANK: 3050151 Matrix: Water
Associated Lab Samples: 92500569005, 92500569006, 92500569007, 92500569008, 92500569009, 92500569010, 92500569011, 92500569013, 92500569014, 92500569015, 92500569016, 92500569017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.50	10/28/20 18:26	

LABORATORY CONTROL SAMPLE: 3050152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	26.4	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050155 3050156

Parameter	Units	92499689001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.87J	25	25	27.0	27.4	105	106	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050157 3050158

Parameter	Units	92499689003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.86J	25	25	26.8	27.2	104	105	90-110	1	10	

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QUALITY CONTROL DATA

Project: MCMANUS APP III
Pace Project No.: 92500569

QC Batch: 576359
QC Batch Method: SM 5310B-2011
Analysis Method: SM 5310B-2011
Analysis Description: 5310B TOC
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500569018, 92500569019

METHOD BLANK: 3050169 Matrix: Water
Associated Lab Samples: 92500569018, 92500569019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	0.50	10/29/20 04:00	

LABORATORY CONTROL SAMPLE: 3050170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	26.1	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050171 3050172

Parameter	Units	92499689007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	ND	25	25	27.1	27.4	106	108	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3050173 3050174

Parameter	Units	92499689008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.70J	25	25	26.6	26.6	103	104	90-110	0	10	

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QUALIFIERS

Project: MCMANUS APP III
Pace Project No.: 92500569

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

B2	Oxygen usage is less than 2.0 for all dilutions set. The reported value is an estimated less than value and is calculated for the dilution using the most amount of sample.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
H2	Extraction or preparation conducted outside EPA method holding time.
H3	Sample was received or analysis requested beyond the recognized method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500569001	MCM-06				
92500569002	MCM-07				
92500569003	MCM-14				
92500569004	RW-1				
92500569005	RW-2				
92500569006	RW-3				
92500569007	RW-7				
92500569008	RW-8				
92500569009	RW-9				
92500569010	RW-10				
92500569013	MCM-05				
92500569014	DPZ-2				
92500569015	RW-4				
92500569016	RW-5				
92500569017	RW-6				
92500569001	MCM-06	EPA 3010A	576182	EPA 6010D	576205
92500569002	MCM-07	EPA 3010A	576182	EPA 6010D	576205
92500569003	MCM-14	EPA 3010A	576182	EPA 6010D	576205
92500569004	RW-1	EPA 3010A	576182	EPA 6010D	576205
92500569005	RW-2	EPA 3010A	576182	EPA 6010D	576205
92500569006	RW-3	EPA 3010A	576182	EPA 6010D	576205
92500569007	RW-7	EPA 3010A	576182	EPA 6010D	576205
92500569008	RW-8	EPA 3010A	576182	EPA 6010D	576205
92500569009	RW-9	EPA 3010A	573915	EPA 6010D	573927
92500569010	RW-10	EPA 3010A	573915	EPA 6010D	573927
92500569011	DUP-1	EPA 3010A	573915	EPA 6010D	573927
92500569012	FBL101420	EPA 3010A	573915	EPA 6010D	573927
92500569013	MCM-05	EPA 3010A	573915	EPA 6010D	573927
92500569014	DPZ-2	EPA 3010A	573915	EPA 6010D	573927
92500569015	RW-4	EPA 3010A	573915	EPA 6010D	573927
92500569016	RW-5	EPA 3010A	573915	EPA 6010D	573927
92500569017	RW-6	EPA 3010A	573915	EPA 6010D	573927
92500569018	DUP-2	EPA 3010A	573915	EPA 6010D	573927
92500569019	FBL101520	EPA 3010A	573915	EPA 6010D	573927
92500569001	MCM-06	EPA 3010A	573667	EPA 6020B	573681
92500569002	MCM-07	EPA 3010A	573667	EPA 6020B	573681
92500569003	MCM-14	EPA 3010A	573667	EPA 6020B	573681
92500569004	RW-1	EPA 3010A	573667	EPA 6020B	573681
92500569005	RW-2	EPA 3010A	573667	EPA 6020B	573681
92500569006	RW-3	EPA 3010A	574264	EPA 6020B	574298
92500569007	RW-7	EPA 3010A	574264	EPA 6020B	574298
92500569008	RW-8	EPA 3010A	574264	EPA 6020B	574298
92500569009	RW-9	EPA 3010A	573916	EPA 6020B	573935
92500569010	RW-10	EPA 3010A	573916	EPA 6020B	573935
92500569011	DUP-1	EPA 3010A	573916	EPA 6020B	573935
92500569012	FBL101420	EPA 3010A	573916	EPA 6020B	573935

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500569013	**MCM-05**	EPA 3010A	573916	EPA 6020B	573935
92500569014	**DPZ-2**	EPA 3010A	573916	EPA 6020B	573935
92500569015	**RW-4**	EPA 3010A	573916	EPA 6020B	573935
92500569016	**RW-5**	EPA 3010A	573916	EPA 6020B	573935
92500569017	**RW-6**	EPA 3010A	573916	EPA 6020B	573935
92500569018	**DUP-2**	EPA 3010A	573916	EPA 6020B	573935
92500569019	**FBL101520**	EPA 3010A	573916	EPA 6020B	573935
92500569001	**MCM-06**	SM 2320B-2011	575956		
92500569002	**MCM-07**	SM 2320B-2011	575956		
92500569003	**MCM-14**	SM 2320B-2011	575956		
92500569004	**RW-1**	SM 2320B-2011	575956		
92500569005	**RW-2**	SM 2320B-2011	575956		
92500569006	**RW-3**	SM 2320B-2011	575956		
92500569007	**RW-7**	SM 2320B-2011	575956		
92500569008	**RW-8**	SM 2320B-2011	575956		
92500569009	**RW-9**	SM 2320B-2011	575956		
92500569010	**RW-10**	SM 2320B-2011	575956		
92500569011	**DUP-1**	SM 2320B-2011	576297		
92500569012	**FBL101420**	SM 2320B-2011	576297		
92500569013	**MCM-05**	SM 2320B-2011	575959		
92500569014	**DPZ-2**	SM 2320B-2011	575959		
92500569015	**RW-4**	SM 2320B-2011	575959		
92500569016	**RW-5**	SM 2320B-2011	575959		
92500569017	**RW-6**	SM 2320B-2011	575959		
92500569018	**DUP-2**	SM 2320B-2011	575959		
92500569019	**FBL101520**	SM 2320B-2011	575959		
92500569004	**RW-1**	SM 2540C-2011	574190		
92500569005	**RW-2**	SM 2540C-2011	574190		
92500569006	**RW-3**	SM 2540C-2011	574190		
92500569007	**RW-7**	SM 2540C-2011	574190		
92500569008	**RW-8**	SM 2540C-2011	574190		
92500569009	**RW-9**	SM 2540C-2011	574190		
92500569010	**RW-10**	SM 2540C-2011	574334		
92500569011	**DUP-1**	SM 2540C-2011	574334		
92500569012	**FBL101420**	SM 2540C-2011	574334		
92500569015	**RW-4**	SM 2540C-2011	574334		
92500569016	**RW-5**	SM 2540C-2011	574334		
92500569017	**RW-6**	SM 2540C-2011	574334		
92500569018	**DUP-2**	SM 2540C-2011	574334		
92500569019	**FBL101520**	SM 2540C-2011	574334		
92500569001	**MCM-06**	SM 3500-Fe D#4	576787		
92500569002	**MCM-07**	SM 3500-Fe D#4	576787		
92500569003	**MCM-14**	SM 3500-Fe D#4	576787		
92500569004	**RW-1**	SM 3500-Fe D#4	576787		
92500569005	**RW-2**	SM 3500-Fe D#4	576787		
92500569006	**RW-3**	SM 3500-Fe D#4	576787		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500569007	**RW-7**	SM 3500-Fe D#4	576787		
92500569008	**RW-8**	SM 3500-Fe D#4	576787		
92500569009	**RW-9**	SM 3500-Fe D#4	575464		
92500569010	**RW-10**	SM 3500-Fe D#4	575464		
92500569011	**DUP-1**	SM 3500-Fe D#4	575464		
92500569012	**FBL101420**	SM 3500-Fe D#4	575465		
92500569013	**MCM-05**	SM 3500-Fe D#4	575465		
92500569014	**DPZ-2**	SM 3500-Fe D#4	575465		
92500569015	**RW-4**	SM 3500-Fe D#4	575465		
92500569016	**RW-5**	SM 3500-Fe D#4	575465		
92500569017	**RW-6**	SM 3500-Fe D#4	575465		
92500569018	**DUP-2**	SM 3500-Fe D#4	575465		
92500569019	**FBL101520**	SM 3500-Fe D#4	575465		
92500569001	**MCM-06**	SM 3500-Fe B-2011	574956		
92500569002	**MCM-07**	SM 3500-Fe B-2011	574953		
92500569003	**MCM-14**	SM 3500-Fe B-2011	574953		
92500569004	**RW-1**	SM 3500-Fe B-2011	574953		
92500569005	**RW-2**	SM 3500-Fe B-2011	574953		
92500569006	**RW-3**	SM 3500-Fe B-2011	574956		
92500569007	**RW-7**	SM 3500-Fe B-2011	574953		
92500569008	**RW-8**	SM 3500-Fe B-2011	574953		
92500569009	**RW-9**	SM 3500-Fe B-2011	574953		
92500569010	**RW-10**	SM 3500-Fe B-2011	574953		
92500569011	**DUP-1**	SM 3500-Fe B-2011	574953		
92500569012	**FBL101420**	SM 3500-Fe B-2011	574956		
92500569013	**MCM-05**	SM 3500-Fe B-2011	574956		
92500569014	**DPZ-2**	SM 3500-Fe B-2011	574956		
92500569015	**RW-4**	SM 3500-Fe B-2011	574956		
92500569016	**RW-5**	SM 3500-Fe B-2011	574956		
92500569017	**RW-6**	SM 3500-Fe B-2011	574956		
92500569018	**DUP-2**	SM 3500-Fe B-2011	574956		
92500569019	**FBL101520**	SM 3500-Fe B-2011	574956		
92500569001	**MCM-06**	SM 4500-S2D-2011	574003		
92500569002	**MCM-07**	SM 4500-S2D-2011	574003		
92500569003	**MCM-14**	SM 4500-S2D-2011	574003		
92500569004	**RW-1**	SM 4500-S2D-2011	574003		
92500569005	**RW-2**	SM 4500-S2D-2011	574003		
92500569006	**RW-3**	SM 4500-S2D-2011	574003		
92500569007	**RW-7**	SM 4500-S2D-2011	574003		
92500569008	**RW-8**	SM 4500-S2D-2011	574003		
92500569009	**RW-9**	SM 4500-S2D-2011	574003		
92500569010	**RW-10**	SM 4500-S2D-2011	574003		
92500569011	**DUP-1**	SM 4500-S2D-2011	574003		
92500569013	**MCM-05**	SM 4500-S2D-2011	574068		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500569014	**DPZ-2**	SM 4500-S2D-2011	574068		
92500569015	**RW-4**	SM 4500-S2D-2011	574068		
92500569016	**RW-5**	SM 4500-S2D-2011	574068		
92500569017	**RW-6**	SM 4500-S2D-2011	574068		
92500569018	**DUP-2**	SM 4500-S2D-2011	574068		
92500569019	**FBL101520**	SM 4500-S2D-2011	574068		
92500569001	**MCM-06**	SM 5210B-2011	573672	SM 5210B-2011	573696
92500569002	**MCM-07**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569003	**MCM-14**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569004	**RW-1**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569005	**RW-2**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569006	**RW-3**	SM 5210B-2011	573672	SM 5210B-2011	573696
92500569007	**RW-7**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569008	**RW-8**	SM 5210B-2011	573672	SM 5210B-2011	573696
92500569009	**RW-9**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569010	**RW-10**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569011	**DUP-1**	SM 5210B-2011	573671	SM 5210B-2011	573695
92500569013	**MCM-05**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569014	**DPZ-2**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569015	**RW-4**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569016	**RW-5**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569017	**RW-6**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569018	**DUP-2**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569019	**FBL101520**	SM 5210B-2011	573919	SM 5210B-2011	573940
92500569001	**MCM-06**	EPA 300.0 Rev 2.1 1993	573642		
92500569002	**MCM-07**	EPA 300.0 Rev 2.1 1993	573642		
92500569003	**MCM-14**	EPA 300.0 Rev 2.1 1993	573642		
92500569004	**RW-1**	EPA 300.0 Rev 2.1 1993	573642		
92500569005	**RW-2**	EPA 300.0 Rev 2.1 1993	573642		
92500569006	**RW-3**	EPA 300.0 Rev 2.1 1993	573642		
92500569007	**RW-7**	EPA 300.0 Rev 2.1 1993	573642		
92500569008	**RW-8**	EPA 300.0 Rev 2.1 1993	573642		
92500569009	**RW-9**	EPA 300.0 Rev 2.1 1993	573642		
92500569010	**RW-10**	EPA 300.0 Rev 2.1 1993	573643		
92500569011	**DUP-1**	EPA 300.0 Rev 2.1 1993	573643		
92500569012	**FBL101420**	EPA 300.0 Rev 2.1 1993	573643		
92500569013	**MCM-05**	EPA 300.0 Rev 2.1 1993	574246		
92500569014	**DPZ-2**	EPA 300.0 Rev 2.1 1993	574246		
92500569015	**RW-4**	EPA 300.0 Rev 2.1 1993	574246		
92500569016	**RW-5**	EPA 300.0 Rev 2.1 1993	574246		
92500569017	**RW-6**	EPA 300.0 Rev 2.1 1993	574246		
92500569018	**DUP-2**	EPA 300.0 Rev 2.1 1993	574246		
92500569019	**FBL101520**	EPA 300.0 Rev 2.1 1993	574246		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500569001	MCM-06	EPA 353.2 Rev 2.0 1993	573633		
92500569002	MCM-07	EPA 353.2 Rev 2.0 1993	573633		
92500569003	MCM-14	EPA 353.2 Rev 2.0 1993	573633		
92500569004	RW-1	EPA 353.2 Rev 2.0 1993	573633		
92500569005	RW-2	EPA 353.2 Rev 2.0 1993	573633		
92500569006	RW-3	EPA 353.2 Rev 2.0 1993	573633		
92500569007	RW-7	EPA 353.2 Rev 2.0 1993	573633		
92500569008	RW-8	EPA 353.2 Rev 2.0 1993	573633		
92500569009	RW-9	EPA 353.2 Rev 2.0 1993	573633		
92500569010	RW-10	EPA 353.2 Rev 2.0 1993	573633		
92500569011	DUP-1	EPA 353.2 Rev 2.0 1993	573633		
92500569013	MCM-05	EPA 353.2 Rev 2.0 1993	573905		
92500569014	DPZ-2	EPA 353.2 Rev 2.0 1993	573905		
92500569015	RW-4	EPA 353.2 Rev 2.0 1993	573905		
92500569016	RW-5	EPA 353.2 Rev 2.0 1993	573905		
92500569017	RW-6	EPA 353.2 Rev 2.0 1993	573905		
92500569018	DUP-2	EPA 353.2 Rev 2.0 1993	573905		
92500569019	FBL101520	EPA 353.2 Rev 2.0 1993	573905		
92500569001	MCM-06	SM 4500-P E-2011	573616		
92500569002	MCM-07	SM 4500-P E-2011	573616		
92500569003	MCM-14	SM 4500-P E-2011	573616		
92500569004	RW-1	SM 4500-P E-2011	573616		
92500569005	RW-2	SM 4500-P E-2011	573616		
92500569006	RW-3	SM 4500-P E-2011	573616		
92500569007	RW-7	SM 4500-P E-2011	573616		
92500569008	RW-8	SM 4500-P E-2011	573616		
92500569009	RW-9	SM 4500-P E-2011	573616		
92500569010	RW-10	SM 4500-P E-2011	573616		
92500569011	DUP-1	SM 4500-P E-2011	573616		
92500569013	MCM-05	SM 4500-P E-2011	573921		
92500569014	DPZ-2	SM 4500-P E-2011	573921		
92500569015	RW-4	SM 4500-P E-2011	573921		
92500569016	RW-5	SM 4500-P E-2011	573921		
92500569017	RW-6	SM 4500-P E-2011	573921		
92500569018	DUP-2	SM 4500-P E-2011	573921		
92500569019	FBL101520	SM 4500-P E-2011	573921		
92500569001	MCM-06	SM 5310B-2011	576014		
92500569002	MCM-07	SM 5310B-2011	576014		
92500569003	MCM-14	SM 5310B-2011	576014		
92500569004	RW-1	SM 5310B-2011	576014		
92500569005	RW-2	SM 5310B-2011	576358		
92500569006	RW-3	SM 5310B-2011	576358		
92500569007	RW-7	SM 5310B-2011	576358		
92500569008	RW-8	SM 5310B-2011	576358		
92500569009	RW-9	SM 5310B-2011	576358		
92500569010	RW-10	SM 5310B-2011	576358		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS APP III
Pace Project No.: 92500569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500569011	**DUP-1**	SM 5310B-2011	576358		
92500569013	**MCM-05**	SM 5310B-2011	576358		
92500569014	**DPZ-2**	SM 5310B-2011	576358		
92500569015	**RW-4**	SM 5310B-2011	576358		
92500569016	**RW-5**	SM 5310B-2011	576358		
92500569017	**RW-6**	SM 5310B-2011	576358		
92500569018	**DUP-2**	SM 5310B-2011	576359		
92500569019	**FBL101520**	SM 5310B-2011	576359		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☑ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: Georgia Power

Project # WO# : 92500569

92500569

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☑ No

Date/Initials Person Examining Contents: SG 10.15.20

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 93701d Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 1.4, 2.6, 3.8 Correction Factor: Add/Subtract (°C) 0

Cooler Temp Corrected (°C): 1.4, 2.6, 3.8

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

USDA Regulated Soil (☑ N/A, water sample)
Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☐ No

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

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☑ Yes	☐ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8.
Sample Labels Match COC? SG 10/16/20	☑ Yes	☐ No	☐ N/A	9. No TOC vials for sample 12.
-Includes Date/Time/ID/Analysis Matrix: WT				
Headspace in VOA Vials (>5-6mm)?	☐ Yes	☑ No	☐ N/A	10.
Trip Blank Present?	☐ Yes	☑ No	☐ N/A	11.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☑ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

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

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

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

Project # **WO# : 92500569**

PM: KLH1 Due Date: 10/29/20

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	8015	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1	1	3		1		1	1												3										
2	1	3		1		1	1												3										
3	1	3		1		1	1												3										
4	1	3	1	1		1	1												3										
5	1	3	1	1		1	1												3										
6	1	3	1	1		1	1												3										
7	1	3	1	1		1	1												3										
8	1	3	1	1		1	1												3										
9	1	3	1	1		1	1												3										
10	1	3	1	1		1	1												3										
11	1	3	1	1		1	1												3										
12		1	1			1																			2				

pH Adjustment Log for Preserved Samples

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 2

Section A – Required Client Information:
Company: Georgia Power
Address: 1003 Weatherstone Parkway
Woodstock, GA 30188
Email: kevin.stephenson@resoluteenv.com
Phone: (678)540-6415 Fax
Requested Due Date:

Section B – Required Project Information:
Report To: Kevin Stephenson
Copy To: Stephen Wilson, Trent Gradua
Purchase Order #:
Project Name: McManus App III
Project #:

Section C – Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: kevin.herring@pacelabs.com,
Pace Profile #: 10768

Regulatory Agency
State / Location: GA

Requested Analysis Filtered (Y/N): B

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

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

Pace Project No./Lab I.D.: 92500569

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	6010 - Mg, Mn, Na, K, Fe, Ca, As	Alkalinity / Carb, Bicarb	Orthophosphate Filtered Field	Nitrate/Nitrite	Sulfide / Sol / Fluoride / Cl	TOC	BOD	Ferrous/Ferric calc	Arsenic Speciation	TDS	Residual Chlorine (Y/N)		
1	MCM-06	WT	G	10/14/20	1652				10	5		1		1			3		X	X	X	X	X	X	X	X				pH 6.93	001
2	MCM-07	WT	G	10/14/20	1442				10	5		1		1			3		X	X	X	X	X	X	X	X				pH 6.32	002
3	MCM-14	WT	G	10/14/20	1300				10	5		1		1			3		X	X	X	X	X	X	X	X				pH 6.50	003
4	RW-1	WT	G	10/14/20	1219				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.45	004
5	RW-2	WT	G	10/14/20	1504				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.53	005
6	RW-3	WT	G	10/14/20	1717				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.26	006
7	RW-7	WT	G	10/14/20	1543				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.74	007
8	RW-8	WT	G	10/14/20	1630				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.25	008
9	RW-9	WT	G	10/14/20	1304				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.55	009
10	RW-10	WT	G	10/14/20	1500				11	6		1		1			3		X	X	X	X	X	X	X	X		X		pH 6.63	010
11	DUP-1	WT	G	10/14/20	—				11	6		1		1			3		X	X	X	X	X	X	X	X		X			011
12	FBL101420	WT	G	10/14/20	1047				5	2		3							X	X		X	X	X	X	X		X		Analyze as possible	012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Veronica Fry	10/14/20	0630	Fedex	10/14/20	063.				
				S Dixon / Pace	10.15.20	1049	1.4	Y	N	Y
							2.0			
							3.8			

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Veronica Fry, Trent Gradua, Trent Gradua, Will Lear
SIGNATURE of SAMPLER: Veronica Fry
DATE Signed: 10/14/20

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

October 30, 2020

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

RE: Project: MCMANUS AS SPECIATION
Pace Project No.: 92500800

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 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.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

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

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

Sincerely,

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

Enclosures

cc: Veronica Fay
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Co. Services
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS AS SPECIATION
Pace Project No.: 92500800

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92500800001	**RW-1**	Water	10/14/20 12:19	10/15/20 00:00
92500800002	**RW-2**	Water	10/14/20 15:04	10/15/20 00:00
92500800003	**RW-3**	Water	10/14/20 17:17	10/15/20 00:00
92500800004	**RW-7**	Water	10/14/20 15:43	10/15/20 00:00
92500800005	**RW-8**	Water	10/14/20 16:30	10/15/20 00:00
92500800006	**RW-9**	Water	10/14/20 13:04	10/15/20 00:00
92500800007	**RW-10**	Water	10/14/20 15:00	10/15/20 00:00
92500800008	**DUP-1**	Water	10/14/20 00:00	10/15/20 00:00
92500800009	**MCM-06**	Water	10/14/20 16:52	10/15/20 00:00
92500800010	**MCM-07**	Water	10/14/20 14:42	10/15/20 00:00
92500800011	**MCM-14**	Water	10/14/20 13:00	10/15/20 00:00

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BROOKS APPLIED LABS

Chain -of-Custody Form

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

For BAL use only
Received by: ______ *Date:* ______
Work Order ID: ______ *Time:* ______
Project ID: ______

Client: Georgia Power Company
PO Number: ______
Mailing Address: 241 Ralph McGill Blvd
Atlanta, GA 30308
Contact: Kristen Jurinko
Phone: 404-506-7116
Client Project ID: ______
Email: kjjurink@southernco.com
Email Receipt Confirmation? (Yes/No)
Samples Collected By: Kevin Stephenson, Veronica Fay, Will Lockey, Trust Co.
BAL PM: ______

Requested TAT (business days)
☐ 20 (standard)
☐ 15*
☐ 10*
☐ 5*
☐ Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl /HNO3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify) As Total Rec, Diss.	As Species (specify) InOrg, (III), (V), (MMA), (DMA)	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) Sum of unknown As	Other (specify)	Comments: Specify Here
1	RW-1	10/14/20	1219	GW	2	Y	ICE			X	X			X		
2	RW-2	10/14/20	1504	GW	2	Y	ICE			X	X			X		
3	RW-3	10/14/20	1717	GW	2	Y	ICE			X	X			X		
4	RW-7	10/14/20	1543	GW	2	Y	ICE			X	X			X		
5	RW-8	10/14/20	1630	GW	2	Y	ICE			X	X			X		
6	RW-9	10/14/20	1304	GW	2	Y	ICE			X	X			X		
7	RW-10	10/14/20	1500	GW	2	Y	ICE			X	X			X		
8	Dup-1	10/14/20	—	GW	2	Y	ICE			X	X			X		
9	MCM-06	10/14/20	1652	GW	2	Y	ICE			X	X			X		
10	MCM-07	10/14/20	1442	GW	2	Y	ICE			X	X			X		
	Trip Blank															

Relinquished By: Kevin Stephenson	Date: 10/14/20	Time: 1820	Relinquished By: ______ Date: ______ Time: ______
Received By: FedEx	Date:	Time:	Total Number of Packages:

Page 1 of 2 List Hazardous Contaminants: ______

WO#: 92500800
92500800

BROOKS APPLIED LABS

Chain-of-Custody Form

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

For BAL use only
Received by: Spencer Shibuya *Date:* 10/15/20
Work Order ID: ______ *Time:* 1100
Project ID: ______

Client: Georgia Power Company
Contact: Kristen Jurinko
Client Project ID: ______
Samples Collected By: Kevin Stephenson, Veronica Foss, Will Walker, Brent Gordon

PO Number: ______
Phone: 404-506-7116
Email: kmjurinko@southernco.com

Mailing Address: 241 Ralph McGill Blvd
Atlanta, Ga 30308
Email Receipt Confirmation? (Yes/No)
BAL PM: ______

Requested TAT (business days)
- ☐ 20 (standard)
- ☐ 15*
- ☐ 10*
- ☐ 5*
- ☐ Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl /HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify) As Total Rec, Diss	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) Sum of Unknown As	Other (specify)	Comments: Specify Here
1	MCM-14	10/14/20	1300	GW	2	Y	Ice			x	x			x		
2																
3																
4																
5																
6																
7																
8																
9																
10																
	Trip Blank															

Relinquished By: Kevin Stephenson	Date: 1820	Time: 10/14/20	Relinquished By:	Date:	Time:
Received By: Fedex	Date:	Time:	Total Number of Packages:		

Page 2 of 2 List Hazardous Contaminants: ______

WO#: 92500800
PM: KLH1 Due Date: 10/29/20
CLIENT: GA-GA Power

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

October 29, 2020

Pace Analytical Services – Huntersville
ATTN: Kevin Herring
9800 Kincey Ave., Suite 100
Huntersville, NC 28078
Kevin.Herring@pacelabs.com

RE: Project PAC-HN2007 Client Project: 92500800

Dear Kevin Herring,

On October 15, 2020, Brooks Applied Labs (BAL) received eleven (11) water samples at a temperature of 7.1°C. The samples were logged-in for the analysis of arsenic (As) speciation per the chain-of-custody (COC). The client directly filtered (0.45µm) each sample into an evacuated container prior to receipt at BAL. All samples were stored according to BAL SOPs and EPA methodology.

BAL strongly recommends that all samples submitted for arsenic speciation remain at a temperature of less than or equal to 6° Celsius to maintain sample integrity prior to analysis. Consequently, the As speciation results were qualified (**Z**), indicating that the samples were received above the recommended temperature.

Arsenic Speciation by IC-ICP-CRC-MS

All aqueous samples for As speciation were analyzed using ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). In accordance with the project agreement, As speciation was defined as dissolved arsenite [As(III)], arsenate [As(V)], monomethylarsonic acid [MMAs], and dimethylarsinic acid [DMAs]; the total estimated concentration of any unidentified arsenic-containing species detected in each sample has also been reported as Unk As Sp. Arsenic species are chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS); for more information on this determinative technique, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (**N/C**).

The results were not method blank corrected as described in the calculations section of the relevant BAL SOP(s) and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

It should be noted that all Brooks Applied Labs, LLC methods, standard operating procedures, inventions, ideas, processes, improvements, designs and techniques included or referred to therein, must be considered and treated as Proprietary Information, protected by the Washington State Trade Secret Act, RCW 19.108 et seq., and other laws. All Proprietary Information, written or implied, will not be distributed,

copied, or altered in any fashion without prior written consent from Brooks Applied Labs, LLC. All Proprietary Information (including originals, copies, summaries or other reproductions thereof) shall remain the property of Brooks Applied Labs, LLC at all times and must be returned upon demand. Furthermore, products presented in this document may be protected by Federal Patent laws and infringement will be subject to prosecution in accordance with Title 35 US Code 271.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations /certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received
BAL	Brooks Applied Labs
BLK	method blank
BS	blank spike
CAL	calibration standard
CCB	continuing calibration blank
CCV	continuing calibration verification
COC	chain of custody record
D	dissolved fraction
DUP	duplicate
IBL	instrument blank
ICV	initial calibration verification
MDL	method detection limit
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
ND	non-detect
NR	non-reportable
N/C	not calculated
PS	post preparation spike
REC	percent recovery
RPD	relative percent difference
SCV	secondary calibration verification
SOP	standard operating procedure
SRM	reference material
T	total fraction
TR	total recoverable fraction

Definition of Data Qualifiers

(Effective 3/23/2020)

E	An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H	Holding time and/or preservation requirements not met. Please see narrative for explanation.
J	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1	Estimated value. A full explanation is presented in the narrative.
M	Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N	Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R	Rejected, unusable value. A full explanation is presented in the narrative.
U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X	Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z	Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

Accreditation Information

Table 1. Accredited method/matrix/analytes for TNI

Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)
Issued on: July 27, 2020; Valid to: June 30, 2021
Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness

Accreditation Information

Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)

Issued by: ANAB

Issued on: January 10, 2020; Valid to: March 30, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod BAL-5000	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, V, Zn	Ag, As, Cd, Cr, Cu, Pb, Ni, Se, Zn
EPA 1640 Mod	Non-Potable Waters	Ag, As, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Tl, V, Zn	Not Accredited
EPA 1631E Mod BAL-3100 (waters) BAL-3101 (solids)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Solids/Chemicals	Inorganic Arsenic, As(III)	Inorganic Arsenic. As(III) for waters only.
	Biological/Food	Inorganic Arsenic	Inorganic Arsenic (excluding Food)
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs	Not Accredited
BAL-4200	Non-Potable Waters	Se(IV), Se(VI), SeCN	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2
(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1
(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.

Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
RW-1	92500800001	2042040-01	GW	Sample	10/14/2020	10/15/2020
RW-2	92500800002	2042040-02	GW	Sample	10/14/2020	10/15/2020
RW-3	92500800003	2042040-03	GW	Sample	10/14/2020	10/15/2020
RW-7	92500800004	2042040-04	GW	Sample	10/14/2020	10/15/2020
RW-8	92500800005	2042040-05	GW	Sample	10/14/2020	10/15/2020
RW-9	92500800006	2042040-06	GW	Sample	10/14/2020	10/15/2020
RW-10	92500800007	2042040-07	GW	Sample	10/14/2020	10/15/2020
Dup-1	92500800008	2042040-08	GW	Field Duplicate	10/14/2020	10/15/2020
MCM-06	92500800009	2042040-09	GW	Sample	10/14/2020	10/15/2020
MCM-07	92500800010	2042040-10	GW	Sample	10/14/2020	10/15/2020
MCM-14	92500800011	2042040-11	GW	Sample	10/14/2020	10/15/2020

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
As(III)	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
As(V)	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
DMAs	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
MMAs	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
Unk As Sp	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RW-1, 92500800001										
2042040-01	As(III)	GW	D	0.687	Z J	0.400	2.10	µg/L	B202845	2001257
2042040-01	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-01	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-01	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-01	Unk As Sp	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
RW-2, 92500800002										
2042040-02	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-02	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-02	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-02	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-02	Unk As Sp	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
RW-3, 92500800003										
2042040-03	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-03	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-03	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-03	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-03	Unk As Sp	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
RW-7, 92500800004										
2042040-04	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-04	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-04	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-04	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-04	Unk As Sp	GW	D	10.3	Z	0.500	2.10	µg/L	B202845	2001257
RW-8, 92500800005										
2042040-05	As(III)	GW	D	0.541	Z J	0.400	2.10	µg/L	B202845	2001257
2042040-05	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-05	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-05	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-05	Unk As Sp	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
RW-9, 92500800006										
2042040-06	As(III)	GW	D	0.460	Z J	0.400	2.10	µg/L	B202845	2001257
2042040-06	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-06	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-06	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-06	Unk As Sp	GW	D	32.5	Z	0.500	2.10	µg/L	B202845	2001257
RW-10, 92500800007										
2042040-07	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-07	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-07	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-07	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-07	Unk As Sp	GW	D	3.92	Z	0.500	2.10	µg/L	B202845	2001257
Dup-1, 92500800008										
2042040-08	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-08	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-08	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-08	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-08	Unk As Sp	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
MCM-06, 92500800009										
2042040-09	As(III)	GW	D	53.6	Z	0.400	2.10	µg/L	B202845	2001257
2042040-09	As(V)	GW	D	1.69	Z J	0.400	2.10	µg/L	B202845	2001257
2042040-09	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-09	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-09	Unk As Sp	GW	D	291	Z	0.500	2.10	µg/L	B202845	2001257
MCM-07, 92500800010										
2042040-10	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-10	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-10	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-10	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-10	Unk As Sp	GW	D	8.98	Z	0.500	2.10	µg/L	B202845	2001257

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MCM-14, 92500800011										
2042040-11	As(III)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-11	As(V)	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-11	DMAs	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257
2042040-11	MMAs	GW	D	≤ 0.400	Z U	0.400	2.10	µg/L	B202845	2001257
2042040-11	Unk As Sp	GW	D	≤ 0.500	Z U	0.500	2.10	µg/L	B202845	2001257

Accuracy & Precision Summary

Batch: B202845
Lab Matrix: Water
Method: SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B202845-BS1	**Blank Spike, (2042031)**						
	As(III)		5.150	4.567	µg/L	89% 75-125	
	As(V)		5.200	5.043	µg/L	97% 75-125	
	DMAs		5.210	4.946	µg/L	95% 75-125	
B202845-BS2	**Blank Spike, (2006012)**						
	MMAs		5.000	4.805	µg/L	96% 75-125	
B202845-DUP1	**Duplicate, (2042040-07)**						
	As(III)	ND		ND	µg/L		N/C 25
	As(V)	ND		ND	µg/L		N/C 25
	DMAs	ND		ND	µg/L		N/C 25
	MMAs	ND		ND	µg/L		N/C 25
	Unk As Sp	3.917		3.872	µg/L		1% 25
B202845-MS1	**Matrix Spike, (2042040-07)**						
	As(III)	ND	104.5	104.4	µg/L	100% 75-125	
	As(V)	ND	97.10	104.3	µg/L	107% 75-125	
	DMAs	ND	100.0	102.3	µg/L	102% 75-125	
	MMAs	ND	97.40	97.33	µg/L	100% 75-125	
B202845-MSD1	**Matrix Spike Duplicate, (2042040-07)**						
	As(III)	ND	104.5	106.3	µg/L	102% 75-125	2% 25
	As(V)	ND	97.10	103.9	µg/L	107% 75-125	0.4% 25
	DMAs	ND	100.0	102.5	µg/L	103% 75-125	0.2% 25
	MMAs	ND	97.40	97.93	µg/L	101% 75-125	0.6% 25
B202845-DUP2	**Duplicate, (2042050-03)**						
	As(III)	1.271		1.264	µg/L		0.6% 25
	As(V)	ND		ND	µg/L		N/C 25
	DMAs	ND		ND	µg/L		N/C 25
	MMAs	ND		ND	µg/L		N/C 25
	Unk As Sp	ND		ND	µg/L		N/C 25

Accuracy & Precision Summary

Batch: B202845
Lab Matrix: Water
Method: SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B202845-MS2	**Matrix Spike, (2042050-03)**						
	As(III)	1.271	104.5	109.1	µg/L	103% 75-125	
	As(V)	ND	97.10	101.7	µg/L	105% 75-125	
	DMAs	ND	100.0	103.8	µg/L	104% 75-125	
	MMAs	ND	97.40	100.4	µg/L	103% 75-125	
B202845-MSD2	**Matrix Spike Duplicate, (2042050-03)**						
	As(III)	1.271	104.5	110.3	µg/L	104% 75-125	1% 25
	As(V)	ND	97.10	101.2	µg/L	104% 75-125	0.5% 25
	DMAs	ND	100.0	104.5	µg/L	104% 75-125	0.7% 25
	MMAs	ND	97.40	100.6	µg/L	103% 75-125	0.3% 25

Method Blanks & Reporting Limits

Batch: B202845
Matrix: Water
Method: SOP BAL-4100
Analyte: As(III)

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.004
MRL: 0.021

Analyte: As(V)

Sample	Result	Units
B202845-BLK1	0.004	µg/L
B202845-BLK2	0.002	µg/L
B202845-BLK3	0.003	µg/L
B202845-BLK4	0.004	µg/L

Average: 0.003
Limit: 0.021
MDL: 0.004
MRL: 0.021

Analyte: DMAs

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.005
MRL: 0.021

Method Blanks & Reporting Limits

Analyte: MMAs

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021

MDL: 0.004
MRL: 0.021

Analyte: Unk As Sp

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021

MDL: 0.005
MRL: 0.021

Project ID: PAC-HN2007
PM: Amy Goodall

Client PM: Kevin Herring
Client Project: 92500800

Sample Containers

Lab ID: 2042040-01 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: RW-1 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-02 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: RW-2 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-03 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: RW-3 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-04 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: RW-7 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Sample Containers

Lab ID: 2042040-05
Sample: RW-8
Report Matrix: GW
Sample Type: Sample
Collected: 10/14/2020
Received: 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-06
Sample: RW-9
Report Matrix: GW
Sample Type: Sample
Collected: 10/14/2020
Received: 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-07
Sample: RW-10
Report Matrix: GW
Sample Type: Sample
Collected: 10/14/2020
Received: 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-08
Sample: Dup-1
Report Matrix: GW
Sample Type: Field Duplicate
Collected: 10/14/2020
Received: 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Sample Containers

Lab ID: 2042040-09 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: MCM-06 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-10 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: MCM-07 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Lab ID: 2042040-11 **Report Matrix:** GW **Collected:** 10/14/2020
Sample: MCM-14 **Sample Type:** Sample **Received:** 10/15/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042040

Shipping Containers

Cooler - 2042040

Received: October 15, 2020 11:00
Tracking No: 8126 1269 6086 via FedEx
Coolant Type: Ice
Temperature: 7.1 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR #21

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

Chain of Custody

PASI Charlotte Laboratory

Pace Analytical
www.pacelabs.com

Workorder: 92500800 **Workorder Name:** MCMANUS AS SPECIATION **Results Requested By:** 10/29/2020

Report / Invoice To	Subcontract To	Requested Analysis
Kevin Herring Pace Analytical Charlotte 9800 Kincey Ave. Suite 100 Huntersville, NC 28078 Phone 1(704)875-9092 Email: kevin.herring@pacelabs.com **State of Sample Origin:** GA	P.O. KLH92500800 Brooks Applied Labs 18804 North Creek Pkwy, Suite 100 Bothell, WA 98011	As Speciation; As (III); As (V); As (MMA); As (DMA)

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	General	As Speciation	As (III)	As (V)	As (MMA)	As (DMA)	LAB USE ONLY
1	RW-1	10/14/2020 12:19	92500800001	Water	2	X					
2	RW-2	10/14/2020 15:04	92500800002	Water	2	X					
3	RW-3	10/14/2020 17:17	92500800003	Water	2	X					
4	RW-7	10/14/2020 15:43	92500800004	Water	2	X					
5	RW-8	10/14/2020 16:30	92500800005	Water	2	X					
6	RW-9	10/14/2020 13:04	92500800006	Water	2	X					
7	RW-10	10/14/2020 15:00	92500800007	Water	2	X					
8	DUP-1	10/14/2020 00:00	92500800008	Water	2	X					
9	MCM-06	10/14/2020 16:52	92500800009	Water	2	X					
10	MCM-07	10/14/2020 14:42	92500800010	Water	2	X					
11	MCM-14	10/14/2020 13:00	92500800011	Water	2	X					
12											
13											
14											
15											

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1				10/15/20	
2				17:00	
3					

Cooler Temperature on Receipt °C	Custody Seal Y or N	Received on Ice Y or N	Samples Intact Y or N

BROOKS APPLIED LABS

Chain-of-Custody Form

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

For BAL use only — BAL Report 2042040

Received by: Spencer Shibuya *Date:* 10/15/20
Work Order ID: ______ *Time:* 11:00
Project ID: ______

Client: Georgia Power Company
Contact: Kristen Jurinko
Client Project ID: ______
Samples Collected By: Kevin Stephenson, Veronica Fay, Will Walker, Trent Cole
PO Number: ______
Phone: 404-506-7116
Email: kjjurink@southernco.com
Mailing Address: 241 Ralph McGill Blvd, Atlanta, GA 30308
Email Receipt Confirmation? (Yes/No)
BAL PM: ______

Requested TAT (business days)
- ☐ 20 (standard)
- ☐ 15*
- ☐ 10*
- ☐ 5*
- ☐ Other ____

Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO$_3$/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify) As, Total Ba, Diss.	As Species (specify) InOrg, (III), (V), MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) Sum of unknown As	Other (specify)	Comments: *Specify Here*
1	RW-1	10/14/20	1219	GW	2	Y	ICE			X	X			X		
2	RW-2	10/14/20	1504	GW	2	Y	ICE			X	X			X		
3	RW-3	10/14/20	1717	GW	2	Y	ICE			X	X			X		
4	RW-7	10/14/20	1543	GW	2	Y	ICE			X	X			X		
5	RW-8	10/14/20	1630	GW	2	Y	ICE			X	X			X		
6	RW-9	10/14/20	1304	GW	2	Y	ICE			X	X			X		
7	RW-10	10/14/20	1500	GW	2	Y	ICE			X	X			X		
8	Dup-1	10/14/20	—	GW	2	Y	ICE			X	X			X		
9	MCM-06	10/14/20	1652	GW	2	Y	ICE			X	X			X		
10	MCM-07	10/14/20	1442	GW	2	Y	ICE			X	X			X		
	Trip Blank															

Relinquished By: Kevin Stephenson	Date: 10/14/20	Time: 1820	Relinquished By:	Date:	Time:
Received By: FedEx	Date:	Time:	Total Number of Packages:		

Page 1 of 2 List Hazardous Contaminants: ______

samples@brooksapplied.com | brooksapplied.com

BROOKS APPLIED LABS

Chain-of-Custody Form

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

For BAL use only | BAL Report 2042040

Received by: Spencer Shibuya *Date:* 10/15/20
Work Order ID: *Time:* 1100
Project ID:

Client: Georgia Power Company
Contact: Kristen Jurinko
Client Project ID:
Samples Collected By: Karen Stephenson, Veronica Fay, Will Walker, Trent Graham
PO Number:
Phone: 404-506-7116
Email: kjurinko@southernco.com
Mailing Address: 241 Ralph McGill Blvd, Atlanta, GA 30308
Email Receipt Confirmation? (Yes/No)
BAL PM:

Requested TAT (business days)
☐ 20 (standard)
☐ 15*
☐ 10*
☐ 5*
☐ Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO$_3$/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify) Total Recoverable As	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) Sum of Dissolved As	Other (specify)	Comments: Specify Here
1	MCM-14	10/14/20	1300	GW	2	Y	Ice			X	X			X		
2																
3																
4																
5																
6																
7																
8																
9																
10																
	Trip Blank															

Relinquished By: Karen Stephenson	Date: 1820	Time: 10/14/20	Relinquished By:	Date:	Time:
Received By: Fedex	Date:	Time:	Total Number of Packages:		

Page 2 of 2 List Hazardous Contaminants:

samples@brooksapplied.com | brooksapplied.com

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

October 30, 2020

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

RE: Project: MCMANUS AS SPECIATION
Pace Project No.: 92501055

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 16, 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.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

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

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

Sincerely,

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

Enclosures

cc: Veronica Fay
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Co. Services
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

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

SAMPLE SUMMARY

Project: MCMANUS AS SPECIATION
Pace Project No.: 92501055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92501055001	**MCM-05**	Water	10/15/20 13:48	10/16/20 00:00
92501055002	**DPZ-2**	Water	10/15/20 16:00	10/16/20 00:00
92501055003	**RW-4**	Water	10/15/20 14:46	10/16/20 00:00
92501055004	**RW-5**	Water	10/15/20 15:55	10/16/20 00:00
92501055005	**RW-6**	Water	10/15/20 14:03	10/16/20 00:00
92501055006	**DUP-2**	Water	10/15/20 00:00	10/16/20 00:00
92501055007	**FBL101520**	Water	10/15/20 17:36	10/16/20 00:00

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Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

For BAL use only
Received by: [signature] Date: 10/16/20
Work Order ID: _____ Time: 10:25
Project ID: _____

Client: Georgia Power Company
Contact: Kristen Jurinko
Client Project ID: _____
Samples Collected By: Kevin Stephenson, Veronica Fay, Will Lacker, Trent Godwin

PO Number: _____
Phone: 404-506-7116
Email: kajurink@southernco.com

Mailing Address: 241 Ralph McGill Blvd
Atlanta, GA 30308
Email Receipt Confirmation? (Yes/No)
BAL PM: _____

Requested TAT (business days)
- ☐ 20 (standard)
- ☐ 15*
- ☐ 10*
- ☐ 5*
- ☐ Other ____

*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO_3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals As (specify) Total Rec, Diss	As Species (specify) InOrg, III, V, MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) Sum of unknown As	Other (specify)	Comments: Specify Here
1	MCM-05	10/15/20	1348	GW	2	Y	Ice			X	X			X		
2	DPZ-2	10/15/20	1600	GW	2	Y	Ice			X	X			X		
3	RW-4	10/15/20	1446	GW	2	Y	Ice			X	X			X		
4	RW-5	10/15/20	1555	GW	2	Y	Ice			X	X			X		
5	RW-6	10/15/20	1403	GW	2	Y	Ice			X	X			X		
6	DUP-2	10/15/20	-	GW	2	Y	Ice			X	X			X		
7	FBL101520	10/15/20	1736	GW	2	Y	Ice			X	X			X		
8																
9																
10																
	Trip Blank															

Relinquished By: William Lacker	Date: 10/15/20	Time: 1800	Relinquished By:	Date:	Time:
Received By: Fedex	Date: 10/15/20	Time: 1800	Total Number of Packages:		

Page 1 of 1

List Hazardous Contaminants: _____

WO# : 92501055

92501055

BROOKS APPLIED LABS
18804 North Creek Parkway, Ste 100, Bothell, WA 98011 • USA • T: 206 632 6206 F: 206 632 6017 • info@brooksapplied.com

October 29, 2020

Pace Analytical Services – Huntersville
ATTN: Kevin Herring
9800 Kincey Ave., Suite 100
Huntersville, NC 28078
Kevin.Herring@pacelabs.com

RE: Project PAC-HN2007 Client Project: 92501055

Dear Kevin Herring,

On October 16, 2020, Brooks Applied Labs (BAL) received seven (7) water samples at a temperature of 1.6°C. The samples were logged-in for the analysis of arsenic (As) speciation per the chain-of-custody (COC). The client directly filtered (0.45µm) each sample into an evacuated container prior to receipt at BAL. All samples were stored according to BAL SOPs and EPA methodology.

Arsenic Speciation by IC-ICP-CRC-MS
All aqueous samples for As speciation were analyzed using ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). In accordance with the project agreement, As speciation was defined as dissolved arsenite [As(III)], arsenate [As(V)], monomethylarsonic acid [MMAs], and dimethylarsinic acid [DMAs]; the total estimated concentration of any unidentified arsenic-containing species detected in each sample has also been reported as Unk As Sp. Arsenic species are chromatographically separated on an ion exchange column and then quantified using inductively coupled plasma collision reaction cell mass spectrometry (ICP-CRC-MS); for more information on this determinative technique, please visit the Interference Reduction Technology section on our website, brooksapplied.com.

In instances where the native sample result and/or the associated duplicate (DUP) result were below the MDL the RPD was not calculated (**N/C**).

The results were not method blank corrected as described in the calculations section of the relevant BAL SOP(s) and were evaluated using reporting limits adjusted to account for sample aliquot size. Please refer to the *Sample Results* page for sample-specific MDLs, MRLs, and other details.

It should be noted that all Brooks Applied Labs, LLC methods, standard operating procedures, inventions, ideas, processes, improvements, designs and techniques included or referred to therein, must be considered and treated as Proprietary Information, protected by the Washington State Trade Secret Act, RCW 19.108 et seq., and other laws. All Proprietary Information, written or implied, will not be distributed, copied, or altered in any fashion without prior written consent from Brooks Applied Labs, LLC. All Proprietary Information (including originals, copies, summaries or other reproductions thereof) shall remain the property of Brooks Applied Labs, LLC at all times and must be returned upon demand. Furthermore, products presented in this document may be protected by Federal Patent laws and infringement will be subject to prosecution in accordance with Title 35 US Code 271.

All data was reported without further qualification and all other associated quality control sample results met the acceptance criteria.

BAL, an accredited laboratory, certifies that the reported results of all analyses for which BAL is NELAP accredited meet all NELAP requirements. For more information please see the *Report Information* page in your report. Please feel free to contact us if you have any questions regarding this report.

Sincerely,

Amy Goodall
Project Manager
Brooks Applied Labs
amy@brooksapplied.com

Report Information

Laboratory Accreditation

BAL is accredited by the *National Environmental Laboratory Accreditation Program* (NELAP) through the State of Florida Department of Health, Bureau of Laboratories (E87982) and is certified to perform many environmental analyses. BAL is also certified by many other states to perform environmental analyses. For a current list of our accreditations/certifications, please visit our website at <http://www.brooksapplied.com/resources/certificates-permits/> or review Tables 1 and 2 in our Accreditation Information. Results reported relate only to the samples listed in the report.

Field Quality Control Samples

Please be notified that certain EPA methods require the collection of field quality control samples of an appropriate type and frequency; failure to do so is considered a deviation from some methods and for compliance purposes should only be done with the approval of regulatory authorities. Please see the specific EPA methods for details regarding required field quality control samples.

Common Abbreviations

AR	as received
BAL	Brooks Applied Labs
BLK	method blank
BS	blank spike
CAL	calibration standard
CCB	continuing calibration blank
CCV	continuing calibration verification
COC	chain of custody record
D	dissolved fraction
DUP	duplicate
IBL	instrument blank
ICV	initial calibration verification
MDL	method detection limit
MRL	method reporting limit
MS	matrix spike
MSD	matrix spike duplicate
ND	non-detect
NR	non-reportable
N/C	not calculated
PS	post preparation spike
REC	percent recovery
RPD	relative percent difference
SCV	secondary calibration verification
SOP	standard operating procedure
SRM	reference material
T	total fraction
TR	total recoverable fraction

Definition of Data Qualifiers

(Effective 3/23/2020)

E An estimated value due to the presence of interferences. A full explanation is presented in the narrative.
H Holding time and/or preservation requirements not met. Please see narrative for explanation.
J Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.
J-1 Estimated value. A full explanation is presented in the narrative.
M Duplicate precision (RPD) was not within acceptance criteria. Please see narrative for explanation.
N Spike recovery was not within acceptance criteria. Please see narrative for explanation.
R Rejected, unusable value. A full explanation is presented in the narrative.
U Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
X Result is not BLK-corrected and is within 10x the absolute value of the highest detectable BLK in the batch. Result is estimated.
Z Holding time and/or preservation requirements not established for this method; however, BAL recommendations for holding time were not followed. Please see narrative for explanation.

These qualifiers are based on those previously utilized by Brooks Applied Labs, those found in the EPA SOW ILM03.0, Exhibit B, Section III, pg. B-18, and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review; USEPA; January 2010. These supersede all previous qualifiers ever employed by BAL.

Accreditation Information

Table 1. Accredited method/matrix/analytes for TNI

Issued by: State of Florida Dept. of Health (The NELAC Institute 2016 Standard)
Issued on: July 27, 2020; Valid to: June 30, 2021
Certificate Number: E87982-35

Method	Matrix	TNI Accredited Analyte(s)
EPA 1638	Non-Potable Waters	Ag, Cd, Cu, Ni, Pb, Sb, Se, Tl, Zn
EPA 200.8	Non-Potable Waters	Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
EPA 6020	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, U, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
BAL-5000	Non-Potable Waters	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn, Hardness
	Solids/Chemicals	Ag, As, B, Be, Cd, Co, Cr, Cu, Pb, Mo, Ni, Sb, Se, Sn, Sr, Tl, V, Zn
	Biological	Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Tl, V, Zn
EPA 1640	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn
EPA 1631E	Non-Potable Waters, Solids/Chemicals & Biological	Total Mercury
EPA 1630	Non-Potable Waters	Methyl Mercury
BAL-3200	Solids/Chemicals & Biological	Methyl Mercury
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs
BAL-4200	Non-Potable Waters	Se(IV), Se(VI)
BAL-4201	Non-Potable Waters	Se(IV), Se(VI)
BAL-4300	Non-Potable Waters Solid/Chemicals	Cr(VI)
SM2340B	Non-Potable Waters	Hardness

Accreditation Information

Table 2. Accredited method/matrix/analytes for ISO (1), Non-Governmental TNI (2), and DoD/DOE (3)

Issued by: ANAB

Issued on: January 10, 2020; Valid to: March 30, 2022

Method	Matrix	ISO and Non-Gov. TNI Accredited Analyte(s)	DoD/DOE Accredited Analytes
EPA 1638 Mod EPA 200.8 Mod EPA 6020 Mod BAL-5000	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Tl, V, Zn	Ag, As, Cd, Cr, Cu, Pb, Ni, Se, Zn
EPA 1640 Mod	Non-Potable Waters	Ag, As, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Tl, V, Zn	Not Accredited
EPA 1631E Mod BAL-3100 (waters) BAL-3101 (solids)	Non-Potable Waters, Solids/Chemicals & Biological/Food	Total Mercury	Total Mercury
EPA 1630 Mod BAL-3200	Non-Potable Waters, Solids/Chemicals Biological	Methyl Mercury	Methyl Mercury (excluding Solids/Chemicals)
EPA 1632A Mod BAL-3300	Non-Potable Waters Solids/Chemicals	Inorganic Arsenic, As(III)	Inorganic Arsenic. As(III) for waters only.
	Biological/Food	Inorganic Arsenic	Inorganic Arsenic (excluding Food)
AOAC 2015.01 Mod BAL-5000 by BAL-5040	Food	As, Cd, Hg, Pb	Not Accredited
BAL-4100	Non-Potable Waters	As(III), As(V), DMAs, MMAs	Not Accredited
	Biological by BAL-4115	Inorganic Arsenic, DMAs, MMAs	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs	Not Accredited
BAL-4200	Non-Potable Waters	Se(IV), Se(VI), SeCN	Not Accredited
BAL-4201	Non-Potable Waters	Se(IV), Se(VI), SeCN, SeMet	Not Accredited
BAL-4300	Non-Potable Waters, Solid/Chemicals	Cr(VI)	Cr(VI)
SM 3500-Fe BAL-4500	Non-Potable Waters	Fe, Fe(II)	Not Accredited
SM2340B	Non-Potable Waters	Hardness	Hardness
SM 2540G EPA 160.3 BAL-0501	Solids/Chemicals & Biological	% Dry Weight	% Dry Weight

(1) ISO/IEC 17025:2017 – Certificate Number ADE-1447.2
(2) Non-Governmental NELAC Institute 2016 Standard – Certificate Number ADE-1447.1
(3) Department of Defense/Energy Consolidated Quality Systems Manual v. 5.3 – Certificate Numbers ADE-1447 for DoD, ADE-1447.3 for DOE.

Project ID: PAC-HN2007
PM: Amy Goodall

Client PM: Kevin Herring
Client Project: 92501055

Sample Information

Sample	Alias	Lab ID	Report Matrix	Type	Sampled	Received
MCM-05	92501055001	2042050-01	Water-D	Sample	10/15/2020	10/16/2020
DPZ-2	92501055002	2042050-02	Water-D	Sample	10/15/2020	10/16/2020
RW-4	92501055003	2042050-03	Water-D	Sample	10/15/2020	10/16/2020
RW-5	92501055004	2042050-04	Water-D	Sample	10/15/2020	10/16/2020
RW-6	92501055005	2042050-05	Water-D	Sample	10/15/2020	10/16/2020
DUP-2	92501055006	2042050-06	Water-D	Sample	10/15/2020	10/16/2020
FBL101520	92501055007	2042050-07	Water-D	Sample	10/15/2020	10/16/2020

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
As(III)	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
As(V)	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
DMAs	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
MMAs	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257
Unk As Sp	Water	SOP BAL-4100	10/20/2020	10/21/2020	B202845	2001257

18804 North Creek Parkway, Suite 100, Bothell, WA 98011 · P(206) 632-6206 · F(206) 632-6017 · info@brooksapplied.com · www.brooksapplied.com

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MCM-05, 92501055001										
2042050-01	As(III)	Water-D	D	1.13	J	0.400	2.10	µg/L	B202845	2001257
2042050-01	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-01	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-01	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-01	Unk As Sp	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
DPZ-2, 92501055002										
2042050-02	As(III)	Water-D	D	0.461	J	0.400	2.10	µg/L	B202845	2001257
2042050-02	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-02	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-02	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-02	Unk As Sp	Water-D	D	17.3		0.500	2.10	µg/L	B202845	2001257
RW-4, 92501055003										
2042050-03	As(III)	Water-D	D	1.27	J	0.400	2.10	µg/L	B202845	2001257
2042050-03	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-03	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-03	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-03	Unk As Sp	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
RW-5, 92501055004										
2042050-04	As(III)	Water-D	D	0.401	J	0.400	2.10	µg/L	B202845	2001257
2042050-04	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-04	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-04	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-04	Unk As Sp	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
RW-6, 92501055005										
2042050-05	As(III)	Water-D	D	0.714	J	0.400	2.10	µg/L	B202845	2001257
2042050-05	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-05	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-05	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-05	Unk As Sp	Water-D	D	0.946	J	0.500	2.10	µg/L	B202845	2001257

Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DUP-2, 92501055006										
2042050-06	As(III)	Water-D	D	0.412	J	0.400	2.10	µg/L	B202845	2001257
2042050-06	As(V)	Water-D	D	0.572	J	0.400	2.10	µg/L	B202845	2001257
2042050-06	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-06	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-06	Unk As Sp	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
FBL101520, 92501055007										
2042050-07	As(III)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-07	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-07	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257
2042050-07	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B202845	2001257
2042050-07	Unk As Sp	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B202845	2001257

Accuracy & Precision Summary

Batch: B202845
Lab Matrix: Water
Method: SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B202845-BS1	**Blank Spike, (2042031)**						
	As(III)		5.150	4.567	µg/L	89% 75-125	
	As(V)		5.200	5.043	µg/L	97% 75-125	
	DMAs		5.210	4.946	µg/L	95% 75-125	
B202845-BS2	**Blank Spike, (2006012)**						
	MMAs		5.000	4.805	µg/L	96% 75-125	
B202845-DUP1	**Duplicate, (2042040-07)**						
	As(III)	ND		ND	µg/L		N/C 25
	As(V)	ND		ND	µg/L		N/C 25
	DMAs	ND		ND	µg/L		N/C 25
	MMAs	ND		ND	µg/L		N/C 25
	Unk As Sp	3.917		3.872	µg/L		1% 25
B202845-MS1	**Matrix Spike, (2042040-07)**						
	As(III)	ND	104.5	104.4	µg/L	100% 75-125	
	As(V)	ND	97.10	104.3	µg/L	107% 75-125	
	DMAs	ND	100.0	102.3	µg/L	102% 75-125	
	MMAs	ND	97.40	97.33	µg/L	100% 75-125	
B202845-MSD1	**Matrix Spike Duplicate, (2042040-07)**						
	As(III)	ND	104.5	106.3	µg/L	102% 75-125	2% 25
	As(V)	ND	97.10	103.9	µg/L	107% 75-125	0.4% 25
	DMAs	ND	100.0	102.5	µg/L	103% 75-125	0.2% 25
	MMAs	ND	97.40	97.93	µg/L	101% 75-125	0.6% 25
B202845-DUP2	**Duplicate, (2042050-03)**						
	As(III)	1.271		1.264	µg/L		0.6% 25
	As(V)	ND		ND	µg/L		N/C 25
	DMAs	ND		ND	µg/L		N/C 25
	MMAs	ND		ND	µg/L		N/C 25
	Unk As Sp	ND		ND	µg/L		N/C 25

Accuracy & Precision Summary

Batch: B202845
Lab Matrix: Water
Method: SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B202845-MS2	**Matrix Spike, (2042050-03)**						
	As(III)	1.271	104.5	109.1	µg/L	103% 75-125	
	As(V)	ND	97.10	101.7	µg/L	105% 75-125	
	DMAs	ND	100.0	103.8	µg/L	104% 75-125	
	MMAs	ND	97.40	100.4	µg/L	103% 75-125	
B202845-MSD2	**Matrix Spike Duplicate, (2042050-03)**						
	As(III)	1.271	104.5	110.3	µg/L	104% 75-125	1% 25
	As(V)	ND	97.10	101.2	µg/L	104% 75-125	0.5% 25
	DMAs	ND	100.0	104.5	µg/L	104% 75-125	0.7% 25
	MMAs	ND	97.40	100.6	µg/L	103% 75-125	0.3% 25

Method Blanks & Reporting Limits

Batch: B202845
Matrix: Water
Method: SOP BAL-4100
Analyte: As(III)

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.004
MRL: 0.021

Analyte: As(V)

Sample	Result	Units
B202845-BLK1	0.004	µg/L
B202845-BLK2	0.002	µg/L
B202845-BLK3	0.003	µg/L
B202845-BLK4	0.004	µg/L

Average: 0.003
Limit: 0.021
MDL: 0.004
MRL: 0.021

Analyte: DMAs

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021
MDL: 0.005
MRL: 0.021

Method Blanks & Reporting Limits

Analyte: MMAs

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021

MDL: 0.004
MRL: 0.021

Analyte: Unk As Sp

Sample	Result	Units
B202845-BLK1	0.00	µg/L
B202845-BLK2	0.00	µg/L
B202845-BLK3	0.00	µg/L
B202845-BLK4	0.00	µg/L

Average: 0.000
Limit: 0.021

MDL: 0.005
MRL: 0.021

Sample Containers

Lab ID: 2042050-01 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: MCM-05 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Lab ID: 2042050-02 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: DPZ-2 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Lab ID: 2042050-03 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: RW-4 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Lab ID: 2042050-04 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: RW-5 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Sample Containers

Lab ID: 2042050-05 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: RW-6 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Lab ID: 2042050-06 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: DUP-2 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Lab ID: 2042050-07 **Report Matrix:** Water-D **Collected:** 10/15/2020
Sample: FBL101520 **Sample Type:** Sample **Received:** 10/16/2020

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050
B	XTRA_VOL	10 mL	20-0160	EDTA (Vial)	n/a	n/a	Cooler - 2042050

Shipping Containers

Cooler - 2042050

Received: October 16, 2020 10:25
Tracking No: 8126 1271 3299 via FedEx
Coolant Type: Ice
Temperature: 1.6 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: IR# 21

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes

Chain of Custody

PASI Charlotte Laboratory

Pace Analytical®
www.pacelabs.com

Workorder: 92501055 **Workorder Name:** MCMANUS AS SPECIATION **Results Requested By:** 10/30/2020

Report / Invoice To

Kevin Herring
Pace Analytical Charlotte
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
Phone 1(704)875-9092
Email: kevin.herring@pacelabs.com

State of Sample Origin: GA

Subcontract To

P.O. KLH92501055

Brooks Applied Labs
18804 North Creek Pkwy, Suite 100
Bothell, WA 98011

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	General	As Speciation	As (III)	As (V)	As (MMA)	As (DMA)	LAB USE ONLY
1	MCM-05	10/15/2020 13:48	92501055001	Water	2	X					
2	DPZ-2	10/15/2020 16:00	92501055002	Water	2	X					
3	RW-4	10/15/2020 14:46	92501055003	Water	2	X					
4	RW-5	10/15/2020 15:55	92501055004	Water	2	X					
5	RW-6	10/15/2020 14:03	92501055005	Water	2	X					
6	DUP-2	10/15/2020 00:00	92501055006	Water	2	X					
7	FBL101520	10/15/2020 17:36	92501055007	Water	2	X					

Transfers	Released By	Date/Time	Received By	Date/Time
1				
2				
3				

Comments

Cooler Temperature on Receipt °C | **Custody Seal** Y or N | **Received on Ice** Y or N | **Samples Intact** Y or N

Chain-of-Custody Form

BROOKS APPLIED LABS

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

For BAL use only — BAL Report 2042050

Received by: [signature] Date: 10/16/20

Work Order ID: _____ Time: 10:25

Project ID: _____

Client: Georgia Power Company
Contact: Kristen Jurinko
Client Project ID: _____
Samples Collected By: Kevin Stephenson, Veronica Fay, Will Looker, Trent Godwin

PO Number: _____
Phone: 404-506-7116
Email: knjurink@southernco.com

Mailing Address: 241 Ralph McGill Blvd
Atlanta, GA 30308
Email Receipt Confirmation? (Yes/No)
BAL PM: _____

Requested TAT (business days)
☐ 20 (standard)
☐ 15*
☐ 10*
☐ 5*
☐ Other ____
*Surcharges may apply to expedited TATs

	Sample ID	Collection: Date	Collection: Time	Client Sample Info: Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/HNO3/Other	BAL Analyses Required: Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals As (specify) Total Rec, Diss	As Species (specify) InOrg, (III), (V), MMA, DMA	Se Species (specify) Se(IV), Se(VI), SeCN, Uknown	Filtration	Other (specify) sum of unknown As	Other (specify)	Comments: Specify Here
1	MCM-05	10/15/20	1348	GW	2	Y	Ice			X	X			X		
2	DPZ-2	10/15/20	1600	GW	2	Y	Ice			X	X			X		
3	RW-4	10/15/20	1446	GW	2	Y	Ice			X	X			X		
4	RW-5	10/15/20	1555	GW	2	Y	Ice			X	X			X		
5	RW-6	10/15/20	1403	GW	2	Y	Ice			X	X			X		
6	DUP-2	10/15/20	-	GW	2	Y	Ice			X	X			X		
7	FBL101520	10/15/20	1736	GW	2	Y	Ice			X	X			X		
8																
9																
10																
	Trip Blank															

Relinquished By: William Looker	Date: 10/15/20	Time: 1800	Relinquished By: / Date: / Time:
Received By: Fedex	Date: 10/15/20	Time: 1800	Total Number of Packages:

Page 1 of 1 List Hazardous Contaminants: _____

samples@brooksapplied.com | brooksapplied.com

ATTACHMENT 2

Bench-scale Treatability Testing for Soluble Arsenic and Lithium in Groundwater (Phase I and Phase II Summary Report) (PeroxyChem 2020)

9 September 2020

Stephen K. Wilson, P.G.
Principal
Resolute Consulting
1003 Weatherstone Parkway, Suite 320
Woodstock, Georgia 30188

Subject: Bench-scale Treatability Testing for Soluble Arsenic and Lithium in Groundwater (Phase I and Phase II Summary Report)

Dear Mr. Wilson:

Bench-scale treatability testing was conducted using PeroxyChem's MetaFix® reagents and soil and groundwater samples collected from the Dike area of an industrial site in Georgia (the Site). The objective of the work was to evaluate the efficacy of MetaFix® reagents for removal of soluble arsenic and lithium in groundwater at the Site. The treatability testing was conducted by Resolution Partners LLC at their laboratory in Madison Wisconsin, under the direction of PeroxyChem.

Baseline Groundwater Characterization

A plastic cooler containing groundwater (2.0 gallons) and soil (1 gallon) samples packed in ice was received by Resolution Partners LLC at their laboratory in Madison WI on 24 March 2020. The groundwater was labeled as MCM-06 and the soil was labeled as DPZ-2 (7-10). The soil sample was homogenized, and subsamples of the soil and groundwater were subjected to baseline characterization including pH, arsenic, and lithium.

Subsamples of the homogenized groundwater and soil samples were submitted to URSUS Laboratories (Mt. Horeb WI) for determination of the as-received arsenic and lithium concentrations by US EPA Method 6010 (inductively coupled plasma–optical emission spectrometry). The pH of both soil and groundwater were determined in-house by Resolution Partners. The results are presented in Table 1.

Arsenic and lithium concentrations in the MCM-06 groundwater were 220 µg/L and 120 µg/L, respectively. The DPZ-2 (7-10) soil analysis indicated arsenic and lithium concentrations of 4,100 µg/kg and 12,000 µg/kg, respectively. The pH of the MCM-06 groundwater was near neutral at 6.95 while the DPZ-2 (7-10) soil was somewhat more alkaline (7.58).

Following consultation with Resolute, it was agreed to proceed with the bench-scale treatability testing using the as-received groundwater and soil samples (i.e., no spiking of arsenic or lithium was required).

Table 1: Baseline characterization of soil and groundwater samples from the Dike site.

Groundwater & Soil Samples	Description	pH	Analyte (µg/L groundwater, µg/kg soil)	
			Arsenic	Lithium
MCM-06 (Dike site groundwater)	Clear, no odor.	6.95	220	120
DPZ-2 (7-10) (Dike site soil)	Poorly graded sand (SP), fine sand, non-plastic, light brownish grey 10YR6/2, no odor, moist.	7.58	4,100	12,000

Treatability Test Set-up

To determine the influence of the reagents and their dosages on soluble arsenic and lithium concentrations, amber glass microcosms were loaded with 200 mL of MCM-06 groundwater and 20.0 g of DPZ-2 (7-10) soil and then amended with the prescribed mass of each reagent. The microcosms were sealed with Teflon®-lined lids and then incubated for 14 days with daily tumbling. The control contained only groundwater and soil (i.e., no reagent was added). Upon completion of the incubation, samples were filtered through a 0.45 µm glass fiber filter and the filtered groundwater was analyzed for total arsenic.

Treatability Test Results: Phase I

The influence of these treatments on total soluble arsenic and lithium in the filtered groundwater is presented in Table 2.

Table 2. Influence of Phase I treatments on soluble As and Li in the MCM-06 groundwater/DPZ-2 (7-10) soil blend.

Each microcosm contained DPZ-2 (7-10) soil (20.0 g) + MCM-06 groundwater (200 mL)				
Identifier	Dosage (% w/w)	pH (s.u.)	Total Arsenic	Total Lithium
			(µg/L groundwater; µg/kg soil)	
As-received Groundwater	-	6.95	220	120
As-received Soil	-	7.58	4,100	12,000
Untreated Control	-	6.45	6.0	100
MetaFix® 1	1.25	6.14	<3.0	130
MetaFix® 2	1.25	6.20	<3.0	120
MetaFix® 3	1.0	8.56	16	49
MetaFix® 4	1.0	7.88	23	74
MetaFix® 5	0.75	5.25	170	140
MetaFix® 6	1.0	6.27	<3.0	130

Arsenic

Substantial reductions in soluble arsenic concentration, as compared to the as received groundwater, and the untreated control, were observed in response to three of the treatments (MetaFix 1, MetaFix 2, and MetaFix 6). In response to these treatments, soluble arsenic was reduced to less than the method detection limit of 3.0 µg/L. Other treatments reduced arsenic as compared to the as-received groundwater but not as compared with the untreated control.

The observed reduction in soluble arsenic in the untreated control was most probably caused by coprecipitation of arsenic with iron as ferric arsenate (Equation 1).

$$Fe^{+3} + AsO_4^{-3} \rightarrow FeAsO_4 \qquad (1)$$

Such coprecipitation may have been promoted by oxic, near neutral pH conditions in the untreated control as (a) native ferrous iron (Fe^{+2}) was oxidized to ferric form (Fe^{+3}) and the uncharged form of arsenic (i.e., As(III), arsenite) was oxidized to the anionic form (As(V), arsenate). If trace amounts of barium were present in the groundwater it is also possible that soluble arsenic in the untreated control may have precipitated as barium arsenate ($Ba_3As_2O_8$). Both ferric arsenate and barium arsenate have aqueous solubilities below 0.3 µg/L.

Lithium

Lithium in the untreated control was 100 µg/L, comparable to that determined for the as-received groundwater (120 µg/L). Only one treatment (MetaFix 3) supported appreciable removal of soluble lithium. In response to this treatment soluble lithium was reduced about 60% as compared to the as-received groundwater (i.e., from 120 µg/L to 49 µg/L). The MetaFix 3 treatment was designed to promote precipitation and coprecipitation of lithium (Li^+) in the form of low solubility minerals with broad pH stability. The observed degree of lithium removal is high enough to serve as proof of concept. We are confident that greater lithium removal efficiency could be achieved with optimization of the treatment conditions including pH, reagent dosage, and a longer reaction period.

None of the treatments was found to be effective for removal of both soluble arsenic and soluble lithium. As a result, a second treatability investigation designed to focus on increasing lithium removal and combining the more effective treatments for arsenic with the most effective treatment for lithium. The set-up used in the second treatability test (Phase II) was the same as that used in the first treatability test (Phase I); however, the incubation period was increased from 14 days to 28 days.

Treatability Test Results: Phase II

The influence of the Phase II treatments on pH, soluble arsenic and soluble lithium in the groundwater/soil blend is presented in Table 3.

Arsenic

Several of the MetaFix treatments produced substantial reductions in soluble arsenic concentration as compared to the as received groundwater. The most effective treatment for arsenic was MetaFix 7 which

reduced soluble As to below the method detection limit of 5.0 µg/L. It should also be noted that arsenic in the untreated control was below the method detection limit of 5.0 µg/L. A discussion of the chemistry most probably involved in removal of soluble arsenic in the control is provided in the section on Phase I test results (above).

Table 3: Influence of Phase II treatments on soluble As and Li in the MCM-06 groundwater/DPZ-2 soil blend.

Each microcosm contained DPZ-2 (7-10) soil (20.0 g) + MCM-06 groundwater (200 mL)				
Identifier	**Dosage (% w/w)**	**Final pH (s.u.)**	**Total Arsenic**	**Total Lithium**
			(µg/L groundwater; µg/kg soil)	
As-received Groundwater	-	6.95	220	120
As-received Soil	-	7.58	4,100	12,000
Untreated Control	-	5.31	<5.0	48
MetaFix® 1	1.0	8.02	7.0	26
MetaFix® 2	1.5	8.51	7.0	23
MetaFix® 3	2.25	8.86	16	15
MetaFix® 4	1.75	8.03	10	33
MetaFix® 5	1.5	8.05	8.0	30
MetaFix® 6	1.5	7.87	9.0	32
MetaFix® 7	1.25	7.77	<6.0	31
MetaFix® 8	1.75	8.26	9.0	34
MetaFix® 9	1.5	8.11	11	33

Lithium

Lithium in the untreated control was found to be 48 µg/L as compared to 120 µg/L in the as-received groundwater. A relatively stable concentration of lithium in the untreated control is expected, because lithium in its most common and soluble form (Li^+) is the least reactive of the alkali metals. Relative to the untreated control, all the MetaFix treatments reduced soluble lithium. The most effective treatment for lithium was MetaFix 3 which reduced by almost 70% to 15 µg/L. It should be noted that the MetaFix 7 treatment reduced soluble lithium from 48 µg/L to 31 µg/L and also achieved complete removal of soluble arsenic.

Other Metals

Samples from MetaFix 7 treatment and the untreated control were submitted for determination of a range of other metals and the results are presented in Table 4.

Table 4: Influence of MetaFix® 7 treatment on concentrations of selected metals.

Control or Treatment	Analyte (µg/L)												
	As	Li	Ba	Be	Cd	Co	Cr	Hg	Mo	Pb	Sb	Se	Tl
Control	<5.0	48	250	1.0	3.0	49	<5.0	<50	<10	<30	<50	<30	<10
MetaFix 7	<6.0	31	140	<1.0	<3.0	<10	<5.0	<50	91	<30	<50	<30	<10

Summary and Recommendations

Given the relatively short reaction period (14 days in Phase I and 28 days in Phase II) we believe that the treatability test results should be viewed as conservative and that continued removal of both arsenic and lithium may be expected over time at the Site. Since MetaFix 7 achieved complete removal of soluble arsenic as well as substantial removal of soluble lithium we recommend this treatment for application to groundwater at the Site.

I would be pleased to answer any questions you may have about the treatability testing and this report.

Sincerely,

Alan Seech, Ph.D.
Senior Manager – Technology Applications
PeroxyChem Environmental Solutions

Copy: Dr. Patrick Hicks, PeroxyChem

Arcadis, Inc.

2389 Paces Ferry Road SE

Suite 900

Atlanta, Georgia 30339

Tel 770 431 8666

Fax 770 435 2666

APPENDIX D

Surface Water Sampling Laboratory Results and Field Sampling Forms

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

October 14, 2021

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

RE: Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between September 25, 2021 and October 01, 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

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

Sincerely,

Nicole D'Oleo

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

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

CERTIFICATIONS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92563385001	**T1-1HT**	Water	09/23/21 12:07	09/25/21 11:00
92563385002	**T1-2HT**	Water	09/23/21 12:13	09/25/21 11:00
92563385003	**T1-2HTS**	Water	09/23/21 12:17	09/25/21 11:00
92563385004	**T1-3HT**	Water	09/23/21 12:28	09/25/21 11:00
92563385005	**T1-3HTS**	Water	09/23/21 12:23	09/25/21 11:00
92563385006	**T1-4HT**	Water	09/23/21 14:09	09/25/21 11:00
92563385007	**T1-4HTS**	Water	09/23/21 14:02	09/25/21 11:00
92563385008	**T2-1HT**	Water	09/23/21 11:41	09/25/21 11:00
92563385009	**T2-2HT**	Water	09/23/21 11:49	09/25/21 11:00
92563385010	**T2-2HTS**	Water	09/23/21 11:53	09/25/21 11:00
92563385011	**T2-3HT**	Water	09/23/21 12:52	09/25/21 11:00
92563385012	**T2-3HTS**	Water	09/23/21 12:45	09/25/21 11:00
92563385013	**T2-4HT**	Water	09/23/21 13:47	09/25/21 11:00
92563385014	**T2-4HTS**	Water	09/23/21 13:40	09/25/21 11:00
92563385015	**T3-1HT**	Water	09/23/21 11:16	09/25/21 11:00
92563385016	**T3-2HT**	Water	09/23/21 11:25	09/25/21 11:00
92563385017	**T3-2HTS**	Water	09/23/21 11:30	09/25/21 11:00
92563385018	**T3-3HT**	Water	09/23/21 13:13	09/25/21 11:00
92563385019	**T3-3HTS**	Water	09/23/21 13:07	09/25/21 11:00
92563385020	**T3-4HT**	Water	09/23/21 13:29	09/25/21 11:00
92563385021	**T3-4HTS**	Water	09/23/21 13:24	09/25/21 11:00
92563385022	**T4-1HB**	Water	09/22/21 12:56	09/25/21 11:00
92563385023	**T4-1HS**	Water	09/22/21 12:51	09/25/21 11:00
92563385024	**T4-2HB**	Water	09/22/21 13:08	09/25/21 11:00
92563385025	**T4-2HS**	Water	09/22/21 13:03	09/25/21 11:00
92563385026	**T4-3HB**	Water	09/22/21 13:23	09/25/21 11:00
92563385027	**T4-3HS**	Water	09/22/21 13:15	09/25/21 11:00
92563385028	**T4-4HB**	Water	09/22/21 13:39	09/25/21 11:00
92563385029	**T4-4HS**	Water	09/22/21 13:35	09/25/21 11:00
92563385030	**T4-1L**	Water	09/22/21 19:24	09/25/21 11:00
92563385031	**T4-2L**	Water	09/22/21 19:11	09/25/21 11:00
92563385032	**T4-3L**	Water	09/22/21 19:05	09/25/21 11:00
92563385033	**T4-4L**	Water	09/22/21 18:17	09/25/21 11:00
92563385034	**BG-2HT**	Water	09/22/21 10:21	09/25/21 11:00
92563385035	**DUP-1**	Water	09/22/21 00:00	09/25/21 11:00
92563385036	**DUP-2**	Water	09/23/21 00:00	09/25/21 11:00
92563385037	**DUP-3**	Water	09/23/21 00:00	09/25/21 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92563385038	**FB-1**	Water	09/23/21 15:10	09/25/21 11:00
92563385039	**EB-1**	Water	09/23/21 15:15	09/25/21 11:00
92563385040	**T1-1LT**	Water	09/30/21 14:10	10/01/21 11:10
92563385041	**T1-2LT**	Water	09/30/21 14:07	10/01/21 11:10
92563385042	**T1-3LT**	Water	09/30/21 14:00	10/01/21 11:10
92563385043	**T1-4LT**	Water	09/30/21 10:54	10/01/21 11:10
92563385044	**T2-2LT**	Water	09/30/21 13:45	10/01/21 11:10
92563385045	**T2-3LT**	Water	09/30/21 13:33	10/01/21 11:10
92563385046	**T2-4LT**	Water	09/30/21 11:09	10/01/21 11:10
92563385047	**T3-2LT**	Water	09/30/21 12:53	10/01/21 11:10
92563385048	**T3-3LT**	Water	09/30/21 12:19	10/01/21 11:10
92563385049	**T3-4LT**	Water	09/30/21 11:25	10/01/21 11:10
92563385050	**BG-1LT**	Water	09/30/21 10:27	10/01/21 11:10
92563385051	**DUP-4**	Water	09/30/21 00:00	10/01/21 11:10
92563385052	**DUP-5**	Water	09/30/21 00:00	10/01/21 11:10
92563385053	**FB-2**	Water	09/30/21 15:15	10/01/21 11:10
92563385054	**EB-2**	Water	09/30/21 15:20	10/01/21 11:10

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92563385001	**T1-1HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385002	**T1-2HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385003	**T1-2HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385004	**T1-3HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385005	**T1-3HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385006	**T1-4HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385007	**T1-4HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385008	**T2-1HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385009	**T2-2HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385010	**T2-2HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385011	**T2-3HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385012	**T2-3HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385013	**T2-4HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385014	**T2-4HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385015	**T3-1HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385016	**T3-2HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385017	**T3-2HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385018	**T3-3HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385019	**T3-3HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385020	**T3-4HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385021	**T3-4HTS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385022	**T4-1HB**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385023	**T4-1HS**	EPA 6010D	CBV	4	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385024	**T4-2HB**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385025	**T4-2HS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385026	**T4-3HB**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385027	**T4-3HS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385028	**T4-4HB**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385029	**T4-4HS**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385030	**T4-1L**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385031	**T4-2L**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385032	**T4-3L**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385033	**T4-4L**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385034	**BG-2HT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385035	**DUP-1**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385036	**DUP-2**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385037	**DUP-3**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW, JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92563385038	**FB-1**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92563385039	**EB-1**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	CRW	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385040	**T1-1LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385041	**T1-2LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385042	**T1-3LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385043	**T1-4LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385044	**T2-2LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385045	**T2-3LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385046	**T2-4LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385047	**T3-2LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385048	**T3-3LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385049	**T3-4LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385050	**BG-1LT**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385051	**DUP-4**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385052	**DUP-5**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385053	**FB-2**	EPA 6010D	DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92563385054	**EB-2**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	SMK	3	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385001	**T1-1HT**					
	Performed by	CUSTOMER			09/27/21 11:42	
	pH	7.05	Std. Units		09/27/21 11:42	
EPA 6010D	Calcium	126	mg/L	2.0	10/05/21 07:28	M1
EPA 6010D	Magnesium	366	mg/L	2.0	10/05/21 07:28	M1
EPA 6010D	Potassium	122	mg/L	100	10/05/21 07:28	M1
EPA 6010D	Sodium	3230	mg/L	500	10/05/21 20:47	
EPA 6020B	Arsenic	0.0027J	mg/L	0.020	09/30/21 21:49	
EPA 6020B	Boron	1.7J	mg/L	2.5	09/29/21 16:45	M1
EPA 6020B	Lithium	0.060	mg/L	0.050	09/30/21 21:49	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	66.7	mg/L	5.0	10/06/21 16:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	66.7	mg/L	5.0	10/06/21 16:12	
SM 2540C-2011	Total Dissolved Solids	11800	mg/L	1250	09/29/21 11:29	
EPA 300.0 Rev 2.1 1993	Chloride	4790	mg/L	90.0	09/28/21 13:17	
EPA 300.0 Rev 2.1 1993	Sulfate	668	mg/L	20.0	09/27/21 21:50	
92563385002	**T1-2HT**					
	Performed by	CUSTOMER			09/27/21 11:42	
	pH	6.97	Std. Units		09/27/21 11:42	
EPA 6010D	Calcium	185	mg/L	2.0	10/05/21 07:41	
EPA 6010D	Magnesium	538	mg/L	2.0	10/05/21 07:41	
EPA 6010D	Potassium	177	mg/L	100	10/05/21 07:41	
EPA 6010D	Sodium	4650	mg/L	500	10/05/21 04:47	
EPA 6020B	Arsenic	0.0025J	mg/L	0.020	09/30/21 22:04	
EPA 6020B	Boron	2.1J	mg/L	2.5	09/30/21 19:12	
EPA 6020B	Lithium	0.076	mg/L	0.050	09/30/21 22:04	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	87.9	mg/L	5.0	10/06/21 16:18	
SM 2320B-2011	Alkalinity, Total as CaCO3	87.9	mg/L	5.0	10/06/21 16:18	
SM 2540C-2011	Total Dissolved Solids	18300	mg/L	2500	09/29/21 11:29	
EPA 300.0 Rev 2.1 1993	Chloride	7100	mg/L	90.0	09/28/21 13:33	
EPA 300.0 Rev 2.1 1993	Sulfate	982	mg/L	20.0	09/27/21 22:06	
92563385003	**T1-2HTS**					
	Performed by	CUSTOMER			09/27/21 11:42	
	pH	7.15	Std. Units		09/27/21 11:42	
EPA 6010D	Calcium	124	mg/L	2.0	10/05/21 07:44	
EPA 6010D	Magnesium	351	mg/L	2.0	10/05/21 07:44	
EPA 6010D	Potassium	118	mg/L	100	10/05/21 07:44	
EPA 6010D	Sodium	3060	mg/L	500	10/05/21 04:50	
EPA 6020B	Arsenic	0.0025J	mg/L	0.020	09/30/21 22:07	
EPA 6020B	Boron	1.5J	mg/L	2.5	09/30/21 19:15	
EPA 6020B	Lithium	0.057	mg/L	0.050	09/30/21 22:07	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	64.6	mg/L	5.0	10/06/21 16:25	
SM 2320B-2011	Alkalinity, Total as CaCO3	64.6	mg/L	5.0	10/06/21 16:25	
SM 2540C-2011	Total Dissolved Solids	12000	mg/L	1250	09/29/21 11:29	
EPA 300.0 Rev 2.1 1993	Chloride	4750	mg/L	90.0	09/28/21 13:49	
EPA 300.0 Rev 2.1 1993	Sulfate	1670	mg/L	50.0	09/27/21 22:21	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385004	**T1-3HT**					
	Performed by	CUSTOMER			09/27/21 11:42	
	pH	6.99	Std. Units		09/27/21 11:42	
EPA 6010D	Calcium	173	mg/L	2.0	10/05/21 07:48	
EPA 6010D	Magnesium	499	mg/L	2.0	10/05/21 07:48	
EPA 6010D	Potassium	166	mg/L	100	10/05/21 07:48	
EPA 6010D	Sodium	4400	mg/L	500	10/05/21 04:53	
EPA 6020B	Arsenic	0.0021J	mg/L	0.020	09/30/21 22:14	
EPA 6020B	Boron	2.0J	mg/L	2.5	09/30/21 19:22	
EPA 6020B	Lithium	0.073	mg/L	0.050	09/30/21 22:14	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	90.2	mg/L	5.0	10/06/21 16:31	
SM 2320B-2011	Alkalinity, Total as CaCO3	90.2	mg/L	5.0	10/06/21 16:31	
SM 2540C-2011	Total Dissolved Solids	15700	mg/L	2500	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	6880	mg/L	90.0	09/28/21 14:04	
EPA 300.0 Rev 2.1 1993	Sulfate	953	mg/L	50.0	09/27/21 22:37	
92563385005	**T1-3HTS**					
	Performed by	CUSTOMER			09/27/21 11:43	
	pH	7.08	Std. Units		09/27/21 11:43	
EPA 6010D	Calcium	131	mg/L	2.0	10/05/21 07:51	
EPA 6010D	Magnesium	375	mg/L	2.0	10/05/21 07:51	
EPA 6010D	Potassium	124	mg/L	100	10/05/21 07:51	
EPA 6010D	Sodium	3300	mg/L	500	10/05/21 04:56	
EPA 6020B	Arsenic	0.0023J	mg/L	0.020	09/30/21 22:18	
EPA 6020B	Boron	1.7J	mg/L	2.5	09/30/21 19:26	
EPA 6020B	Lithium	0.060	mg/L	0.050	09/30/21 22:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	73.0	mg/L	5.0	10/06/21 16:38	
SM 2320B-2011	Alkalinity, Total as CaCO3	73.0	mg/L	5.0	10/06/21 16:38	
SM 2540C-2011	Total Dissolved Solids	12900	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	5000	mg/L	50.0	09/27/21 22:53	
EPA 300.0 Rev 2.1 1993	Sulfate	698	mg/L	50.0	09/27/21 22:53	
92563385006	**T1-4HT**					
	Performed by	CUSTOMER			09/27/21 11:43	
	pH	6.98	Std. Units		09/27/21 11:43	
EPA 6010D	Calcium	152	mg/L	2.0	10/05/21 07:54	
EPA 6010D	Magnesium	439	mg/L	2.0	10/05/21 07:54	
EPA 6010D	Potassium	144	mg/L	100	10/05/21 07:54	
EPA 6010D	Sodium	3900	mg/L	500	10/05/21 05:00	
EPA 6020B	Arsenic	0.0022J	mg/L	0.020	09/30/21 22:22	
EPA 6020B	Boron	1.9J	mg/L	2.5	09/30/21 19:29	
EPA 6020B	Lithium	0.069	mg/L	0.050	09/30/21 22:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	81.1	mg/L	5.0	09/30/21 17:18	
SM 2320B-2011	Alkalinity, Total as CaCO3	81.1	mg/L	5.0	09/30/21 17:18	
SM 2540C-2011	Total Dissolved Solids	15400	mg/L	2500	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	7960	mg/L	90.0	09/27/21 23:40	
EPA 300.0 Rev 2.1 1993	Sulfate	1110	mg/L	90.0	09/27/21 23:40	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385007	**T1-4HTS**					
	Performed by	CUSTOMER			09/27/21 11:43	
	pH	7.14	Std. Units		09/27/21 11:43	
EPA 6010D	Calcium	136	mg/L	2.0	10/05/21 08:11	
EPA 6010D	Magnesium	402	mg/L	2.0	10/05/21 08:11	
EPA 6010D	Potassium	130	mg/L	100	10/05/21 08:11	
EPA 6010D	Sodium	3450	mg/L	500	10/05/21 05:03	
EPA 6020B	Arsenic	0.0021J	mg/L	0.020	09/30/21 22:29	
EPA 6020B	Boron	1.7J	mg/L	2.5	09/30/21 19:33	
EPA 6020B	Lithium	0.066	mg/L	0.050	09/30/21 22:29	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	74.9	mg/L	5.0	09/30/21 17:28	
SM 2320B-2011	Alkalinity, Total as CaCO3	74.9	mg/L	5.0	09/30/21 17:28	
SM 2540C-2011	Total Dissolved Solids	13000	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	5270	mg/L	90.0	09/27/21 23:56	
EPA 300.0 Rev 2.1 1993	Sulfate	717	mg/L	90.0	09/27/21 23:56	
92563385008	**T2-1HT**					
	Performed by	CUSTOMER			09/27/21 11:43	
	pH	6.89	Std. Units		09/27/21 11:43	
EPA 6010D	Calcium	124	mg/L	2.0	10/05/21 08:14	
EPA 6010D	Magnesium	363	mg/L	2.0	10/05/21 08:14	
EPA 6010D	Potassium	118	mg/L	100	10/05/21 08:14	
EPA 6010D	Sodium	3100	mg/L	500	10/05/21 05:06	
EPA 6020B	Arsenic	0.0020J	mg/L	0.020	09/30/21 22:32	
EPA 6020B	Boron	1.4J	mg/L	2.5	09/30/21 19:40	
EPA 6020B	Lithium	0.054	mg/L	0.050	09/30/21 22:32	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	68.7	mg/L	5.0	09/30/21 17:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	68.7	mg/L	5.0	09/30/21 17:36	
SM 2540C-2011	Total Dissolved Solids	11700	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	4750	mg/L	90.0	09/28/21 00:12	
EPA 300.0 Rev 2.1 1993	Sulfate	638	mg/L	90.0	09/28/21 00:12	
92563385009	**T2-2HT**					
	Performed by	CUSTOMER			09/27/21 11:44	
	pH	6.87	Std. Units		09/27/21 11:44	
EPA 6010D	Calcium	165	mg/L	2.0	10/05/21 08:17	
EPA 6010D	Magnesium	496	mg/L	2.0	10/05/21 08:17	
EPA 6010D	Potassium	160	mg/L	100	10/05/21 08:17	
EPA 6010D	Sodium	4250	mg/L	500	10/05/21 05:10	
EPA 6020B	Arsenic	0.0032J	mg/L	0.020	09/30/21 22:43	
EPA 6020B	Boron	1.9J	mg/L	2.5	09/30/21 19:44	
EPA 6020B	Lithium	0.071	mg/L	0.050	09/30/21 22:43	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.1	mg/L	5.0	09/30/21 17:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.1	mg/L	5.0	09/30/21 17:43	
SM 2540C-2011	Total Dissolved Solids	16400	mg/L	2500	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	6450	mg/L	90.0	09/28/21 00:27	M1
EPA 300.0 Rev 2.1 1993	Sulfate	884	mg/L	90.0	09/28/21 00:27	M1

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385010	**T2-2HTS**					
	Performed by	CUSTOMER			09/27/21 11:44	
	pH	7.05	Std. Units		09/27/21 11:44	
EPA 6010D	Calcium	113	mg/L	2.0	10/05/21 08:20	
EPA 6010D	Magnesium	330	mg/L	2.0	10/05/21 08:20	
EPA 6010D	Potassium	106	mg/L	100	10/05/21 08:20	
EPA 6010D	Sodium	2810	mg/L	500	10/05/21 05:19	
EPA 6020B	Arsenic	0.0024J	mg/L	0.020	09/30/21 22:47	
EPA 6020B	Boron	1.5J	mg/L	2.5	09/30/21 19:47	
EPA 6020B	Lithium	0.048J	mg/L	0.050	09/30/21 22:47	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	65.2	mg/L	5.0	09/30/21 17:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	65.2	mg/L	5.0	09/30/21 17:51	
SM 2540C-2011	Total Dissolved Solids	10400	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	4400	mg/L	90.0	09/28/21 01:14	
EPA 300.0 Rev 2.1 1993	Sulfate	585	mg/L	90.0	09/28/21 01:14	
92563385011	**T2-3HT**					
	Performed by	CUSTOMER			09/27/21 11:44	
	pH	6.96	Std. Units		09/27/21 11:44	
EPA 6010D	Calcium	172	mg/L	2.0	10/05/21 08:24	
EPA 6010D	Magnesium	516	mg/L	2.0	10/05/21 08:24	
EPA 6010D	Potassium	166	mg/L	100	10/05/21 08:24	
EPA 6010D	Sodium	4370	mg/L	500	10/05/21 05:23	
EPA 6020B	Arsenic	0.0026J	mg/L	0.020	09/30/21 22:50	
EPA 6020B	Boron	2.2J	mg/L	2.5	09/30/21 19:51	
EPA 6020B	Lithium	0.078	mg/L	0.050	09/30/21 22:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	84.0	mg/L	5.0	09/30/21 17:59	
SM 2320B-2011	Alkalinity, Total as CaCO3	84.0	mg/L	5.0	09/30/21 17:59	
SM 2540C-2011	Total Dissolved Solids	16200	mg/L	2500	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	6700	mg/L	90.0	09/28/21 01:30	
EPA 300.0 Rev 2.1 1993	Sulfate	918	mg/L	90.0	09/28/21 01:30	
92563385012	**T2-3HTS**					
	Performed by	CUSTOMER			09/27/21 11:45	
	pH	7.18	Std. Units		09/27/21 11:45	
EPA 6010D	Calcium	104	mg/L	2.0	10/05/21 08:27	
EPA 6010D	Magnesium	303	mg/L	2.0	10/05/21 08:27	
EPA 6010D	Potassium	97.6J	mg/L	100	10/05/21 08:27	
EPA 6010D	Sodium	2570	mg/L	500	10/05/21 05:26	
EPA 6020B	Arsenic	0.0023J	mg/L	0.020	09/30/21 20:22	
EPA 6020B	Boron	1.4	mg/L	1.0	09/30/21 20:22	
EPA 6020B	Lithium	0.048J	mg/L	0.050	09/30/21 20:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	61.5	mg/L	5.0	09/30/21 18:22	
SM 2320B-2011	Alkalinity, Total as CaCO3	61.5	mg/L	5.0	09/30/21 18:22	
SM 2540C-2011	Total Dissolved Solids	10000	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	4090	mg/L	90.0	09/28/21 01:46	
EPA 300.0 Rev 2.1 1993	Sulfate	540	mg/L	90.0	09/28/21 01:46	

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110 Technology Parkway
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(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385013	**T2-4HT**					
	Performed by	CUSTOMER			09/27/21 11:45	
	pH	6.96	Std. Units		09/27/21 11:45	
EPA 6010D	Calcium	154	mg/L	2.0	10/05/21 08:30	
EPA 6010D	Magnesium	460	mg/L	2.0	10/05/21 08:30	
EPA 6010D	Potassium	148	mg/L	100	10/05/21 08:30	
EPA 6010D	Sodium	3930	mg/L	500	10/05/21 05:29	
EPA 6020B	Arsenic	0.0019J	mg/L	0.020	09/30/21 22:58	
EPA 6020B	Boron	1.9J	mg/L	2.5	09/30/21 20:18	
EPA 6020B	Lithium	0.064	mg/L	0.050	09/30/21 22:58	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	77.1	mg/L	5.0	09/30/21 18:29	
SM 2320B-2011	Alkalinity, Total as CaCO3	77.1	mg/L	5.0	09/30/21 18:29	
SM 2540C-2011	Total Dissolved Solids	13600	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	5670	mg/L	90.0	09/28/21 02:01	
EPA 300.0 Rev 2.1 1993	Sulfate	768	mg/L	90.0	09/28/21 02:01	
92563385014	**T2-4HTS**					
	Performed by	CUSTOMER			09/27/21 11:47	
	pH	7.09	Std. Units		09/27/21 11:47	
EPA 6010D	Calcium	130	mg/L	2.0	10/05/21 08:33	
EPA 6010D	Magnesium	381	mg/L	2.0	10/05/21 08:33	
EPA 6010D	Potassium	123	mg/L	100	10/05/21 08:33	
EPA 6010D	Sodium	3230	mg/L	500	10/05/21 05:33	
EPA 6020B	Arsenic	0.0019J	mg/L	0.020	09/30/21 23:01	
EPA 6020B	Boron	1.4J	mg/L	2.5	09/30/21 20:29	
EPA 6020B	Lithium	0.053	mg/L	0.050	09/30/21 23:01	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	54.5	mg/L	5.0	10/04/21 20:27	
SM 2320B-2011	Alkalinity, Total as CaCO3	54.5	mg/L	5.0	10/04/21 20:27	
SM 2540C-2011	Total Dissolved Solids	12000	mg/L	1250	09/29/21 11:31	
EPA 300.0 Rev 2.1 1993	Chloride	5130	mg/L	90.0	09/28/21 02:49	
EPA 300.0 Rev 2.1 1993	Sulfate	694	mg/L	90.0	09/28/21 02:49	
92563385015	**T3-1HT**					
	Performed by	CUSTOMER			09/27/21 11:47	
	pH	7.12	Std. Units		09/27/21 11:47	
EPA 6010D	Calcium	88.6	mg/L	2.0	10/05/21 08:37	
EPA 6010D	Magnesium	252	mg/L	2.0	10/05/21 08:37	
EPA 6010D	Potassium	81.1J	mg/L	100	10/05/21 08:37	
EPA 6010D	Sodium	2150	mg/L	500	10/05/21 05:36	
EPA 6020B	Arsenic	0.0022J	mg/L	0.020	09/30/21 20:55	
EPA 6020B	Boron	1.2	mg/L	1.0	09/30/21 20:55	
EPA 6020B	Lithium	0.040J	mg/L	0.050	09/30/21 20:55	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	71.2	mg/L	5.0	10/04/21 20:35	
SM 2320B-2011	Alkalinity, Total as CaCO3	71.2	mg/L	5.0	10/04/21 20:35	
SM 2540C-2011	Total Dissolved Solids	8300	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	3230	mg/L	90.0	09/28/21 03:04	
EPA 300.0 Rev 2.1 1993	Sulfate	419	mg/L	90.0	09/28/21 03:04	

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110 Technology Parkway
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(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385016	**T3-2HT**					
	Performed by	CUSTOMER			09/27/21 11:47	
	pH	6.79	Std. Units		09/27/21 11:47	
EPA 6010D	Calcium	138	mg/L	2.0	10/05/21 08:40	
EPA 6010D	Magnesium	402	mg/L	2.0	10/05/21 08:40	
EPA 6010D	Potassium	130	mg/L	100	10/05/21 08:40	
EPA 6010D	Sodium	3430	mg/L	500	10/05/21 05:39	
EPA 6020B	Arsenic	0.0034J	mg/L	0.020	09/30/21 23:05	
EPA 6020B	Boron	1.8J	mg/L	2.5	09/30/21 20:45	
EPA 6020B	Lithium	0.071	mg/L	0.050	09/30/21 23:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	75.0	mg/L	5.0	10/04/21 20:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	75.0	mg/L	5.0	10/04/21 20:43	
SM 2540C-2011	Total Dissolved Solids	13400	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	5520	mg/L	90.0	09/28/21 03:20	
EPA 300.0 Rev 2.1 1993	Sulfate	744	mg/L	90.0	09/28/21 03:20	
92563385017	**T3-2HTS**					
	Performed by	CUSTOMER			09/27/21 11:47	
	pH	7.04	Std. Units		09/27/21 11:47	
EPA 6010D	Calcium	83.7	mg/L	2.0	10/05/21 08:50	
EPA 6010D	Magnesium	234	mg/L	2.0	10/05/21 08:50	
EPA 6010D	Potassium	77.2J	mg/L	100	10/05/21 08:50	
EPA 6010D	Sodium	2050	mg/L	500	10/05/21 05:42	
EPA 6020B	Arsenic	0.0021J	mg/L	0.020	09/30/21 20:59	
EPA 6020B	Boron	1.1	mg/L	1.0	09/30/21 20:59	
EPA 6020B	Lithium	0.034J	mg/L	0.050	09/30/21 20:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	55.6	mg/L	5.0	10/04/21 20:50	
SM 2320B-2011	Alkalinity, Total as CaCO3	55.6	mg/L	5.0	10/04/21 20:50	
SM 2540C-2011	Total Dissolved Solids	7450	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	3180	mg/L	90.0	09/28/21 03:36	
EPA 300.0 Rev 2.1 1993	Sulfate	410	mg/L	90.0	09/28/21 03:36	
92563385018	**T3-3HT**					
	Performed by	CUSTOMER			09/27/21 11:54	
	pH	6.92	Std. Units		09/27/21 11:54	
EPA 6010D	Calcium	156	mg/L	2.0	10/05/21 08:53	
EPA 6010D	Magnesium	467	mg/L	2.0	10/05/21 08:53	
EPA 6010D	Potassium	152	mg/L	100	10/05/21 08:53	
EPA 6010D	Sodium	4160	mg/L	500	10/05/21 05:46	
EPA 6020B	Arsenic	0.0024J	mg/L	0.020	09/30/21 23:12	
EPA 6020B	Boron	1.8J	mg/L	2.5	09/30/21 20:52	
EPA 6020B	Lithium	0.071	mg/L	0.050	09/30/21 23:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	82.7	mg/L	5.0	10/04/21 20:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	82.7	mg/L	5.0	10/04/21 20:57	
SM 2540C-2011	Total Dissolved Solids	14100	mg/L	2500	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	6340	mg/L	90.0	09/28/21 03:51	
EPA 300.0 Rev 2.1 1993	Sulfate	862	mg/L	90.0	09/28/21 03:51	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385019	**T3-3HTS**					
	Performed by	CUSTOMER			09/27/21 11:51	
	pH	7.24	Std. Units		09/27/21 11:51	
EPA 6010D	Calcium	70.4	mg/L	2.0	10/05/21 08:56	
EPA 6010D	Magnesium	193	mg/L	2.0	10/05/21 08:56	
EPA 6010D	Potassium	64.3J	mg/L	100	10/05/21 08:56	
EPA 6010D	Sodium	1690	mg/L	100	10/05/21 08:56	
EPA 6020B	Arsenic	0.0020J	mg/L	0.020	09/30/21 21:17	
EPA 6020B	Boron	0.83J	mg/L	1.0	09/30/21 21:17	
EPA 6020B	Lithium	0.027J	mg/L	0.050	09/30/21 21:17	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	45.4	mg/L	5.0	10/04/21 21:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	45.4	mg/L	5.0	10/04/21 21:05	
SM 2540C-2011	Total Dissolved Solids	6600	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	2500	mg/L	90.0	09/28/21 04:38	M1
EPA 300.0 Rev 2.1 1993	Sulfate	315	mg/L	90.0	09/28/21 04:38	
92563385020	**T3-4HT**					
	Performed by	CUSTOMER			09/27/21 11:51	
	pH	6.94	Std. Units		09/27/21 11:51	
EPA 6010D	Calcium	122	mg/L	2.0	10/05/21 09:00	
EPA 6010D	Magnesium	374	mg/L	2.0	10/05/21 09:00	
EPA 6010D	Potassium	121	mg/L	100	10/05/21 09:00	
EPA 6010D	Sodium	3860	mg/L	500	10/05/21 06:06	
EPA 6020B	Arsenic	0.0022J	mg/L	0.020	09/30/21 23:15	
EPA 6020B	Boron	1.8J	mg/L	2.5	09/30/21 21:21	
EPA 6020B	Lithium	0.069	mg/L	0.050	09/30/21 23:15	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	80.0	mg/L	5.0	10/04/21 21:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	80.0	mg/L	5.0	10/04/21 21:12	
SM 2540C-2011	Total Dissolved Solids	14200	mg/L	2500	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	6020	mg/L	90.0	09/28/21 05:57	
EPA 300.0 Rev 2.1 1993	Sulfate	815	mg/L	90.0	09/28/21 05:57	
92563385021	**T3-4HTS**					
	Performed by	CUSTOMER			09/27/21 11:51	
	pH	7.09	Std. Units		09/27/21 11:51	
EPA 6010D	Calcium	107	mg/L	2.0	10/05/21 06:09	M1
EPA 6010D	Magnesium	312	mg/L	2.0	10/05/21 06:09	M1
EPA 6010D	Potassium	103	mg/L	100	10/05/21 06:09	M1
EPA 6010D	Sodium	2640	mg/L	500	10/05/21 02:48	M1
EPA 6020B	Arsenic	0.0023J	mg/L	0.020	09/29/21 22:45	M1
EPA 6020B	Boron	1.0J	mg/L	2.5	09/30/21 16:35	M1
EPA 6020B	Lithium	0.041J	mg/L	0.050	09/30/21 19:16	M1
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	61.5	mg/L	5.0	10/05/21 20:58	
SM 2320B-2011	Alkalinity, Total as CaCO3	61.5	mg/L	5.0	10/05/21 20:58	
SM 2540C-2011	Total Dissolved Solids	9850	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	4080	mg/L	90.0	09/28/21 06:13	
EPA 300.0 Rev 2.1 1993	Sulfate	538	mg/L	90.0	09/28/21 06:13	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385022	**T4-1HB**					
	Performed by	CUSTOMER			09/27/21 11:51	
	pH	7.06	Std. Units		09/27/21 11:51	
EPA 6010D	Calcium	174	mg/L	2.0	10/05/21 06:22	
EPA 6010D	Magnesium	530	mg/L	2.0	10/05/21 06:22	
EPA 6010D	Potassium	170	mg/L	100	10/05/21 06:22	
EPA 6010D	Sodium	4540	mg/L	500	10/05/21 03:01	
EPA 6020B	Arsenic	0.0031J	mg/L	0.020	09/29/21 22:56	
EPA 6020B	Boron	1.8J	mg/L	2.5	09/30/21 16:42	
EPA 6020B	Lithium	0.077	mg/L	0.050	09/30/21 19:23	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	90.4	mg/L	5.0	10/05/21 21:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	90.4	mg/L	5.0	10/05/21 21:20	
SM 2540C-2011	Total Dissolved Solids	15500	mg/L	1250	09/28/21 17:33	
EPA 300.0 Rev 2.1 1993	Chloride	7160	mg/L	90.0	09/28/21 06:28	
EPA 300.0 Rev 2.1 1993	Sulfate	983	mg/L	90.0	09/28/21 06:28	
92563385023	**T4-1HS**					
	Performed by	CUSTOMER			09/27/21 11:54	
	pH	7.22	Std. Units		09/27/21 11:54	
EPA 6010D	Calcium	172	mg/L	2.0	10/05/21 06:25	
EPA 6010D	Magnesium	513	mg/L	2.0	10/05/21 06:25	
EPA 6010D	Potassium	169	mg/L	100	10/05/21 06:25	
EPA 6010D	Sodium	4400	mg/L	500	10/05/21 03:04	
EPA 6020B	Arsenic	0.0028J	mg/L	0.020	09/29/21 22:59	
EPA 6020B	Boron	1.8J	mg/L	2.5	09/30/21 16:50	
EPA 6020B	Lithium	0.067	mg/L	0.050	09/30/21 19:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	88.5	mg/L	5.0	10/05/21 21:37	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	88.5	mg/L	5.0	10/05/21 21:37	v1
SM 2540C-2011	Total Dissolved Solids	12900	mg/L	1250	09/28/21 17:33	
EPA 300.0 Rev 2.1 1993	Chloride	6540	mg/L	90.0	09/28/21 06:44	
EPA 300.0 Rev 2.1 1993	Sulfate	891	mg/L	90.0	09/28/21 06:44	
92563385024	**T4-2HB**					
	Performed by	CUSTOMER			09/27/21 11:54	
	pH	7.04	Std. Units		09/27/21 11:54	
EPA 6010D	Calcium	180	mg/L	2.0	10/05/21 06:29	
EPA 6010D	Magnesium	541	mg/L	2.0	10/05/21 06:29	
EPA 6010D	Potassium	179	mg/L	100	10/05/21 06:29	
EPA 6010D	Sodium	4870	mg/L	500	10/05/21 03:14	
EPA 6020B	Arsenic	0.0025J	mg/L	0.020	09/29/21 23:03	
EPA 6020B	Boron	2.0J	mg/L	2.5	09/30/21 16:57	
EPA 6020B	Lithium	0.076	mg/L	0.050	09/30/21 19:34	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	97.3	mg/L	5.0	10/05/21 21:45	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	97.3	mg/L	5.0	10/05/21 21:45	v1
SM 2540C-2011	Total Dissolved Solids	15800	mg/L	1250	09/28/21 17:33	
EPA 300.0 Rev 2.1 1993	Chloride	7420	mg/L	90.0	09/28/21 07:00	
EPA 300.0 Rev 2.1 1993	Sulfate	1020	mg/L	90.0	09/28/21 07:00	

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385025	**T4-2HS**					
	Performed by	CUSTOMER			09/27/21 11:55	
	pH	7.13	Std. Units		09/27/21 11:55	
EPA 6010D	Calcium	170	mg/L	2.0	10/05/21 06:32	
EPA 6010D	Magnesium	504	mg/L	2.0	10/05/21 06:32	
EPA 6010D	Potassium	166	mg/L	100	10/05/21 06:32	
EPA 6010D	Sodium	4440	mg/L	500	10/05/21 03:17	
EPA 6020B	Arsenic	0.0028J	mg/L	0.020	09/29/21 23:06	
EPA 6020B	Boron	1.8J	mg/L	2.5	09/30/21 17:04	
EPA 6020B	Lithium	0.069	mg/L	0.050	09/30/21 19:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	90.5	mg/L	5.0	10/05/21 21:55	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	90.5	mg/L	5.0	10/05/21 21:55	v1
SM 2540C-2011	Total Dissolved Solids	14800	mg/L	1250	09/28/21 17:34	
EPA 300.0 Rev 2.1 1993	Chloride	6730	mg/L	90.0	09/28/21 07:15	
EPA 300.0 Rev 2.1 1993	Sulfate	918	mg/L	90.0	09/28/21 07:15	
92563385026	**T4-3HB**					
	Performed by	CUSTOMER			09/27/21 11:55	
	pH	7.04	Std. Units		09/27/21 11:55	
EPA 6010D	Calcium	168	mg/L	2.0	10/05/21 06:35	
EPA 6010D	Magnesium	506	mg/L	2.0	10/05/21 06:35	
EPA 6010D	Potassium	168	mg/L	100	10/05/21 06:35	
EPA 6010D	Sodium	4800	mg/L	500	10/05/21 03:21	
EPA 6020B	Arsenic	0.0025J	mg/L	0.020	09/29/21 23:10	
EPA 6020B	Boron	2.1J	mg/L	2.5	09/30/21 17:24	
EPA 6020B	Lithium	0.076	mg/L	0.050	09/30/21 19:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	92.0	mg/L	5.0	10/05/21 22:03	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	92.0	mg/L	5.0	10/05/21 22:03	v1
SM 2540C-2011	Total Dissolved Solids	16000	mg/L	1250	09/28/21 17:34	
EPA 300.0 Rev 2.1 1993	Chloride	7410	mg/L	90.0	09/28/21 07:31	
EPA 300.0 Rev 2.1 1993	Sulfate	1020	mg/L	90.0	09/28/21 07:31	
92563385027	**T4-3HS**					
	Performed by	CUSTOMER			09/27/21 11:55	
	pH	7.16	Std. Units		09/27/21 11:55	
EPA 6010D	Calcium	168	mg/L	2.0	10/05/21 06:45	
EPA 6010D	Magnesium	502	mg/L	2.0	10/05/21 06:45	
EPA 6010D	Potassium	165	mg/L	100	10/05/21 06:45	
EPA 6010D	Sodium	4600	mg/L	500	10/05/21 03:24	
EPA 6020B	Arsenic	0.0027J	mg/L	0.020	09/29/21 23:13	
EPA 6020B	Boron	1.9J	mg/L	2.5	09/30/21 17:31	
EPA 6020B	Lithium	0.072	mg/L	0.050	09/30/21 20:06	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	92.4	mg/L	5.0	10/05/21 22:12	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	92.4	mg/L	5.0	10/05/21 22:12	v1
SM 2540C-2011	Total Dissolved Solids	15400	mg/L	1250	09/28/21 17:34	
EPA 300.0 Rev 2.1 1993	Chloride	6790	mg/L	90.0	09/28/21 07:47	
EPA 300.0 Rev 2.1 1993	Sulfate	928	mg/L	90.0	09/28/21 07:47	

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
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(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385028	**T4-4HB**					
	Performed by	CUSTOMER			09/27/21 11:56	
	pH	7.08	Std. Units		09/27/21 11:56	
EPA 6010D	Calcium	167	mg/L	2.0	10/05/21 06:48	
EPA 6010D	Magnesium	499	mg/L	2.0	10/05/21 06:48	
EPA 6010D	Potassium	165	mg/L	100	10/05/21 06:48	
EPA 6010D	Sodium	4620	mg/L	500	10/05/21 03:27	
EPA 6020B	Arsenic	0.0027J	mg/L	0.020	09/29/21 23:17	
EPA 6020B	Boron	2.0J	mg/L	2.5	09/30/21 17:38	
EPA 6020B	Lithium	0.081	mg/L	0.050	09/30/21 20:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	92.5	mg/L	5.0	10/05/21 22:21	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	92.5	mg/L	5.0	10/05/21 22:21	v1
SM 2540C-2011	Total Dissolved Solids	16400	mg/L	1250	09/28/21 17:34	
EPA 300.0 Rev 2.1 1993	Chloride	7310	mg/L	90.0	09/28/21 08:02	
EPA 300.0 Rev 2.1 1993	Sulfate	1090	mg/L	90.0	09/28/21 08:02	
92563385029	**T4-4HS**					
	Performed by	CUSTOMER			09/27/21 11:56	
	pH	7.17	Std. Units		09/27/21 11:56	
EPA 6010D	Calcium	186	mg/L	2.0	10/05/21 06:52	
EPA 6010D	Magnesium	547	mg/L	2.0	10/05/21 06:52	
EPA 6010D	Potassium	180	mg/L	100	10/05/21 06:52	
EPA 6010D	Sodium	4810	mg/L	500	10/05/21 03:31	
EPA 6020B	Arsenic	0.0028J	mg/L	0.020	09/29/21 23:31	
EPA 6020B	Boron	2.1J	mg/L	2.5	09/30/21 17:45	
EPA 6020B	Lithium	0.087	mg/L	0.050	09/29/21 23:31	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	88.9	mg/L	5.0	10/05/21 22:29	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	88.9	mg/L	5.0	10/05/21 22:29	v1
SM 2540C-2011	Total Dissolved Solids	16200	mg/L	1250	09/28/21 17:34	
EPA 300.0 Rev 2.1 1993	Chloride	7220	mg/L	90.0	09/28/21 08:18	M1
EPA 300.0 Rev 2.1 1993	Sulfate	994	mg/L	90.0	09/28/21 08:18	M1
92563385030	**T4-1L**					
	Performed by	CUSTOMER			09/27/21 11:56	
	pH	7.35	Std. Units		09/27/21 11:56	
EPA 6010D	Calcium	165	mg/L	2.0	10/05/21 06:55	
EPA 6010D	Magnesium	495	mg/L	2.0	10/05/21 06:55	
EPA 6010D	Potassium	165	mg/L	100	10/05/21 06:55	
EPA 6010D	Sodium	4650	mg/L	500	10/05/21 03:34	
EPA 6020B	Arsenic	0.0042J	mg/L	0.020	09/29/21 23:34	
EPA 6020B	Boron	1.7J	mg/L	2.5	09/30/21 17:52	
EPA 6020B	Lithium	0.088	mg/L	0.050	09/29/21 23:34	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	90.3	mg/L	5.0	10/05/21 22:38	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	90.3	mg/L	5.0	10/05/21 22:38	v1
SM 2540C-2011	Total Dissolved Solids	15600	mg/L	1250	09/28/21 17:34	
EPA 300.0 Rev 2.1 1993	Chloride	6920	mg/L	90.0	09/28/21 10:09	
EPA 300.0 Rev 2.1 1993	Sulfate	944	mg/L	90.0	09/28/21 10:09	

REPORT OF LABORATORY ANALYSIS

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(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385031	**T4-2L**					
	Performed by	CUSTOMER			09/27/21 11:56	
	pH	7.31	Std. Units		09/27/21 11:56	
EPA 6010D	Calcium	174	mg/L	2.0	10/05/21 06:58	
EPA 6010D	Magnesium	512	mg/L	2.0	10/05/21 06:58	
EPA 6010D	Potassium	170	mg/L	100	10/05/21 06:58	
EPA 6010D	Sodium	4520	mg/L	500	10/05/21 03:37	
EPA 6020B	Arsenic	0.0040J	mg/L	0.020	09/29/21 23:38	
EPA 6020B	Boron	2.0J	mg/L	2.5	09/30/21 18:09	
EPA 6020B	Lithium	0.090	mg/L	0.050	09/29/21 23:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	94.8	mg/L	5.0	10/05/21 22:46	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	94.8	mg/L	5.0	10/05/21 22:46	v1
SM 2540C-2011	Total Dissolved Solids	14800	mg/L	1250	09/28/21 17:36	
EPA 300.0 Rev 2.1 1993	Chloride	6820	mg/L	90.0	09/28/21 10:24	
EPA 300.0 Rev 2.1 1993	Sulfate	933	mg/L	90.0	09/28/21 10:24	
92563385032	**T4-3L**					
	Performed by	CUSTOMER			09/27/21 11:57	
	pH	7.38	Std. Units		09/27/21 11:57	
EPA 6010D	Calcium	182	mg/L	2.0	10/05/21 20:44	
EPA 6010D	Magnesium	542	mg/L	2.0	10/05/21 20:44	
EPA 6010D	Potassium	178	mg/L	100	10/05/21 20:44	
EPA 6020B	Arsenic	0.0037J	mg/L	0.020	09/29/21 23:42	
EPA 6020B	Boron	1.7J	mg/L	2.5	09/30/21 18:16	
EPA 6020B	Lithium	0.086	mg/L	0.050	09/29/21 23:42	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	95.8	mg/L	5.0	10/05/21 23:20	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	95.8	mg/L	5.0	10/05/21 23:20	v1
SM 2540C-2011	Total Dissolved Solids	15200	mg/L	1250	09/28/21 17:36	
EPA 300.0 Rev 2.1 1993	Chloride	7160	mg/L	90.0	09/28/21 10:40	
EPA 300.0 Rev 2.1 1993	Sulfate	966	mg/L	90.0	09/28/21 10:40	
92563385033	**T4-4L**					
	Performed by	CUSTOMER			09/27/21 11:57	
	pH	7.32	Std. Units		09/27/21 11:57	
EPA 6010D	Calcium	313	mg/L	2.0	10/05/21 07:05	
EPA 6010D	Magnesium	953	mg/L	2.0	10/05/21 07:05	
EPA 6010D	Potassium	307	mg/L	100	10/05/21 07:05	
EPA 6010D	Sodium	4500	mg/L	500	10/05/21 03:44	
EPA 6020B	Arsenic	0.0035J	mg/L	0.020	09/29/21 23:53	
EPA 6020B	Boron	1.9J	mg/L	2.5	09/30/21 18:24	
EPA 6020B	Lithium	0.086	mg/L	0.050	09/29/21 23:53	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	95.1	mg/L	5.0	10/05/21 23:29	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	95.1	mg/L	5.0	10/05/21 23:29	v1
SM 2540C-2011	Total Dissolved Solids	15200	mg/L	1250	09/28/21 17:36	
EPA 300.0 Rev 2.1 1993	Chloride	6830	mg/L	90.0	09/28/21 10:56	
EPA 300.0 Rev 2.1 1993	Sulfate	1250	mg/L	90.0	09/28/21 10:56	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385034	**BG-2HT**					
	Performed by	CUSTOMER			09/27/21 11:57	
	pH	7.13	Std. Units		09/27/21 11:57	
EPA 6010D	Calcium	178	mg/L	2.0	10/05/21 07:08	
EPA 6010D	Magnesium	524	mg/L	2.0	10/05/21 07:08	
EPA 6010D	Potassium	171	mg/L	100	10/05/21 07:08	
EPA 6010D	Sodium	6380	mg/L	500	10/05/21 04:00	
EPA 6020B	Arsenic	0.0040J	mg/L	0.020	09/29/21 23:56	
EPA 6020B	Boron	2.8	mg/L	2.5	09/30/21 18:31	
EPA 6020B	Lithium	0.14	mg/L	0.050	09/29/21 23:56	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	5.0	10/05/21 23:38	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	108	mg/L	5.0	10/05/21 23:38	v1
SM 2540C-2011	Total Dissolved Solids	21100	mg/L	2500	09/28/21 17:36	
EPA 300.0 Rev 2.1 1993	Chloride	9780	mg/L	100	09/28/21 13:02	
EPA 300.0 Rev 2.1 1993	Sulfate	1710	mg/L	90.0	09/28/21 11:11	
92563385035	**DUP-1**					
EPA 6010D	Calcium	192	mg/L	2.0	10/05/21 07:12	
EPA 6010D	Magnesium	572	mg/L	2.0	10/05/21 07:12	
EPA 6010D	Potassium	185	mg/L	100	10/05/21 07:12	
EPA 6010D	Sodium	4880	mg/L	500	10/05/21 04:04	
EPA 6020B	Arsenic	0.0027J	mg/L	0.020	09/30/21 00:00	
EPA 6020B	Boron	1.9J	mg/L	2.5	09/30/21 18:38	
EPA 6020B	Lithium	0.089	mg/L	0.050	09/30/21 00:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	89.8	mg/L	5.0	10/05/21 23:48	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	89.8	mg/L	5.0	10/05/21 23:48	v1
SM 2540C-2011	Total Dissolved Solids	16600	mg/L	1250	09/28/21 17:36	
EPA 300.0 Rev 2.1 1993	Chloride	7310	mg/L	90.0	09/28/21 11:27	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	90.0	09/28/21 11:27	
92563385036	**DUP-2**					
EPA 6010D	Calcium	119	mg/L	2.0	10/05/21 07:15	
EPA 6010D	Magnesium	346	mg/L	2.0	10/05/21 07:15	
EPA 6010D	Potassium	116	mg/L	100	10/05/21 07:15	
EPA 6010D	Sodium	3030	mg/L	500	10/05/21 04:07	
EPA 6020B	Arsenic	0.0021J	mg/L	0.020	09/30/21 00:03	
EPA 6020B	Boron	1.2	mg/L	1.0	09/30/21 18:45	
EPA 6020B	Lithium	0.056	mg/L	0.050	09/30/21 00:03	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	66.5	mg/L	5.0	10/07/21 14:48	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	66.5	mg/L	5.0	10/07/21 14:48	v1
SM 2540C-2011	Total Dissolved Solids	10600	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	4780	mg/L	90.0	09/28/21 12:14	
EPA 300.0 Rev 2.1 1993	Sulfate	650	mg/L	90.0	09/28/21 12:14	
92563385037	**DUP-3**					
EPA 6010D	Calcium	139	mg/L	2.0	10/05/21 07:25	
EPA 6010D	Magnesium	412	mg/L	2.0	10/05/21 07:25	
EPA 6010D	Potassium	138	mg/L	100	10/05/21 07:25	
EPA 6010D	Sodium	3640	mg/L	500	10/05/21 04:10	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385037	**DUP-3**					
EPA 6020B	Arsenic	0.0024J	mg/L	0.020	09/30/21 00:07	
EPA 6020B	Boron	1.5	mg/L	1.0	09/30/21 18:52	
EPA 6020B	Lithium	0.070	mg/L	0.050	09/30/21 00:07	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	80.0	mg/L	5.0	10/07/21 14:56	v1
SM 2320B-2011	Alkalinity, Total as CaCO3	80.0	mg/L	5.0	10/07/21 14:56	v1
SM 2540C-2011	Total Dissolved Solids	13600	mg/L	1250	09/29/21 11:34	
EPA 300.0 Rev 2.1 1993	Chloride	5890	mg/L	90.0	09/28/21 12:30	
EPA 300.0 Rev 2.1 1993	Sulfate	799	mg/L	90.0	09/28/21 12:30	
92563385040	**T1-1LT**					
	Performed by	CUSTOMER			10/01/21 13:41	
	pH	6.99	Std. Units		10/01/21 13:41	
EPA 6010D	Calcium	141	mg/L	2.0	10/11/21 20:27	M1
EPA 6010D	Magnesium	411	mg/L	2.0	10/11/21 20:27	M1
EPA 6010D	Potassium	130	mg/L	100	10/11/21 20:27	M1
EPA 6010D	Sodium	3530	mg/L	500	10/11/21 19:16	M1
EPA 6020B	Arsenic	0.0014J	mg/L	0.015	10/03/21 17:57	
EPA 6020B	Boron	1.1	mg/L	0.75	10/03/21 17:57	
EPA 6020B	Lithium	0.042	mg/L	0.038	10/03/21 17:57	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	76.2	mg/L	5.0	10/07/21 19:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	76.2	mg/L	5.0	10/07/21 19:53	
SM 2540C-2011	Total Dissolved Solids	11600	mg/L	1250	10/04/21 17:58	
EPA 300.0 Rev 2.1 1993	Chloride	5160	mg/L	100	10/02/21 13:54	
EPA 300.0 Rev 2.1 1993	Sulfate	689	mg/L	100	10/02/21 13:54	
92563385041	**T1-2LT**					
	Performed by	CUSTOMER			10/01/21 13:42	
	pH	7.00	Std. Units		10/01/21 13:42	
EPA 6010D	Calcium	132	mg/L	2.0	10/11/21 20:49	
EPA 6010D	Magnesium	388	mg/L	2.0	10/11/21 20:49	
EPA 6010D	Potassium	124	mg/L	100	10/11/21 20:49	
EPA 6010D	Sodium	3320	mg/L	500	10/11/21 19:29	
EPA 6020B	Arsenic	0.0014J	mg/L	0.015	10/03/21 18:19	
EPA 6020B	Boron	1.1	mg/L	0.75	10/03/21 18:19	
EPA 6020B	Lithium	0.041	mg/L	0.038	10/03/21 18:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	67.5	mg/L	5.0	10/11/21 18:49	
SM 2320B-2011	Alkalinity, Total as CaCO3	67.5	mg/L	5.0	10/11/21 18:49	
SM 2540C-2011	Total Dissolved Solids	11200	mg/L	1250	10/04/21 17:58	
EPA 300.0 Rev 2.1 1993	Chloride	5110	mg/L	100	10/02/21 14:09	
EPA 300.0 Rev 2.1 1993	Sulfate	679	mg/L	100	10/02/21 14:09	
92563385042	**T1-3LT**					
	Performed by	CUSTOMER			10/01/21 13:42	
	pH	7.14	Std. Units		10/01/21 13:42	
EPA 6010D	Calcium	125	mg/L	2.0	10/11/21 20:52	
EPA 6010D	Magnesium	360	mg/L	2.0	10/11/21 20:52	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385042	**T1-3LT**					
EPA 6010D	Potassium	116	mg/L	100	10/11/21 20:52	
EPA 6010D	Sodium	3110	mg/L	500	10/11/21 19:32	
EPA 6020B	Arsenic	0.0016J	mg/L	0.015	10/03/21 18:28	
EPA 6020B	Boron	1.0	mg/L	0.75	10/03/21 18:28	
EPA 6020B	Lithium	0.038	mg/L	0.038	10/03/21 18:28	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	66.6	mg/L	5.0	10/11/21 18:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	66.6	mg/L	5.0	10/11/21 18:57	
SM 2540C-2011	Total Dissolved Solids	11900	mg/L	1250	10/04/21 18:00	
EPA 300.0 Rev 2.1 1993	Chloride	4680	mg/L	100	10/02/21 14:25	
EPA 300.0 Rev 2.1 1993	Sulfate	614	mg/L	100	10/02/21 14:25	
92563385043	**T1-4LT**					
	Performed by	CUSTOMER			10/01/21 13:42	
	pH	7.09	Std. Units		10/01/21 13:42	
EPA 6010D	Calcium	101	mg/L	2.0	10/11/21 20:55	
EPA 6010D	Magnesium	288	mg/L	2.0	10/11/21 20:55	
EPA 6010D	Potassium	90.7J	mg/L	100	10/11/21 20:55	D3
EPA 6010D	Sodium	2410	mg/L	500	10/11/21 19:35	
EPA 6020B	Arsenic	0.0019J	mg/L	0.015	10/03/21 19:00	
EPA 6020B	Boron	1.2	mg/L	0.75	10/03/21 19:00	
EPA 6020B	Lithium	0.046	mg/L	0.038	10/03/21 19:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	60.8	mg/L	5.0	10/11/21 19:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	60.8	mg/L	5.0	10/11/21 19:05	
SM 2540C-2011	Total Dissolved Solids	8100	mg/L	833	10/04/21 18:00	
EPA 300.0 Rev 2.1 1993	Chloride	3850	mg/L	100	10/02/21 14:41	
EPA 300.0 Rev 2.1 1993	Sulfate	496	mg/L	100	10/02/21 14:41	
92563385044	**T2-2LT**					
	Performed by	CUSTOMER			10/01/21 13:42	
	pH	7.16	Std. Units		10/01/21 13:42	
EPA 6010D	Calcium	124	mg/L	2.0	10/11/21 20:59	
EPA 6010D	Magnesium	358	mg/L	2.0	10/11/21 20:59	
EPA 6010D	Potassium	115	mg/L	100	10/11/21 20:59	
EPA 6010D	Sodium	3080	mg/L	500	10/11/21 19:39	
EPA 6020B	Arsenic	0.0016J	mg/L	0.015	10/03/21 19:07	
EPA 6020B	Boron	0.91	mg/L	0.75	10/03/21 19:07	
EPA 6020B	Lithium	0.036J	mg/L	0.038	10/03/21 19:07	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	69.9	mg/L	5.0	10/11/21 19:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	69.9	mg/L	5.0	10/11/21 19:12	
SM 2540C-2011	Total Dissolved Solids	10000	mg/L	1250	10/04/21 18:00	
EPA 300.0 Rev 2.1 1993	Chloride	4530	mg/L	100	10/02/21 14:56	
EPA 300.0 Rev 2.1 1993	Sulfate	586	mg/L	100	10/02/21 14:56	
92563385045	**T2-3LT**					
	Performed by	CUSTOMER			10/01/21 13:43	
	pH	7.15	Std. Units		10/01/21 13:43	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385045	**T2-3LT**					
EPA 6010D	Calcium	129	mg/L	2.0	10/11/21 21:02	
EPA 6010D	Magnesium	372	mg/L	2.0	10/11/21 21:02	
EPA 6010D	Potassium	119	mg/L	100	10/11/21 21:02	
EPA 6010D	Sodium	3200	mg/L	500	10/11/21 19:42	
EPA 6020B	Arsenic	0.0016J	mg/L	0.015	10/03/21 19:19	
EPA 6020B	Boron	1.1	mg/L	0.75	10/03/21 19:19	
EPA 6020B	Lithium	0.041	mg/L	0.038	10/03/21 19:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	69.0	mg/L	5.0	10/11/21 19:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	69.0	mg/L	5.0	10/11/21 19:20	
SM 2540C-2011	Total Dissolved Solids	11400	mg/L	1250	10/04/21 18:00	
EPA 300.0 Rev 2.1 1993	Chloride	5020	mg/L	100	10/02/21 15:44	
EPA 300.0 Rev 2.1 1993	Sulfate	664	mg/L	100	10/02/21 15:44	
92563385046	**T2-4LT**					
	Performed by	CUSTOMER			10/01/21 13:43	
	pH	6.97	Std. Units		10/01/21 13:43	
EPA 6010D	Calcium	80.1	mg/L	2.0	10/11/21 21:05	D3
EPA 6010D	Magnesium	222	mg/L	2.0	10/11/21 21:05	
EPA 6010D	Potassium	70.6J	mg/L	100	10/11/21 21:05	D3
EPA 6010D	Sodium	1880	mg/L	100	10/11/21 21:05	
EPA 6020B	Boron	0.58J	mg/L	0.75	10/03/21 19:26	
EPA 6020B	Lithium	0.022J	mg/L	0.038	10/03/21 19:26	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	54.1	mg/L	5.0	10/11/21 19:28	
SM 2320B-2011	Alkalinity, Total as CaCO3	54.1	mg/L	5.0	10/11/21 19:28	
SM 2540C-2011	Total Dissolved Solids	6770	mg/L	833	10/04/21 18:00	
EPA 300.0 Rev 2.1 1993	Chloride	2870	mg/L	100	10/02/21 15:59	
EPA 300.0 Rev 2.1 1993	Sulfate	361	mg/L	100	10/02/21 15:59	
92563385047	**T3-2LT**					
	Performed by	CUSTOMER			10/01/21 13:44	
	pH	7.13	Std. Units		10/01/21 13:44	
EPA 6010D	Calcium	107	mg/L	2.0	10/11/21 21:08	
EPA 6010D	Magnesium	301	mg/L	2.0	10/11/21 21:08	
EPA 6010D	Potassium	96.8J	mg/L	100	10/11/21 21:08	D3
EPA 6010D	Sodium	2600	mg/L	500	10/11/21 20:01	
EPA 6020B	Arsenic	0.0015J	mg/L	0.015	10/03/21 19:33	
EPA 6020B	Boron	0.75J	mg/L	0.75	10/03/21 19:33	
EPA 6020B	Lithium	0.029J	mg/L	0.038	10/03/21 19:33	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	64.1	mg/L	5.0	10/11/21 19:35	
SM 2320B-2011	Alkalinity, Total as CaCO3	64.1	mg/L	5.0	10/11/21 19:35	
SM 2540C-2011	Total Dissolved Solids	9170	mg/L	833	10/04/21 18:02	
EPA 300.0 Rev 2.1 1993	Chloride	3960	mg/L	100	10/02/21 16:15	
EPA 300.0 Rev 2.1 1993	Sulfate	503	mg/L	100	10/02/21 16:15	
92563385048	**T3-3LT**					
	Performed by	CUSTOMER			10/01/21 13:44	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385048	**T3-3LT**					
	pH	6.89	Std. Units		10/01/21 13:44	
EPA 6010D	Calcium	101	mg/L	2.0	10/11/21 21:12	
EPA 6010D	Magnesium	289	mg/L	2.0	10/11/21 21:12	
EPA 6010D	Potassium	90.0J	mg/L	100	10/11/21 21:12	D3
EPA 6010D	Sodium	2460	mg/L	500	10/11/21 20:05	
EPA 6020B	Arsenic	0.0015J	mg/L	0.015	10/03/21 19:40	
EPA 6020B	Boron	0.75	mg/L	0.75	10/03/21 19:40	
EPA 6020B	Lithium	0.028J	mg/L	0.038	10/03/21 19:40	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	62.5	mg/L	5.0	10/11/21 19:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	62.5	mg/L	5.0	10/11/21 19:52	
SM 2540C-2011	Total Dissolved Solids	8670	mg/L	833	10/04/21 18:02	
EPA 300.0 Rev 2.1 1993	Chloride	3740	mg/L	100	10/02/21 16:31	
EPA 300.0 Rev 2.1 1993	Sulfate	475	mg/L	100	10/02/21 16:31	
92563385049	**T3-4LT**					
	Performed by	CUSTOMER			10/01/21 13:44	
	pH	6.90	Std. Units		10/01/21 13:44	
EPA 6010D	Calcium	84.1	mg/L	2.0	10/11/21 21:21	D3
EPA 6010D	Magnesium	232	mg/L	2.0	10/11/21 21:21	
EPA 6010D	Potassium	73.1J	mg/L	100	10/11/21 21:21	D3
EPA 6010D	Sodium	1990	mg/L	100	10/11/21 21:21	
EPA 6020B	Boron	0.65J	mg/L	0.75	10/03/21 19:47	
EPA 6020B	Lithium	0.025J	mg/L	0.038	10/03/21 19:47	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	56.2	mg/L	5.0	10/11/21 20:00	
SM 2320B-2011	Alkalinity, Total as CaCO3	56.2	mg/L	5.0	10/11/21 20:00	
SM 2540C-2011	Total Dissolved Solids	8070	mg/L	833	10/04/21 18:02	
EPA 300.0 Rev 2.1 1993	Chloride	3110	mg/L	100	10/02/21 16:46	M1
EPA 300.0 Rev 2.1 1993	Sulfate	396	mg/L	100	10/02/21 16:46	M1
92563385050	**BG-1LT**					
	Performed by	CUSTOMER			10/01/21 13:44	
	pH	6.90	Std. Units		10/01/21 13:44	
EPA 6010D	Calcium	147	mg/L	2.0	10/11/21 21:24	
EPA 6010D	Magnesium	434	mg/L	2.0	10/11/21 21:24	
EPA 6010D	Potassium	138	mg/L	100	10/11/21 21:24	
EPA 6010D	Sodium	3720	mg/L	500	10/11/21 20:11	
EPA 6020B	Arsenic	0.0027J	mg/L	0.015	10/03/21 20:01	
EPA 6020B	Boron	1.3	mg/L	0.75	10/03/21 20:01	
EPA 6020B	Lithium	0.060	mg/L	0.038	10/03/21 20:01	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	78.2	mg/L	5.0	10/11/21 20:07	
SM 2320B-2011	Alkalinity, Total as CaCO3	78.2	mg/L	5.0	10/11/21 20:07	
SM 2540C-2011	Total Dissolved Solids	13400	mg/L	1250	10/04/21 18:02	
EPA 300.0 Rev 2.1 1993	Chloride	5520	mg/L	100	10/02/21 17:33	
EPA 300.0 Rev 2.1 1993	Sulfate	725	mg/L	100	10/02/21 17:33	
92563385051	**DUP-4**					
EPA 6010D	Calcium	101	mg/L	2.0	10/11/21 21:28	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92563385051	**DUP-4**					
EPA 6010D	Magnesium	283	mg/L	2.0	10/11/21 21:28	
EPA 6010D	Potassium	90.2J	mg/L	100	10/11/21 21:28	D3
EPA 6010D	Sodium	2400	mg/L	500	10/11/21 20:14	
EPA 6020B	Boron	0.74J	mg/L	0.75	10/03/21 20:08	
EPA 6020B	Lithium	0.027J	mg/L	0.038	10/03/21 20:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	61.2	mg/L	5.0	10/11/21 20:15	
SM 2320B-2011	Alkalinity, Total as CaCO3	61.2	mg/L	5.0	10/11/21 20:15	
SM 2540C-2011	Total Dissolved Solids	8300	mg/L	833	10/04/21 18:02	
EPA 300.0 Rev 2.1 1993	Chloride	3770	mg/L	100	10/02/21 17:49	
EPA 300.0 Rev 2.1 1993	Sulfate	478	mg/L	100	10/02/21 17:49	
92563385052	**DUP-5**					
EPA 6010D	Calcium	129	mg/L	2.0	10/11/21 21:31	
EPA 6010D	Magnesium	370	mg/L	2.0	10/11/21 21:31	
EPA 6010D	Potassium	121	mg/L	100	10/11/21 21:31	
EPA 6010D	Sodium	3190	mg/L	500	10/11/21 20:18	
EPA 6020B	Boron	0.94	mg/L	0.75	10/03/21 20:15	
EPA 6020B	Lithium	0.036J	mg/L	0.038	10/03/21 20:15	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	68.8	mg/L	5.0	10/11/21 20:23	
SM 2320B-2011	Alkalinity, Total as CaCO3	68.8	mg/L	5.0	10/11/21 20:23	
SM 2540C-2011	Total Dissolved Solids	11000	mg/L	1250	10/04/21 18:02	
EPA 300.0 Rev 2.1 1993	Chloride	4920	mg/L	100	10/02/21 18:05	
EPA 300.0 Rev 2.1 1993	Sulfate	637	mg/L	100	10/02/21 18:05	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-1HT **Lab ID: 92563385001** Collected: 09/23/21 12:07 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:42		
pH	**7.05**	Std. Units			1		09/27/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**126**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:28	7440-70-2	M1
Magnesium	**366**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:28	7439-95-4	M1
Potassium	**122**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:28	7440-09-7	M1
Sodium	**3230**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 20:47	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0027J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 21:49	7440-38-2	
Boron	**1.7J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/29/21 16:45	7440-42-8	M1
Lithium	**0.060**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 21:49	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**66.7**	mg/L	5.0	5.0	1		10/06/21 16:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/06/21 16:12		
Alkalinity, Total as CaCO3	**66.7**	mg/L	5.0	5.0	1		10/06/21 16:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11800**	mg/L	1250	1250	1		09/29/21 11:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4790**	mg/L	90.0	54.0	90		09/28/21 13:17	16887-00-6	
Fluoride	ND	mg/L	2.0	1.0	20		09/27/21 21:50	16984-48-8	D3
Sulfate	**668**	mg/L	20.0	10.0	20		09/27/21 21:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-2HT **Lab ID: 92563385002** Collected: 09/23/21 12:13 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:42		
pH	**6.97**	Std. Units			1		09/27/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**185**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:41	7440-70-2	
Magnesium	**538**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:41	7439-95-4	
Potassium	**177**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:41	7440-09-7	
Sodium	**4650**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:47	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0025J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:04	7440-38-2	
Boron	**2.1J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:12	7440-42-8	
Lithium	**0.076**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:04	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**87.9**	mg/L	5.0	5.0	1		10/06/21 16:18		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/06/21 16:18		
Alkalinity, Total as CaCO3	**87.9**	mg/L	5.0	5.0	1		10/06/21 16:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**18300**	mg/L	2500	2500	1		09/29/21 11:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7100**	mg/L	90.0	54.0	90		09/28/21 13:33	16887-00-6	
Fluoride	ND	mg/L	2.0	1.0	20		09/27/21 22:06	16984-48-8	D3
Sulfate	**982**	mg/L	20.0	10.0	20		09/27/21 22:06	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-2HTS **Lab ID: 92563385003** Collected: 09/23/21 12:17 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:42		
pH	**7.15**	Std. Units			1		09/27/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**124**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:44	7440-70-2	
Magnesium	**351**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:44	7439-95-4	
Potassium	**118**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:44	7440-09-7	
Sodium	**3060**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:50	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0025J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:07	7440-38-2	
Boron	**1.5J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:15	7440-42-8	
Lithium	**0.057**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:07	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**64.6**	mg/L	5.0	5.0	1		10/06/21 16:25		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/06/21 16:25		
Alkalinity, Total as CaCO3	**64.6**	mg/L	5.0	5.0	1		10/06/21 16:25		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**12000**	mg/L	1250	1250	1		09/29/21 11:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4750**	mg/L	90.0	54.0	90		09/28/21 13:49	16887-00-6	
Fluoride	ND	mg/L	5.0	2.5	50		09/27/21 22:21	16984-48-8	D3
Sulfate	**1670**	mg/L	50.0	25.0	50		09/27/21 22:21	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-3HT **Lab ID: 92563385004** Collected: 09/23/21 12:28 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:42		
pH	**6.99**	Std. Units			1		09/27/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**173**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:48	7440-70-2	
Magnesium	**499**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:48	7439-95-4	
Potassium	**166**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:48	7440-09-7	
Sodium	**4400**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:53	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0021J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:14	7440-38-2	
Boron	**2.0J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:22	7440-42-8	
Lithium	**0.073**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:14	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**90.2**	mg/L	5.0	5.0	1		10/06/21 16:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/06/21 16:31		
Alkalinity, Total as CaCO3	**90.2**	mg/L	5.0	5.0	1		10/06/21 16:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15700**	mg/L	2500	2500	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6880**	mg/L	90.0	54.0	90		09/28/21 14:04	16887-00-6	
Fluoride	ND	mg/L	5.0	2.5	50		09/27/21 22:37	16984-48-8	D3
Sulfate	**953**	mg/L	50.0	25.0	50		09/27/21 22:37	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-3HTS **Lab ID: 92563385005** Collected: 09/23/21 12:23 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:43		
pH	**7.08**	Std. Units			1		09/27/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**131**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:51	7440-70-2	
Magnesium	**375**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:51	7439-95-4	
Potassium	**124**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:51	7440-09-7	
Sodium	**3300**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:56	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0023J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:18	7440-38-2	
Boron	**1.7J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:26	7440-42-8	
Lithium	**0.060**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:18	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**73.0**	mg/L	5.0	5.0	1		10/06/21 16:38		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/06/21 16:38		
Alkalinity, Total as CaCO3	**73.0**	mg/L	5.0	5.0	1		10/06/21 16:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**12900**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5000**	mg/L	50.0	30.0	50		09/27/21 22:53	16887-00-6	
Fluoride	ND	mg/L	5.0	2.5	50		09/27/21 22:53	16984-48-8	D3
Sulfate	**698**	mg/L	50.0	25.0	50		09/27/21 22:53	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-4HT **Lab ID: 92563385006** Collected: 09/23/21 14:09 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:43		
pH	**6.98**	Std. Units			1		09/27/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**152**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:54	7440-70-2	
Magnesium	**439**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:54	7439-95-4	
Potassium	**144**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:54	7440-09-7	
Sodium	**3900**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:00	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0022J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:22	7440-38-2	
Boron	**1.9J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:29	7440-42-8	
Lithium	**0.069**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:22	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**81.1**	mg/L	5.0	5.0	1		09/30/21 17:18		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 17:18		
Alkalinity, Total as CaCO3	**81.1**	mg/L	5.0	5.0	1		09/30/21 17:18		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15400**	mg/L	2500	2500	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7960**	mg/L	90.0	54.0	90		09/27/21 23:40	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/27/21 23:40	16984-48-8	D3
Sulfate	**1110**	mg/L	90.0	45.0	90		09/27/21 23:40	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-4HTS **Lab ID: 92563385007** Collected: 09/23/21 14:02 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:43		
pH	**7.14**	Std. Units			1		09/27/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**136**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:11	7440-70-2	
Magnesium	**402**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:11	7439-95-4	
Potassium	**130**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:11	7440-09-7	
Sodium	**3450**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:03	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0021J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:29	7440-38-2	
Boron	**1.7J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:33	7440-42-8	
Lithium	**0.066**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:29	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**74.9**	mg/L	5.0	5.0	1		09/30/21 17:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 17:28		
Alkalinity, Total as CaCO3	**74.9**	mg/L	5.0	5.0	1		09/30/21 17:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13000**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5270**	mg/L	90.0	54.0	90		09/27/21 23:56	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/27/21 23:56	16984-48-8	D3
Sulfate	**717**	mg/L	90.0	45.0	90		09/27/21 23:56	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-1HT **Lab ID: 92563385008** Collected: 09/23/21 11:41 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:43		
pH	**6.89**	Std. Units			1		09/27/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**124**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:14	7440-70-2	
Magnesium	**363**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:14	7439-95-4	
Potassium	**118**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:14	7440-09-7	
Sodium	**3100**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:06	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0020J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:32	7440-38-2	
Boron	**1.4J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:40	7440-42-8	
Lithium	**0.054**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:32	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**68.7**	mg/L	5.0	5.0	1		09/30/21 17:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 17:36		
Alkalinity, Total as CaCO3	**68.7**	mg/L	5.0	5.0	1		09/30/21 17:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11700**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4750**	mg/L	90.0	54.0	90		09/28/21 00:12	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 00:12	16984-48-8	D3
Sulfate	**638**	mg/L	90.0	45.0	90		09/28/21 00:12	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-2HT **Lab ID: 92563385009** Collected: 09/23/21 11:49 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:44		
pH	**6.87**	Std. Units			1		09/27/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**165**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:17	7440-70-2	
Magnesium	**496**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:17	7439-95-4	
Potassium	**160**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:17	7440-09-7	
Sodium	**4250**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:10	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0032J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:43	7440-38-2	
Boron	**1.9J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:44	7440-42-8	
Lithium	**0.071**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:43	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**83.1**	mg/L	5.0	5.0	1		09/30/21 17:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 17:43		
Alkalinity, Total as CaCO3	**83.1**	mg/L	5.0	5.0	1		09/30/21 17:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16400**	mg/L	2500	2500	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6450**	mg/L	90.0	54.0	90		09/28/21 00:27	16887-00-6	M1
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 00:27	16984-48-8	D3,M1
Sulfate	**884**	mg/L	90.0	45.0	90		09/28/21 00:27	14808-79-8	M1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-2HTS **Lab ID: 92563385010** Collected: 09/23/21 11:53 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:44		
pH	**7.05**	Std. Units			1		09/27/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**113**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:20	7440-70-2	
Magnesium	**330**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:20	7439-95-4	
Potassium	**106**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:20	7440-09-7	
Sodium	**2810**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:19	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0024J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:47	7440-38-2	
Boron	**1.5J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:47	7440-42-8	
Lithium	**0.048J**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:47	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**65.2**	mg/L	5.0	5.0	1		09/30/21 17:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 17:51		
Alkalinity, Total as CaCO3	**65.2**	mg/L	5.0	5.0	1		09/30/21 17:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**10400**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4400**	mg/L	90.0	54.0	90		09/28/21 01:14	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 01:14	16984-48-8	D3
Sulfate	**585**	mg/L	90.0	45.0	90		09/28/21 01:14	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-3HT **Lab ID: 92563385011** Collected: 09/23/21 12:52 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:44		
pH	**6.96**	Std. Units			1		09/27/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**172**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:24	7440-70-2	
Magnesium	**516**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:24	7439-95-4	
Potassium	**166**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:24	7440-09-7	
Sodium	**4370**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:23	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0026J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:50	7440-38-2	
Boron	**2.2J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 19:51	7440-42-8	
Lithium	**0.078**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:50	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**84.0**	mg/L	5.0	5.0	1		09/30/21 17:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 17:59		
Alkalinity, Total as CaCO3	**84.0**	mg/L	5.0	5.0	1		09/30/21 17:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16200**	mg/L	2500	2500	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6700**	mg/L	90.0	54.0	90		09/28/21 01:30	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 01:30	16984-48-8	D3
Sulfate	**918**	mg/L	90.0	45.0	90		09/28/21 01:30	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-3HTS **Lab ID: 92563385012** Collected: 09/23/21 12:45 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:45		
pH	**7.18**	Std. Units			1		09/27/21 11:45		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**104**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:27	7440-70-2	
Magnesium	**303**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:27	7439-95-4	
Potassium	**97.6J**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:27	7440-09-7	
Sodium	**2570**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:26	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0023J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 20:22	7440-38-2	
Boron	**1.4**	mg/L	1.0	0.17	20	09/29/21 10:37	09/30/21 20:22	7440-42-8	
Lithium	**0.048J**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 20:22	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**61.5**	mg/L	5.0	5.0	1		09/30/21 18:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 18:22		
Alkalinity, Total as CaCO3	**61.5**	mg/L	5.0	5.0	1		09/30/21 18:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**10000**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4090**	mg/L	90.0	54.0	90		09/28/21 01:46	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 01:46	16984-48-8	D3
Sulfate	**540**	mg/L	90.0	45.0	90		09/28/21 01:46	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-4HT **Lab ID: 92563385013** Collected: 09/23/21 13:47 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:45		
pH	**6.96**	Std. Units			1		09/27/21 11:45		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**154**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:30	7440-70-2	
Magnesium	**460**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:30	7439-95-4	
Potassium	**148**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:30	7440-09-7	
Sodium	**3930**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:29	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0019J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 22:58	7440-38-2	
Boron	**1.9J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 20:18	7440-42-8	
Lithium	**0.064**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 22:58	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**77.1**	mg/L	5.0	5.0	1		09/30/21 18:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		09/30/21 18:29		
Alkalinity, Total as CaCO3	**77.1**	mg/L	5.0	5.0	1		09/30/21 18:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13600**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5670**	mg/L	90.0	54.0	90		09/28/21 02:01	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 02:01	16984-48-8	D3
Sulfate	**768**	mg/L	90.0	45.0	90		09/28/21 02:01	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-4HTS **Lab ID: 92563385014** Collected: 09/23/21 13:40 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:47		
pH	**7.09**	Std. Units			1		09/27/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**130**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:33	7440-70-2	
Magnesium	**381**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:33	7439-95-4	
Potassium	**123**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:33	7440-09-7	
Sodium	**3230**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:33	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0019J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 23:01	7440-38-2	
Boron	**1.4J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 20:29	7440-42-8	
Lithium	**0.053**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 23:01	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**54.5**	mg/L	5.0	5.0	1		10/04/21 20:27		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 20:27		
Alkalinity, Total as CaCO3	**54.5**	mg/L	5.0	5.0	1		10/04/21 20:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**12000**	mg/L	1250	1250	1		09/29/21 11:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5130**	mg/L	90.0	54.0	90		09/28/21 02:49	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 02:49	16984-48-8	D3
Sulfate	**694**	mg/L	90.0	45.0	90		09/28/21 02:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-1HT **Lab ID: 92563385015** Collected: 09/23/21 11:16 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:47		
pH	**7.12**	Std. Units			1		09/27/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**88.6**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:37	7440-70-2	
Magnesium	**252**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:37	7439-95-4	
Potassium	**81.1J**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:37	7440-09-7	
Sodium	**2150**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:36	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0022J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 20:55	7440-38-2	
Boron	**1.2**	mg/L	1.0	0.17	20	09/29/21 10:37	09/30/21 20:55	7440-42-8	
Lithium	**0.040J**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 20:55	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**71.2**	mg/L	5.0	5.0	1		10/04/21 20:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 20:35		
Alkalinity, Total as CaCO3	**71.2**	mg/L	5.0	5.0	1		10/04/21 20:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8300**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3230**	mg/L	90.0	54.0	90		09/28/21 03:04	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 03:04	16984-48-8	D3
Sulfate	**419**	mg/L	90.0	45.0	90		09/28/21 03:04	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-2HT **Lab ID: 92563385016** Collected: 09/23/21 11:25 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:47		
pH	**6.79**	Std. Units			1		09/27/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**138**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:40	7440-70-2	
Magnesium	**402**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:40	7439-95-4	
Potassium	**130**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:40	7440-09-7	
Sodium	**3430**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:39	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0034J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 23:05	7440-38-2	
Boron	**1.8J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 20:45	7440-42-8	
Lithium	**0.071**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 23:05	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**75.0**	mg/L	5.0	5.0	1		10/04/21 20:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 20:43		
Alkalinity, Total as CaCO3	**75.0**	mg/L	5.0	5.0	1		10/04/21 20:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13400**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5520**	mg/L	90.0	54.0	90		09/28/21 03:20	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 03:20	16984-48-8	D3
Sulfate	**744**	mg/L	90.0	45.0	90		09/28/21 03:20	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-2HTS **Lab ID: 92563385017** Collected: 09/23/21 11:30 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:47		
pH	**7.04**	Std. Units			1		09/27/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**83.7**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:50	7440-70-2	
Magnesium	**234**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:50	7439-95-4	
Potassium	**77.2J**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:50	7440-09-7	
Sodium	**2050**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:42	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0021J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 20:59	7440-38-2	
Boron	**1.1**	mg/L	1.0	0.17	20	09/29/21 10:37	09/30/21 20:59	7440-42-8	
Lithium	**0.034J**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 20:59	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**55.6**	mg/L	5.0	5.0	1		10/04/21 20:50		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 20:50		
Alkalinity, Total as CaCO3	**55.6**	mg/L	5.0	5.0	1		10/04/21 20:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**7450**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3180**	mg/L	90.0	54.0	90		09/28/21 03:36	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 03:36	16984-48-8	D3
Sulfate	**410**	mg/L	90.0	45.0	90		09/28/21 03:36	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-3HT **Lab ID: 92563385018** Collected: 09/23/21 13:13 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:54		
pH	**6.92**	Std. Units			1		09/27/21 11:54		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**156**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:53	7440-70-2	
Magnesium	**467**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:53	7439-95-4	
Potassium	**152**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:53	7440-09-7	
Sodium	**4160**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 05:46	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0024J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 23:12	7440-38-2	
Boron	**1.8J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 20:52	7440-42-8	
Lithium	**0.071**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 23:12	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**82.7**	mg/L	5.0	5.0	1		10/04/21 20:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 20:57		
Alkalinity, Total as CaCO3	**82.7**	mg/L	5.0	5.0	1		10/04/21 20:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**14100**	mg/L	2500	2500	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6340**	mg/L	90.0	54.0	90		09/28/21 03:51	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 03:51	16984-48-8	D3
Sulfate	**862**	mg/L	90.0	45.0	90		09/28/21 03:51	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-3HTS **Lab ID: 92563385019** Collected: 09/23/21 13:07 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:51		
pH	**7.24**	Std. Units			1		09/27/21 11:51		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**70.4**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 08:56	7440-70-2	
Magnesium	**193**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 08:56	7439-95-4	
Potassium	**64.3J**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 08:56	7440-09-7	
Sodium	**1690**	mg/L	100	12.2	20	09/28/21 12:46	10/05/21 08:56	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0020J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 21:17	7440-38-2	
Boron	**0.83J**	mg/L	1.0	0.17	20	09/29/21 10:37	09/30/21 21:17	7440-42-8	
Lithium	**0.027J**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 21:17	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**45.4**	mg/L	5.0	5.0	1		10/04/21 21:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 21:05		
Alkalinity, Total as CaCO3	**45.4**	mg/L	5.0	5.0	1		10/04/21 21:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**6600**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2500**	mg/L	90.0	54.0	90		09/28/21 04:38	16887-00-6	M1
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 04:38	16984-48-8	D3,M1
Sulfate	**315**	mg/L	90.0	45.0	90		09/28/21 04:38	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-4HT **Lab ID: 92563385020** Collected: 09/23/21 13:29 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:51		
pH	**6.94**	Std. Units			1		09/27/21 11:51		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**122**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 09:00	7440-70-2	
Magnesium	**374**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 09:00	7439-95-4	
Potassium	**121**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 09:00	7440-09-7	
Sodium	**3860**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 06:06	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0022J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 23:15	7440-38-2	
Boron	**1.8J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 21:21	7440-42-8	
Lithium	**0.069**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 23:15	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**80.0**	mg/L	5.0	5.0	1		10/04/21 21:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/04/21 21:12		
Alkalinity, Total as CaCO3	**80.0**	mg/L	5.0	5.0	1		10/04/21 21:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**14200**	mg/L	2500	2500	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6020**	mg/L	90.0	54.0	90		09/28/21 05:57	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 05:57	16984-48-8	D3
Sulfate	**815**	mg/L	90.0	45.0	90		09/28/21 05:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-4HTS **Lab ID: 92563385021** Collected: 09/23/21 13:24 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:51		
pH	**7.09**	Std. Units			1		09/27/21 11:51		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**107**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:09	7440-70-2	M1
Magnesium	**312**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:09	7439-95-4	M1
Potassium	**103**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:09	7440-09-7	M1
Sodium	**2640**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 02:48	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0023J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 22:45	7440-38-2	M1
Boron	**1.0J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 16:35	7440-42-8	M1
Lithium	**0.041J**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 19:16	7439-93-2	M1
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**61.5**	mg/L	5.0	5.0	1		10/05/21 20:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 20:58		
Alkalinity, Total as CaCO3	**61.5**	mg/L	5.0	5.0	1		10/05/21 20:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**9850**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4080**	mg/L	90.0	54.0	90		09/28/21 06:13	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 06:13	16984-48-8	D3
Sulfate	**538**	mg/L	90.0	45.0	90		09/28/21 06:13	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-1HB **Lab ID: 92563385022** Collected: 09/22/21 12:56 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:51		
pH	**7.06**	Std. Units			1		09/27/21 11:51		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**174**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:22	7440-70-2	
Magnesium	**530**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:22	7439-95-4	
Potassium	**170**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:22	7440-09-7	
Sodium	**4540**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:01	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0031J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 22:56	7440-38-2	
Boron	**1.8J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 16:42	7440-42-8	
Lithium	**0.077**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 19:23	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**90.4**	mg/L	5.0	5.0	1		10/05/21 21:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 21:20		
Alkalinity, Total as CaCO3	**90.4**	mg/L	5.0	5.0	1		10/05/21 21:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15500**	mg/L	1250	1250	1		09/28/21 17:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7160**	mg/L	90.0	54.0	90		09/28/21 06:28	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 06:28	16984-48-8	D3
Sulfate	**983**	mg/L	90.0	45.0	90		09/28/21 06:28	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-1HS **Lab ID: 92563385023** Collected: 09/22/21 12:51 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:54		
pH	**7.22**	Std. Units			1		09/27/21 11:54		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**172**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:25	7440-70-2	
Magnesium	**513**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:25	7439-95-4	
Potassium	**169**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:25	7440-09-7	
Sodium	**4400**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:04	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0028J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 22:59	7440-38-2	
Boron	**1.8J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 16:50	7440-42-8	
Lithium	**0.067**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 19:27	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**88.5**	mg/L	5.0	5.0	1		10/05/21 21:37		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 21:37		v1
Alkalinity, Total as CaCO3	**88.5**	mg/L	5.0	5.0	1		10/05/21 21:37		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**12900**	mg/L	1250	1250	1		09/28/21 17:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6540**	mg/L	90.0	54.0	90		09/28/21 06:44	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 06:44	16984-48-8	D3
Sulfate	**891**	mg/L	90.0	45.0	90		09/28/21 06:44	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-2HB **Lab ID: 92563385024** Collected: 09/22/21 13:08 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:54		
pH	**7.04**	Std. Units			1		09/27/21 11:54		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**180**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:29	7440-70-2	
Magnesium	**541**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:29	7439-95-4	
Potassium	**179**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:29	7440-09-7	
Sodium	**4870**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:14	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0025J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:03	7440-38-2	
Boron	**2.0J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 16:57	7440-42-8	
Lithium	**0.076**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 19:34	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**97.3**	mg/L	5.0	5.0	1		10/05/21 21:45		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 21:45		v1
Alkalinity, Total as CaCO3	**97.3**	mg/L	5.0	5.0	1		10/05/21 21:45		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15800**	mg/L	1250	1250	1		09/28/21 17:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7420**	mg/L	90.0	54.0	90		09/28/21 07:00	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 07:00	16984-48-8	D3
Sulfate	**1020**	mg/L	90.0	45.0	90		09/28/21 07:00	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-2HS **Lab ID: 92563385025** Collected: 09/22/21 13:03 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:55		
pH	**7.13**	Std. Units			1		09/27/21 11:55		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**170**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:32	7440-70-2	
Magnesium	**504**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:32	7439-95-4	
Potassium	**166**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:32	7440-09-7	
Sodium	**4440**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:17	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0028J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:06	7440-38-2	
Boron	**1.8J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 17:04	7440-42-8	
Lithium	**0.069**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 19:38	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**90.5**	mg/L	5.0	5.0	1		10/05/21 21:55		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 21:55		v1
Alkalinity, Total as CaCO3	**90.5**	mg/L	5.0	5.0	1		10/05/21 21:55		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**14800**	mg/L	1250	1250	1		09/28/21 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6730**	mg/L	90.0	54.0	90		09/28/21 07:15	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 07:15	16984-48-8	D3
Sulfate	**918**	mg/L	90.0	45.0	90		09/28/21 07:15	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-3HB **Lab ID: 92563385026** Collected: 09/22/21 13:23 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:55		
pH	**7.04**	Std. Units			1		09/27/21 11:55		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**168**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:35	7440-70-2	
Magnesium	**506**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:35	7439-95-4	
Potassium	**168**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:35	7440-09-7	
Sodium	**4800**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:21	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0025J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:10	7440-38-2	
Boron	**2.1J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 17:24	7440-42-8	
Lithium	**0.076**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 19:59	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**92.0**	mg/L	5.0	5.0	1		10/05/21 22:03		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 22:03		v1
Alkalinity, Total as CaCO3	**92.0**	mg/L	5.0	5.0	1		10/05/21 22:03		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16000**	mg/L	1250	1250	1		09/28/21 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7410**	mg/L	90.0	54.0	90		09/28/21 07:31	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 07:31	16984-48-8	D3
Sulfate	**1020**	mg/L	90.0	45.0	90		09/28/21 07:31	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-3HS **Lab ID: 92563385027** Collected: 09/22/21 13:15 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:55		
pH	**7.16**	Std. Units			1		09/27/21 11:55		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**168**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:45	7440-70-2	
Magnesium	**502**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:45	7439-95-4	
Potassium	**165**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:45	7440-09-7	
Sodium	**4600**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:24	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0027J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:13	7440-38-2	
Boron	**1.9J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 17:31	7440-42-8	
Lithium	**0.072**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 20:06	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**92.4**	mg/L	5.0	5.0	1		10/05/21 22:12		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 22:12		v1
Alkalinity, Total as CaCO3	**92.4**	mg/L	5.0	5.0	1		10/05/21 22:12		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15400**	mg/L	1250	1250	1		09/28/21 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6790**	mg/L	90.0	54.0	90		09/28/21 07:47	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 07:47	16984-48-8	D3
Sulfate	**928**	mg/L	90.0	45.0	90		09/28/21 07:47	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-4HB **Lab ID: 92563385028** Collected: 09/22/21 13:39 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:56		
pH	**7.08**	Std. Units			1		09/27/21 11:56		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**167**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:48	7440-70-2	
Magnesium	**499**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:48	7439-95-4	
Potassium	**165**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:48	7440-09-7	
Sodium	**4620**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:27	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0027J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:17	7440-38-2	
Boron	**2.0J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 17:38	7440-42-8	
Lithium	**0.081**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 20:09	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**92.5**	mg/L	5.0	5.0	1		10/05/21 22:21		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 22:21		v1
Alkalinity, Total as CaCO3	**92.5**	mg/L	5.0	5.0	1		10/05/21 22:21		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16400**	mg/L	1250	1250	1		09/28/21 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7310**	mg/L	90.0	54.0	90		09/28/21 08:02	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 08:02	16984-48-8	D3
Sulfate	**1090**	mg/L	90.0	45.0	90		09/28/21 08:02	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-4HS **Lab ID: 92563385029** Collected: 09/22/21 13:35 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:56		
pH	**7.17**	Std. Units			1		09/27/21 11:56		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**186**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:52	7440-70-2	
Magnesium	**547**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:52	7439-95-4	
Potassium	**180**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:52	7440-09-7	
Sodium	**4810**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:31	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0028J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:31	7440-38-2	
Boron	**2.1J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 17:45	7440-42-8	
Lithium	**0.087**	mg/L	0.050	0.010	20	09/29/21 10:37	09/29/21 23:31	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**88.9**	mg/L	5.0	5.0	1		10/05/21 22:29		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 22:29		v1
Alkalinity, Total as CaCO3	**88.9**	mg/L	5.0	5.0	1		10/05/21 22:29		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16200**	mg/L	1250	1250	1		09/28/21 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7220**	mg/L	90.0	54.0	90		09/28/21 08:18	16887-00-6	M1
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 08:18	16984-48-8	D3,M1
Sulfate	**994**	mg/L	90.0	45.0	90		09/28/21 08:18	14808-79-8	M1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-1L **Lab ID: 92563385030** Collected: 09/22/21 19:24 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:56		
pH	**7.35**	Std. Units			1		09/27/21 11:56		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**165**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:55	7440-70-2	
Magnesium	**495**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:55	7439-95-4	
Potassium	**165**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:55	7440-09-7	
Sodium	**4650**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:34	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0042J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:34	7440-38-2	
Boron	**1.7J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 17:52	7440-42-8	
Lithium	**0.088**	mg/L	0.050	0.010	20	09/29/21 10:37	09/29/21 23:34	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**90.3**	mg/L	5.0	5.0	1		10/05/21 22:38		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 22:38		v1
Alkalinity, Total as CaCO3	**90.3**	mg/L	5.0	5.0	1		10/05/21 22:38		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15600**	mg/L	1250	1250	1		09/28/21 17:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6920**	mg/L	90.0	54.0	90		09/28/21 10:09	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 10:09	16984-48-8	D3
Sulfate	**944**	mg/L	90.0	45.0	90		09/28/21 10:09	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-2L **Lab ID: 92563385031** Collected: 09/22/21 19:11 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:56		
pH	**7.31**	Std. Units			1		09/27/21 11:56		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**174**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 06:58	7440-70-2	
Magnesium	**512**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 06:58	7439-95-4	
Potassium	**170**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 06:58	7440-09-7	
Sodium	**4520**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:37	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0040J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:38	7440-38-2	
Boron	**2.0J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 18:09	7440-42-8	
Lithium	**0.090**	mg/L	0.050	0.010	20	09/29/21 10:37	09/29/21 23:38	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**94.8**	mg/L	5.0	5.0	1		10/05/21 22:46		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 22:46		v1
Alkalinity, Total as CaCO3	**94.8**	mg/L	5.0	5.0	1		10/05/21 22:46		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**14800**	mg/L	1250	1250	1		09/28/21 17:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6820**	mg/L	90.0	54.0	90		09/28/21 10:24	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 10:24	16984-48-8	D3
Sulfate	**933**	mg/L	90.0	45.0	90		09/28/21 10:24	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-3L **Lab ID: 92563385032** Collected: 09/22/21 19:05 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:57		
pH	**7.38**	Std. Units			1		09/27/21 11:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**182**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 20:44	7440-70-2	
Magnesium	**542**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 20:44	7439-95-4	
Potassium	**178**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 20:44	7440-09-7	
Sodium	ND	mg/L	100	12.2	20	09/28/21 12:46	10/05/21 07:02	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0037J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:42	7440-38-2	
Boron	**1.7J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 18:16	7440-42-8	
Lithium	**0.086**	mg/L	0.050	0.010	20	09/29/21 10:37	09/29/21 23:42	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**95.8**	mg/L	5.0	5.0	1		10/05/21 23:20		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 23:20		v1
Alkalinity, Total as CaCO3	**95.8**	mg/L	5.0	5.0	1		10/05/21 23:20		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15200**	mg/L	1250	1250	1		09/28/21 17:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7160**	mg/L	90.0	54.0	90		09/28/21 10:40	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 10:40	16984-48-8	D3
Sulfate	**966**	mg/L	90.0	45.0	90		09/28/21 10:40	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T4-4L **Lab ID: 92563385033** Collected: 09/22/21 18:17 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:57		
pH	**7.32**	Std. Units			1		09/27/21 11:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**313**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:05	7440-70-2	
Magnesium	**953**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:05	7439-95-4	
Potassium	**307**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:05	7440-09-7	
Sodium	**4500**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 03:44	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0035J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:53	7440-38-2	
Boron	**1.9J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 18:24	7440-42-8	
Lithium	**0.086**	mg/L	0.050	0.010	20	09/29/21 10:37	09/29/21 23:53	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**95.1**	mg/L	5.0	5.0	1		10/05/21 23:29		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 23:29		v1
Alkalinity, Total as CaCO3	**95.1**	mg/L	5.0	5.0	1		10/05/21 23:29		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**15200**	mg/L	1250	1250	1		09/28/21 17:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6830**	mg/L	90.0	54.0	90		09/28/21 10:56	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 10:56	16984-48-8	D3
Sulfate	**1250**	mg/L	90.0	45.0	90		09/28/21 10:56	14808-79-8	

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(770)734-4200

ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: BG-2HT **Lab ID: 92563385034** Collected: 09/22/21 10:21 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		09/27/21 11:57		
pH	**7.13**	Std. Units			1		09/27/21 11:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**178**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:08	7440-70-2	
Magnesium	**524**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:08	7439-95-4	
Potassium	**171**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:08	7440-09-7	
Sodium	**6380**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:00	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0040J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/29/21 23:56	7440-38-2	
Boron	**2.8**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 18:31	7440-42-8	
Lithium	**0.14**	mg/L	0.050	0.010	20	09/29/21 10:37	09/29/21 23:56	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**108**	mg/L	5.0	5.0	1		10/05/21 23:38		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 23:38		v1
Alkalinity, Total as CaCO3	**108**	mg/L	5.0	5.0	1		10/05/21 23:38		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21100**	mg/L	2500	2500	1		09/28/21 17:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9780**	mg/L	100	60.0	100		09/28/21 13:02	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 11:11	16984-48-8	D3
Sulfate	**1710**	mg/L	90.0	45.0	90		09/28/21 11:11	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: DUP-1 **Lab ID: 92563385035** Collected: 09/22/21 00:00 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**192**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:12	7440-70-2	
Magnesium	**572**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:12	7439-95-4	
Potassium	**185**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:12	7440-09-7	
Sodium	**4880**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:04	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0027J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 00:00	7440-38-2	
Boron	**1.9J**	mg/L	2.5	0.42	50	09/29/21 10:37	09/30/21 18:38	7440-42-8	
Lithium	**0.089**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 00:00	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**89.8**	mg/L	5.0	5.0	1		10/05/21 23:48		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/05/21 23:48		v1
Alkalinity, Total as CaCO3	**89.8**	mg/L	5.0	5.0	1		10/05/21 23:48		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**16600**	mg/L	1250	1250	1		09/28/21 17:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**7310**	mg/L	90.0	54.0	90		09/28/21 11:27	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 11:27	16984-48-8	
Sulfate	**1330**	mg/L	90.0	45.0	90		09/28/21 11:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: DUP-2 **Lab ID: 92563385036** Collected: 09/23/21 00:00 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**119**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:15	7440-70-2	
Magnesium	**346**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:15	7439-95-4	
Potassium	**116**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:15	7440-09-7	
Sodium	**3030**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:07	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0021J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 00:03	7440-38-2	
Boron	**1.2**	mg/L	1.0	0.17	20	09/29/21 10:37	09/30/21 18:45	7440-42-8	
Lithium	**0.056**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 00:03	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**66.5**	mg/L	5.0	5.0	1		10/07/21 14:48		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 14:48		v1
Alkalinity, Total as CaCO3	**66.5**	mg/L	5.0	5.0	1		10/07/21 14:48		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**10600**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4780**	mg/L	90.0	54.0	90		09/28/21 12:14	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 12:14	16984-48-8	D3
Sulfate	**650**	mg/L	90.0	45.0	90		09/28/21 12:14	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: DUP-3 **Lab ID: 92563385037** Collected: 09/23/21 00:00 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**139**	mg/L	2.0	1.9	20	09/28/21 12:46	10/05/21 07:25	7440-70-2	
Magnesium	**412**	mg/L	2.0	1.4	20	09/28/21 12:46	10/05/21 07:25	7439-95-4	
Potassium	**138**	mg/L	100	60.8	20	09/28/21 12:46	10/05/21 07:25	7440-09-7	
Sodium	**3640**	mg/L	500	61.1	100	09/28/21 12:46	10/05/21 04:10	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0024J**	mg/L	0.020	0.0017	20	09/29/21 10:37	09/30/21 00:07	7440-38-2	
Boron	**1.5**	mg/L	1.0	0.17	20	09/29/21 10:37	09/30/21 18:52	7440-42-8	
Lithium	**0.070**	mg/L	0.050	0.010	20	09/29/21 10:37	09/30/21 00:07	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**80.0**	mg/L	5.0	5.0	1		10/07/21 14:56		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 14:56		v1
Alkalinity, Total as CaCO3	**80.0**	mg/L	5.0	5.0	1		10/07/21 14:56		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13600**	mg/L	1250	1250	1		09/29/21 11:34		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5890**	mg/L	90.0	54.0	90		09/28/21 12:30	16887-00-6	
Fluoride	ND	mg/L	9.0	4.5	90		09/28/21 12:30	16984-48-8	D3
Sulfate	**799**	mg/L	90.0	45.0	90		09/28/21 12:30	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: FB-1 **Lab ID: 92563385038** Collected: 09/23/21 15:10 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	09/28/21 12:46	10/05/21 04:13	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	09/28/21 12:46	10/05/21 04:13	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	09/28/21 12:46	10/05/21 04:13	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	09/28/21 12:46	10/05/21 04:13	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0010	0.000087	1	09/29/21 10:37	09/30/21 16:46	7440-38-2	
Boron	ND	mg/L	0.050	0.0085	1	09/29/21 10:37	09/30/21 16:46	7440-42-8	
Lithium	ND	mg/L	0.0025	0.00050	1	09/29/21 10:37	09/30/21 16:46	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 15:05		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 15:05		v1
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		10/07/21 15:05		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/29/21 11:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/28/21 12:46	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/28/21 12:46	16984-48-8	D3
Sulfate	ND	mg/L	1.0	0.50	1		09/28/21 12:46	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: EB-1 **Lab ID: 92563385039** Collected: 09/23/21 15:15 Received: 09/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	09/28/21 12:46	10/05/21 04:17	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	09/28/21 12:46	10/05/21 04:17	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	09/28/21 12:46	10/05/21 04:17	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	09/28/21 12:46	10/05/21 04:17	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0010	0.000087	1	09/29/21 10:37	09/30/21 16:39	7440-38-2	
Boron	ND	mg/L	0.050	0.0085	1	09/29/21 10:37	09/30/21 16:39	7440-42-8	
Lithium	ND	mg/L	0.0025	0.00050	1	09/29/21 10:37	09/30/21 16:39	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 15:09		v1
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 15:09		v1
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		10/07/21 15:09		v1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/29/21 11:36		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/29/21 08:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/29/21 08:27	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/29/21 08:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-1LT **Lab ID: 92563385040** Collected: 09/30/21 14:10 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:41		
pH	**6.99**	Std. Units			1		10/01/21 13:41		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**141**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 20:27	7440-70-2	M1
Magnesium	**411**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 20:27	7439-95-4	M1
Potassium	**130**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 20:27	7440-09-7	M1
Sodium	**3530**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 19:16	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0014J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 17:57	7440-38-2	
Boron	**1.1**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 17:57	7440-42-8	
Lithium	**0.042**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 17:57	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**76.2**	mg/L	5.0	5.0	1		10/07/21 19:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/07/21 19:53		
Alkalinity, Total as CaCO3	**76.2**	mg/L	5.0	5.0	1		10/07/21 19:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11600**	mg/L	1250	1250	1		10/04/21 17:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5160**	mg/L	100	60.0	100		10/02/21 13:54	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 13:54	16984-48-8	D3
Sulfate	**689**	mg/L	100	50.0	100		10/02/21 13:54	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-2LT **Lab ID: 92563385041** Collected: 09/30/21 14:07 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:42		
pH	**7.00**	Std. Units			1		10/01/21 13:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**132**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 20:49	7440-70-2	
Magnesium	**388**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 20:49	7439-95-4	
Potassium	**124**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 20:49	7440-09-7	
Sodium	**3320**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 19:29	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0014J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 18:19	7440-38-2	
Boron	**1.1**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 18:19	7440-42-8	
Lithium	**0.041**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 18:19	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**67.5**	mg/L	5.0	5.0	1		10/11/21 18:49		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 18:49		
Alkalinity, Total as CaCO3	**67.5**	mg/L	5.0	5.0	1		10/11/21 18:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11200**	mg/L	1250	1250	1		10/04/21 17:58		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5110**	mg/L	100	60.0	100		10/02/21 14:09	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 14:09	16984-48-8	D3
Sulfate	**679**	mg/L	100	50.0	100		10/02/21 14:09	14808-79-8	

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Peachtree Corners, GA 30092
(770)734-4200

ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-3LT **Lab ID: 92563385042** Collected: 09/30/21 14:00 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:42		
pH	**7.14**	Std. Units			1		10/01/21 13:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**125**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 20:52	7440-70-2	
Magnesium	**360**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 20:52	7439-95-4	
Potassium	**116**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 20:52	7440-09-7	
Sodium	**3110**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 19:32	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0016J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 18:28	7440-38-2	
Boron	**1.0**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 18:28	7440-42-8	
Lithium	**0.038**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 18:28	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**66.6**	mg/L	5.0	5.0	1		10/11/21 18:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 18:57		
Alkalinity, Total as CaCO3	**66.6**	mg/L	5.0	5.0	1		10/11/21 18:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11900**	mg/L	1250	1250	1		10/04/21 18:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4680**	mg/L	100	60.0	100		10/02/21 14:25	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 14:25	16984-48-8	D3
Sulfate	**614**	mg/L	100	50.0	100		10/02/21 14:25	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T1-4LT **Lab ID: 92563385043** Collected: 09/30/21 10:54 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:42		
pH	**7.09**	Std. Units			1		10/01/21 13:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**101**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 20:55	7440-70-2	
Magnesium	**288**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 20:55	7439-95-4	
Potassium	**90.7J**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 20:55	7440-09-7	D3
Sodium	**2410**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 19:35	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0019J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:00	7440-38-2	
Boron	**1.2**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:00	7440-42-8	
Lithium	**0.046**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:00	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**60.8**	mg/L	5.0	5.0	1		10/11/21 19:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 19:05		
Alkalinity, Total as CaCO3	**60.8**	mg/L	5.0	5.0	1		10/11/21 19:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8100**	mg/L	833	833	1		10/04/21 18:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3850**	mg/L	100	60.0	100		10/02/21 14:41	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 14:41	16984-48-8	D3
Sulfate	**496**	mg/L	100	50.0	100		10/02/21 14:41	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-2LT **Lab ID: 92563385044** Collected: 09/30/21 13:45 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:42		
pH	**7.16**	Std. Units			1		10/01/21 13:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**124**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 20:59	7440-70-2	
Magnesium	**358**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 20:59	7439-95-4	
Potassium	**115**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 20:59	7440-09-7	
Sodium	**3080**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 19:39	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0016J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:07	7440-38-2	
Boron	**0.91**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:07	7440-42-8	
Lithium	**0.036J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:07	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**69.9**	mg/L	5.0	5.0	1		10/11/21 19:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 19:12		
Alkalinity, Total as CaCO3	**69.9**	mg/L	5.0	5.0	1		10/11/21 19:12		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**10000**	mg/L	1250	1250	1		10/04/21 18:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4530**	mg/L	100	60.0	100		10/02/21 14:56	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 14:56	16984-48-8	D3
Sulfate	**586**	mg/L	100	50.0	100		10/02/21 14:56	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-3LT **Lab ID: 92563385045** Collected: 09/30/21 13:33 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:43		
pH	**7.15**	Std. Units			1		10/01/21 13:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**129**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:02	7440-70-2	
Magnesium	**372**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:02	7439-95-4	
Potassium	**119**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:02	7440-09-7	
Sodium	**3200**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 19:42	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0016J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:19	7440-38-2	
Boron	**1.1**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:19	7440-42-8	
Lithium	**0.041**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:19	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**69.0**	mg/L	5.0	5.0	1		10/11/21 19:20		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 19:20		
Alkalinity, Total as CaCO3	**69.0**	mg/L	5.0	5.0	1		10/11/21 19:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11400**	mg/L	1250	1250	1		10/04/21 18:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5020**	mg/L	100	60.0	100		10/02/21 15:44	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 15:44	16984-48-8	D3
Sulfate	**664**	mg/L	100	50.0	100		10/02/21 15:44	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T2-4LT **Lab ID: 92563385046** Collected: 09/30/21 11:09 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:43		
pH	**6.97**	Std. Units			1		10/01/21 13:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**80.1**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:05	7440-70-2	D3
Magnesium	**222**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:05	7439-95-4	
Potassium	**70.6J**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:05	7440-09-7	D3
Sodium	**1880**	mg/L	100	12.2	20	10/04/21 11:58	10/11/21 21:05	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:26	7440-38-2	
Boron	**0.58J**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:26	7440-42-8	
Lithium	**0.022J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:26	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**54.1**	mg/L	5.0	5.0	1		10/11/21 19:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 19:28		
Alkalinity, Total as CaCO3	**54.1**	mg/L	5.0	5.0	1		10/11/21 19:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**6770**	mg/L	833	833	1		10/04/21 18:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**2870**	mg/L	100	60.0	100		10/02/21 15:59	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 15:59	16984-48-8	D3
Sulfate	**361**	mg/L	100	50.0	100		10/02/21 15:59	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-2LT **Lab ID: 92563385047** Collected: 09/30/21 12:53 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:44		
pH	**7.13**	Std. Units			1		10/01/21 13:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**107**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:08	7440-70-2	
Magnesium	**301**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:08	7439-95-4	
Potassium	**96.8J**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:08	7440-09-7	D3
Sodium	**2600**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 20:01	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0015J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:33	7440-38-2	
Boron	**0.75J**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:33	7440-42-8	
Lithium	**0.029J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:33	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**64.1**	mg/L	5.0	5.0	1		10/11/21 19:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 19:35		
Alkalinity, Total as CaCO3	**64.1**	mg/L	5.0	5.0	1		10/11/21 19:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**9170**	mg/L	833	833	1		10/04/21 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3960**	mg/L	100	60.0	100		10/02/21 16:15	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 16:15	16984-48-8	D3
Sulfate	**503**	mg/L	100	50.0	100		10/02/21 16:15	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-3LT **Lab ID: 92563385048** Collected: 09/30/21 12:19 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:44		
pH	**6.89**	Std. Units			1		10/01/21 13:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**101**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:12	7440-70-2	
Magnesium	**289**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:12	7439-95-4	
Potassium	**90.0J**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:12	7440-09-7	D3
Sodium	**2460**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 20:05	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0015J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:40	7440-38-2	
Boron	**0.75**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:40	7440-42-8	
Lithium	**0.028J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:40	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**62.5**	mg/L	5.0	5.0	1		10/11/21 19:52		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 19:52		
Alkalinity, Total as CaCO3	**62.5**	mg/L	5.0	5.0	1		10/11/21 19:52		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8670**	mg/L	833	833	1		10/04/21 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3740**	mg/L	100	60.0	100		10/02/21 16:31	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 16:31	16984-48-8	D3
Sulfate	**475**	mg/L	100	50.0	100		10/02/21 16:31	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: T3-4LT **Lab ID: 92563385049** Collected: 09/30/21 11:25 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:44		
pH	**6.90**	Std. Units			1		10/01/21 13:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**84.1**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:21	7440-70-2	D3
Magnesium	**232**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:21	7439-95-4	
Potassium	**73.1J**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:21	7440-09-7	D3
Sodium	**1990**	mg/L	100	12.2	20	10/04/21 11:58	10/11/21 21:21	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 19:47	7440-38-2	
Boron	**0.65J**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 19:47	7440-42-8	
Lithium	**0.025J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 19:47	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**56.2**	mg/L	5.0	5.0	1		10/11/21 20:00		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:00		
Alkalinity, Total as CaCO3	**56.2**	mg/L	5.0	5.0	1		10/11/21 20:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8070**	mg/L	833	833	1		10/04/21 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3110**	mg/L	100	60.0	100		10/02/21 16:46	16887-00-6	M1
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 16:46	16984-48-8	D3,M1
Sulfate	**396**	mg/L	100	50.0	100		10/02/21 16:46	14808-79-8	M1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: BG-1LT **Lab ID: 92563385050** Collected: 09/30/21 10:27 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		10/01/21 13:44		
pH	**6.90**	Std. Units			1		10/01/21 13:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**147**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:24	7440-70-2	
Magnesium	**434**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:24	7439-95-4	
Potassium	**138**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:24	7440-09-7	
Sodium	**3720**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 20:11	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0027J**	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 20:01	7440-38-2	
Boron	**1.3**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 20:01	7440-42-8	
Lithium	**0.060**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 20:01	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**78.2**	mg/L	5.0	5.0	1		10/11/21 20:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:07		
Alkalinity, Total as CaCO3	**78.2**	mg/L	5.0	5.0	1		10/11/21 20:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**13400**	mg/L	1250	1250	1		10/04/21 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5520**	mg/L	100	60.0	100		10/02/21 17:33	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 17:33	16984-48-8	D3
Sulfate	**725**	mg/L	100	50.0	100		10/02/21 17:33	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: DUP-4 **Lab ID: 92563385051** Collected: 09/30/21 00:00 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**101**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:28	7440-70-2	
Magnesium	**283**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:28	7439-95-4	
Potassium	**90.2J**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:28	7440-09-7	D3
Sodium	**2400**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 20:14	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 20:08	7440-38-2	
Boron	**0.74J**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 20:08	7440-42-8	
Lithium	**0.027J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 20:08	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**61.2**	mg/L	5.0	5.0	1		10/11/21 20:15		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:15		
Alkalinity, Total as CaCO3	**61.2**	mg/L	5.0	5.0	1		10/11/21 20:15		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8300**	mg/L	833	833	1		10/04/21 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3770**	mg/L	100	60.0	100		10/02/21 17:49	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 17:49	16984-48-8	D3
Sulfate	**478**	mg/L	100	50.0	100		10/02/21 17:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: DUP-5 **Lab ID: 92563385052** Collected: 09/30/21 00:00 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**129**	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:31	7440-70-2	
Magnesium	**370**	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:31	7439-95-4	
Potassium	**121**	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:31	7440-09-7	
Sodium	**3190**	mg/L	500	61.1	100	10/04/21 11:58	10/11/21 20:18	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 20:15	7440-38-2	
Boron	**0.94**	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 20:15	7440-42-8	
Lithium	**0.036J**	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 20:15	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**68.8**	mg/L	5.0	5.0	1		10/11/21 20:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:23		
Alkalinity, Total as CaCO3	**68.8**	mg/L	5.0	5.0	1		10/11/21 20:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11000**	mg/L	1250	1250	1		10/04/21 18:02		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**4920**	mg/L	100	60.0	100		10/02/21 18:05	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		10/02/21 18:05	16984-48-8	D3
Sulfate	**637**	mg/L	100	50.0	100		10/02/21 18:05	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: FB-2 **Lab ID: 92563385053** Collected: 09/30/21 15:15 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:34	7440-70-2	D3
Magnesium	ND	mg/L	2.0	1.4	20	10/04/21 11:58	10/11/21 21:34	7439-95-4	D3
Potassium	ND	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:34	7440-09-7	D3
Sodium	ND	mg/L	100	12.2	20	10/04/21 11:58	10/11/21 21:34	7440-23-5	D3
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 20:22	7440-38-2	
Boron	ND	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 20:22	7440-42-8	
Lithium	ND	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 20:22	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:31		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:31		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		10/11/21 20:31		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/05/21 17:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		10/02/21 18:52	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/02/21 18:52	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/02/21 18:52	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Sample: EB-2 **Lab ID: 92563385054** Collected: 09/30/21 15:20 Received: 10/01/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	2.0	1.9	20	10/04/21 11:58	10/11/21 21:37	7440-70-2	D3
Magnesium	ND	mg/L	0.10	0.068	1	10/04/21 11:58	10/11/21 08:06	7439-95-4	
Potassium	ND	mg/L	100	60.8	20	10/04/21 11:58	10/11/21 21:37	7440-09-7	D3
Sodium	ND	mg/L	100	12.2	20	10/04/21 11:58	10/11/21 21:37	7440-23-5	D3
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.015	0.0013	1	10/02/21 05:00	10/03/21 20:29	7440-38-2	
Boron	ND	mg/L	0.75	0.13	1	10/02/21 05:00	10/03/21 20:29	7440-42-8	
Lithium	ND	mg/L	0.038	0.0075	1	10/02/21 05:00	10/03/21 20:29	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		10/11/21 20:36		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		10/11/21 20:36		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/05/21 17:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		10/02/21 19:08	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/02/21 19:08	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/02/21 19:08	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649649
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020

METHOD BLANK: 3407007
Matrix: Water
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/05/21 04:20	
Magnesium	mg/L	ND	0.10	0.068	10/05/21 04:20	
Potassium	mg/L	ND	5.0	3.0	10/05/21 04:20	
Sodium	mg/L	ND	5.0	0.61	10/05/21 04:20	

LABORATORY CONTROL SAMPLE: 3407008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	99	80-120	
Magnesium	mg/L	5	5.0	101	80-120	
Potassium	mg/L	5	5.2	103	80-120	
Sodium	mg/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3407009 3407010

Parameter	Units	92563385001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	126	5	5	127	131	30	108	75-125	3	20	M1
Magnesium	mg/L	366	5	5	358	369	-176	44	75-125	3	20	M1
Potassium	mg/L	122	5	5	122	126	11	80	75-125	3	20	M1
Sodium	mg/L	3230	5	5	3170	3270	-1220	720	75-125	3	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649653
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035, 92563385036, 92563385037, 92563385038, 92563385039

METHOD BLANK: 3407017 Matrix: Water
Associated Lab Samples: 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035, 92563385036, 92563385037, 92563385038, 92563385039

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/05/21 02:41	
Magnesium	mg/L	ND	0.10	0.068	10/05/21 02:41	
Potassium	mg/L	ND	5.0	3.0	10/05/21 02:41	
Sodium	mg/L	ND	5.0	0.61	10/05/21 02:41	

LABORATORY CONTROL SAMPLE: 3407018

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.8	95	80-120	
Magnesium	mg/L	5	4.8	95	80-120	
Potassium	mg/L	5	4.9J	99	80-120	
Sodium	mg/L	5	5.0J	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3407019 3407020

Parameter	Units	92563385021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	107	5	5	ND	107	-2140	-5	75-125		20	M1
Magnesium	mg/L	312	5	5	ND	301	-6230	-216	75-125		20	M1
Potassium	mg/L	103	5	5	ND	103	-2060	-17	75-125		20	M1
Sodium	mg/L	2640	5	5	2660	2580	360	-1140	75-125	3	20	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 650616
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

METHOD BLANK: 3412259 Matrix: Water
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/11/21 19:03	
Magnesium	mg/L	ND	0.10	0.068	10/11/21 19:03	
Potassium	mg/L	ND	5.0	3.0	10/11/21 19:03	
Sodium	mg/L	ND	5.0	0.61	10/11/21 19:03	

LABORATORY CONTROL SAMPLE: 3412260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	102	80-120	
Magnesium	mg/L	5	4.9	98	80-120	
Potassium	mg/L	5	4.9J	98	80-120	
Sodium	mg/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3412261 3412262

Parameter	Units	92563385040 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	141	5	5	145	142	92	31	75-125	2	20	M1
Magnesium	mg/L	411	5	5	415	411	64	-16	75-125	1	20	M1
Potassium	mg/L	130	5	5	137	134	126	63	75-125	2	20	M1
Sodium	mg/L	3530	5	5	3560	3540	560	320	75-125	0	20	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649881
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020

METHOD BLANK: 3408321 Matrix: Water
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	09/30/21 19:00	
Boron	mg/L	ND	0.050	0.0085	09/29/21 16:38	
Lithium	mg/L	ND	0.0025	0.00050	09/29/21 16:38	

LABORATORY CONTROL SAMPLE: 3408322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.05	0.050	99	80-120	
Boron	mg/L	0.05	0.051	102	80-120	
Lithium	mg/L	0.05	0.051	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3408323 3408324

Parameter	Units	92563385001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0027J	0.05	0.05	0.058	0.057	110	109	75-125	2	20	
Boron	mg/L	1.7J	0.05	0.05	1.9J	1.9J	245	327	75-125		20	M1
Lithium	mg/L	0.060	0.05	0.05	0.11	0.10	103	89	75-125	7	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649882
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035, 92563385036, 92563385037, 92563385038, 92563385039

METHOD BLANK: 3408327
Matrix: Water
Associated Lab Samples: 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035, 92563385036, 92563385037, 92563385038, 92563385039

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	09/29/21 20:17	
Boron	mg/L	ND	0.050	0.0085	09/29/21 20:17	
Lithium	mg/L	ND	0.0025	0.00050	09/29/21 20:17	

LABORATORY CONTROL SAMPLE: 3408328

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.05	0.047	93	80-120	
Boron	mg/L	0.05	0.055	109	80-120	
Lithium	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3408329 3408330

Parameter	Units	92563385021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0023J	0.05	0.05	0.064	0.067	124	130	75-125	5	20	M1
Boron	mg/L	1.0J	0.05	0.05	1.9J	1.8J	1650	1600	75-125		20	M1
Lithium	mg/L	0.041J	0.05	0.05	0.10J	0.091J	126	99	75-125		20	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 650489
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

METHOD BLANK: 3411918 Matrix: Water
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.015	0.0013	10/03/21 16:30	
Boron	mg/L	ND	0.75	0.13	10/03/21 16:30	
Lithium	mg/L	ND	0.038	0.0075	10/03/21 16:30	

LABORATORY CONTROL SAMPLE: 3411919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.75	0.72	96	80-120	
Boron	mg/L	0.75	0.65J	86	80-120	
Lithium	mg/L	0.75	0.74	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3411920 3411921

Parameter	Units	92563385040 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0014J	0.75	0.75	0.74	0.76	99	101	75-125	2	20	
Boron	mg/L	1.1	0.75	0.75	1.8	1.9	106	112	75-125	2	20	
Lithium	mg/L	0.042	0.75	0.75	0.79	0.80	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649659
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020

METHOD BLANK: 3407041 Matrix: Water
Associated Lab Samples: 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	09/30/21 14:15	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/21 14:15	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	09/30/21 14:15	

LABORATORY CONTROL SAMPLE: 3407042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.5	103	80-120	

LABORATORY CONTROL SAMPLE: 3407043

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.3	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3407046 3407047

Parameter	Units	92563385011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	84.0	50	50	132	132	96	96	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3410461 3410462

Parameter	Units	92562300002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	88.4	50	50	136	140	95	104	80-120	3	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649661
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035

METHOD BLANK: 3407053 Matrix: Water
Associated Lab Samples: 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/05/21 20:43	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/05/21 20:43	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/05/21 20:43	

LABORATORY CONTROL SAMPLE: 3407054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.6	107	80-120	

LABORATORY CONTROL SAMPLE: 3407055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.5	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3407056 3407057

Parameter	Units	92563385021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	61.5	50	50	119	111	115	99	80-120	7	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3407058 3407059

Parameter	Units	92563385031 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	94.8	50	50	140	152	91	114	80-120	8	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 651103 | Analysis Method: SM 2320B-2011
QC Batch Method: SM 2320B-2011 | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005

METHOD BLANK: 3414517 Matrix: Water
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/06/21 11:52	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/06/21 11:52	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/06/21 11:52	

LABORATORY CONTROL SAMPLE: 3414518

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.4	101	80-120	

LABORATORY CONTROL SAMPLE: 3414519

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.8	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3414520 3414521

Parameter	Units	92563901001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	15.9	50	50	64.7	63.7	98	95	80-120	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3414522 3414523

Parameter	Units	92563901002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	16.5	50	50	68.6	68.5	104	104	80-120	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 651424
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385036, 92563385037, 92563385038, 92563385039, 92563385040

METHOD BLANK: 3416272 Matrix: Water
Associated Lab Samples: 92563385036, 92563385037, 92563385038, 92563385039, 92563385040

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/07/21 17:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/07/21 17:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/07/21 17:20	

LABORATORY CONTROL SAMPLE: 3416273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.9	104	80-120	

LABORATORY CONTROL SAMPLE: 3416274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.2	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3416275 3416276

Parameter	Units	92563915005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	51.0	59.9	93	110	80-120	16	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3416277 3416278

Parameter	Units	92563915006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	25.0	50	50	72.9	73.7	96	97	80-120	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 651989
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

METHOD BLANK: 3419006 Matrix: Water
Associated Lab Samples: 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	10/11/21 17:07	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	10/11/21 17:07	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	10/11/21 17:07	

LABORATORY CONTROL SAMPLE: 3419007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.6	101	80-120	

LABORATORY CONTROL SAMPLE: 3419008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.9	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3419009 3419010

Parameter	Units	92563695001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	90.4	75.9	181	152	80-120	17	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3419011 3419012

Parameter	Units	92563695004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	103	50	50	153	174	101	143	80-120	13	25	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649735 — Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035

METHOD BLANK: 3407484 — Matrix: Water
Associated Lab Samples: 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/28/21 17:32	

LABORATORY CONTROL SAMPLE: 3407485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	250	100	90-110	

SAMPLE DUPLICATE: 3407486

Parameter	Units	92563385022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	15500	15400	1	25	

SAMPLE DUPLICATE: 3407487

Parameter	Units	92563385032 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	15200	14900	2	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649877 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014

METHOD BLANK: 3408305 Matrix: Water
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/29/21 11:28	

LABORATORY CONTROL SAMPLE: 3408306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	246	98	90-110	

SAMPLE DUPLICATE: 3408307

Parameter	Units	92563367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	248	250	1	25	

SAMPLE DUPLICATE: 3408308

Parameter	Units	92563385005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	12900	12800	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649879 — Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020, 92563385021, 92563385036, 92563385037, 92563385038, 92563385039

METHOD BLANK: 3408313 — Matrix: Water
Associated Lab Samples: 92563385015, 92563385016, 92563385017, 92563385018, 92563385019, 92563385020, 92563385021, 92563385036, 92563385037, 92563385038, 92563385039

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/29/21 11:34	

LABORATORY CONTROL SAMPLE: 3408314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	252	101	90-110	

SAMPLE DUPLICATE: 3408315

Parameter	Units	92563385015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8300	8300	0	25	

SAMPLE DUPLICATE: 3408316

Parameter	Units	92563385039 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 650699 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052

METHOD BLANK: 3412630 Matrix: Water
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/04/21 17:55	

LABORATORY CONTROL SAMPLE: 3412631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	264	105	90-110	

SAMPLE DUPLICATE: 3412632

Parameter	Units	92564521002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	269	267	1	25	

SAMPLE DUPLICATE: 3412633

Parameter	Units	92563385043 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	8100	8070	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 650950
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385053, 92563385054

METHOD BLANK: 3413727 Matrix: Water
Associated Lab Samples: 92563385053, 92563385054

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/05/21 17:37	

LABORATORY CONTROL SAMPLE: 3413728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	236	94	90-110	

SAMPLE DUPLICATE: 3413729

Parameter	Units	35666709002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	557	558	0	25	

SAMPLE DUPLICATE: 3413730

Parameter	Units	92564509004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	194	192	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649577
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018

METHOD BLANK: 3406750 Matrix: Water
Associated Lab Samples: 92563385001, 92563385002, 92563385003, 92563385004, 92563385005, 92563385006, 92563385007, 92563385008, 92563385009, 92563385010, 92563385011, 92563385012, 92563385013, 92563385014, 92563385015, 92563385016, 92563385017, 92563385018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/27/21 20:30	
Fluoride	mg/L	ND	0.10	0.050	09/27/21 20:30	
Sulfate	mg/L	ND	1.0	0.50	09/27/21 20:30	

LABORATORY CONTROL SAMPLE: 3406751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	46.0	92	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406752 3406753

Parameter	Units	92555214003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	23.4	50	50	69.4	70.3	92	94	90-110	1	10	H1
Fluoride	mg/L	ND	2.5	2.5	2.4	2.5	94	96	90-110	2	10	H1
Sulfate	mg/L	37.7	50	50	87.5	89.6	100	104	90-110	2	10	H1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406754 3406755

Parameter	Units	92563385009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	6450	50	50	6400	6460	-94	28	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	76	79	90-110		10	D3,M1
Sulfate	mg/L	884	50	50	914	923	59	78	90-110	1	10	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649578
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385019, 92563385020, 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035, 92563385036, 92563385037, 92563385038

METHOD BLANK: 3406756 Matrix: Water
Associated Lab Samples: 92563385019, 92563385020, 92563385021, 92563385022, 92563385023, 92563385024, 92563385025, 92563385026, 92563385027, 92563385028, 92563385029, 92563385030, 92563385031, 92563385032, 92563385033, 92563385034, 92563385035, 92563385036, 92563385037, 92563385038

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/28/21 09:21	
Fluoride	mg/L	ND	0.10	0.050	09/28/21 09:21	
Sulfate	mg/L	ND	1.0	0.50	09/28/21 09:21	

LABORATORY CONTROL SAMPLE: 3406757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	46.2	92	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	50	48.6	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406758 3406759

Parameter	Units	92563385019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2500	50	50	2570	2540	127	79	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	86	94	90-110		10	D3,M1
Sulfate	mg/L	315	50	50	363	361	96	93	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406760 3406761

Parameter	Units	92563385029 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7220	50	50	7230	7180	6	-83	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	94	86	90-110		10	D3,M1
Sulfate	mg/L	994	50	50	1030	1020	82	61	90-110	1	10	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 649791
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385039

METHOD BLANK: 3408045 Matrix: Water
Associated Lab Samples: 92563385039

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/29/21 01:25	
Fluoride	mg/L	ND	0.10	0.050	09/29/21 01:25	
Sulfate	mg/L	ND	1.0	0.50	09/29/21 01:25	

LABORATORY CONTROL SAMPLE: 3408046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.9	100	90-110	
Fluoride	mg/L	2.5	2.4	94	90-110	
Sulfate	mg/L	50	51.4	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3408047 3408048

Parameter	Units	92563385039 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	52.0	52.6	104	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	101	100	90-110	1	10	
Sulfate	mg/L	ND	50	50	53.5	54.1	107	108	90-110	1	10	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

QC Batch: 650528
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

METHOD BLANK: 3412021 Matrix: Water
Associated Lab Samples: 92563385040, 92563385041, 92563385042, 92563385043, 92563385044, 92563385045, 92563385046, 92563385047, 92563385048, 92563385049, 92563385050, 92563385051, 92563385052, 92563385053, 92563385054

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/02/21 12:34	
Fluoride	mg/L	ND	0.10	0.050	10/02/21 12:34	
Sulfate	mg/L	ND	1.0	0.50	10/02/21 12:34	

LABORATORY CONTROL SAMPLE: 3412022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	46.6	93	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3412023 3412024

Parameter	Units	92563801001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	19.5	50	50	65.9	66.8	93	95	90-110	1	10	
Fluoride	mg/L	0.47	2.5	2.5	3.1	3.1	105	107	90-110	1	10	
Sulfate	mg/L	12.1	50	50	61.3	62.5	99	101	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3412025 3412026

Parameter	Units	92563385049 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	3110	50	50	3100	3080	-25	-70	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	84	88	90-110		10	D3,M1
Sulfate	mg/L	396	50	50	426	424	60	55	90-110	1	10	M1

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QUALIFIERS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
v1	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385001	**T1-1HT**				
92563385002	**T1-2HT**				
92563385003	**T1-2HTS**				
92563385004	**T1-3HT**				
92563385005	**T1-3HTS**				
92563385006	**T1-4HT**				
92563385007	**T1-4HTS**				
92563385008	**T2-1HT**				
92563385009	**T2-2HT**				
92563385010	**T2-2HTS**				
92563385011	**T2-3HT**				
92563385012	**T2-3HTS**				
92563385013	**T2-4HT**				
92563385014	**T2-4HTS**				
92563385015	**T3-1HT**				
92563385016	**T3-2HT**				
92563385017	**T3-2HTS**				
92563385018	**T3-3HT**				
92563385019	**T3-3HTS**				
92563385020	**T3-4HT**				
92563385021	**T3-4HTS**				
92563385022	**T4-1HB**				
92563385023	**T4-1HS**				
92563385024	**T4-2HB**				
92563385025	**T4-2HS**				
92563385026	**T4-3HB**				
92563385027	**T4-3HS**				
92563385028	**T4-4HB**				
92563385029	**T4-4HS**				
92563385030	**T4-1L**				
92563385031	**T4-2L**				
92563385032	**T4-3L**				
92563385033	**T4-4L**				
92563385034	**BG-2HT**				
92563385040	**T1-1LT**				
92563385041	**T1-2LT**				
92563385042	**T1-3LT**				
92563385043	**T1-4LT**				
92563385044	**T2-2LT**				
92563385045	**T2-3LT**				
92563385046	**T2-4LT**				
92563385047	**T3-2LT**				
92563385048	**T3-3LT**				
92563385049	**T3-4LT**				
92563385050	**BG-1LT**				
92563385001	**T1-1HT**	EPA 3010A	649649	EPA 6010D	649692
92563385002	**T1-2HT**	EPA 3010A	649649	EPA 6010D	649692
92563385003	**T1-2HTS**	EPA 3010A	649649	EPA 6010D	649692

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385004	**T1-3HT**	EPA 3010A	649649	EPA 6010D	649692
92563385005	**T1-3HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385006	**T1-4HT**	EPA 3010A	649649	EPA 6010D	649692
92563385007	**T1-4HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385008	**T2-1HT**	EPA 3010A	649649	EPA 6010D	649692
92563385009	**T2-2HT**	EPA 3010A	649649	EPA 6010D	649692
92563385010	**T2-2HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385011	**T2-3HT**	EPA 3010A	649649	EPA 6010D	649692
92563385012	**T2-3HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385013	**T2-4HT**	EPA 3010A	649649	EPA 6010D	649692
92563385014	**T2-4HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385015	**T3-1HT**	EPA 3010A	649649	EPA 6010D	649692
92563385016	**T3-2HT**	EPA 3010A	649649	EPA 6010D	649692
92563385017	**T3-2HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385018	**T3-3HT**	EPA 3010A	649649	EPA 6010D	649692
92563385019	**T3-3HTS**	EPA 3010A	649649	EPA 6010D	649692
92563385020	**T3-4HT**	EPA 3010A	649649	EPA 6010D	649692
92563385021	**T3-4HTS**	EPA 3010A	649653	EPA 6010D	649690
92563385022	**T4-1HB**	EPA 3010A	649653	EPA 6010D	649690
92563385023	**T4-1HS**	EPA 3010A	649653	EPA 6010D	649690
92563385024	**T4-2HB**	EPA 3010A	649653	EPA 6010D	649690
92563385025	**T4-2HS**	EPA 3010A	649653	EPA 6010D	649690
92563385026	**T4-3HB**	EPA 3010A	649653	EPA 6010D	649690
92563385027	**T4-3HS**	EPA 3010A	649653	EPA 6010D	649690
92563385028	**T4-4HB**	EPA 3010A	649653	EPA 6010D	649690
92563385029	**T4-4HS**	EPA 3010A	649653	EPA 6010D	649690
92563385030	**T4-1L**	EPA 3010A	649653	EPA 6010D	649690
92563385031	**T4-2L**	EPA 3010A	649653	EPA 6010D	649690
92563385032	**T4-3L**	EPA 3010A	649653	EPA 6010D	649690
92563385033	**T4-4L**	EPA 3010A	649653	EPA 6010D	649690
92563385034	**BG-2HT**	EPA 3010A	649653	EPA 6010D	649690
92563385035	**DUP-1**	EPA 3010A	649653	EPA 6010D	649690
92563385036	**DUP-2**	EPA 3010A	649653	EPA 6010D	649690
92563385037	**DUP-3**	EPA 3010A	649653	EPA 6010D	649690
92563385038	**FB-1**	EPA 3010A	649653	EPA 6010D	649690
92563385039	**EB-1**	EPA 3010A	649653	EPA 6010D	649690
92563385040	**T1-1LT**	EPA 3010A	650616	EPA 6010D	650714
92563385041	**T1-2LT**	EPA 3010A	650616	EPA 6010D	650714
92563385042	**T1-3LT**	EPA 3010A	650616	EPA 6010D	650714
92563385043	**T1-4LT**	EPA 3010A	650616	EPA 6010D	650714
92563385044	**T2-2LT**	EPA 3010A	650616	EPA 6010D	650714
92563385045	**T2-3LT**	EPA 3010A	650616	EPA 6010D	650714
92563385046	**T2-4LT**	EPA 3010A	650616	EPA 6010D	650714
92563385047	**T3-2LT**	EPA 3010A	650616	EPA 6010D	650714
92563385048	**T3-3LT**	EPA 3010A	650616	EPA 6010D	650714
92563385049	**T3-4LT**	EPA 3010A	650616	EPA 6010D	650714
92563385050	**BG-1LT**	EPA 3010A	650616	EPA 6010D	650714
92563385051	**DUP-4**	EPA 3010A	650616	EPA 6010D	650714

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385052	**DUP-5**	EPA 3010A	650616	EPA 6010D	650714
92563385053	**FB-2**	EPA 3010A	650616	EPA 6010D	650714
92563385054	**EB-2**	EPA 3010A	650616	EPA 6010D	650714
92563385001	**T1-1HT**	EPA 3010A	649881	EPA 6020B	649965
92563385002	**T1-2HT**	EPA 3010A	649881	EPA 6020B	649965
92563385003	**T1-2HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385004	**T1-3HT**	EPA 3010A	649881	EPA 6020B	649965
92563385005	**T1-3HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385006	**T1-4HT**	EPA 3010A	649881	EPA 6020B	649965
92563385007	**T1-4HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385008	**T2-1HT**	EPA 3010A	649881	EPA 6020B	649965
92563385009	**T2-2HT**	EPA 3010A	649881	EPA 6020B	649965
92563385010	**T2-2HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385011	**T2-3HT**	EPA 3010A	649881	EPA 6020B	649965
92563385012	**T2-3HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385013	**T2-4HT**	EPA 3010A	649881	EPA 6020B	649965
92563385014	**T2-4HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385015	**T3-1HT**	EPA 3010A	649881	EPA 6020B	649965
92563385016	**T3-2HT**	EPA 3010A	649881	EPA 6020B	649965
92563385017	**T3-2HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385018	**T3-3HT**	EPA 3010A	649881	EPA 6020B	649965
92563385019	**T3-3HTS**	EPA 3010A	649881	EPA 6020B	649965
92563385020	**T3-4HT**	EPA 3010A	649881	EPA 6020B	649965
92563385021	**T3-4HTS**	EPA 3010A	649882	EPA 6020B	649964
92563385022	**T4-1HB**	EPA 3010A	649882	EPA 6020B	649964
92563385023	**T4-1HS**	EPA 3010A	649882	EPA 6020B	649964
92563385024	**T4-2HB**	EPA 3010A	649882	EPA 6020B	649964
92563385025	**T4-2HS**	EPA 3010A	649882	EPA 6020B	649964
92563385026	**T4-3HB**	EPA 3010A	649882	EPA 6020B	649964
92563385027	**T4-3HS**	EPA 3010A	649882	EPA 6020B	649964
92563385028	**T4-4HB**	EPA 3010A	649882	EPA 6020B	649964
92563385029	**T4-4HS**	EPA 3010A	649882	EPA 6020B	649964
92563385030	**T4-1L**	EPA 3010A	649882	EPA 6020B	649964
92563385031	**T4-2L**	EPA 3010A	649882	EPA 6020B	649964
92563385032	**T4-3L**	EPA 3010A	649882	EPA 6020B	649964
92563385033	**T4-4L**	EPA 3010A	649882	EPA 6020B	649964
92563385034	**BG-2HT**	EPA 3010A	649882	EPA 6020B	649964
92563385035	**DUP-1**	EPA 3010A	649882	EPA 6020B	649964
92563385036	**DUP-2**	EPA 3010A	649882	EPA 6020B	649964
92563385037	**DUP-3**	EPA 3010A	649882	EPA 6020B	649964
92563385038	**FB-1**	EPA 3010A	649882	EPA 6020B	649964
92563385039	**EB-1**	EPA 3010A	649882	EPA 6020B	649964
92563385040	**T1-1LT**	EPA 3010A	650489	EPA 6020B	650506
92563385041	**T1-2LT**	EPA 3010A	650489	EPA 6020B	650506
92563385042	**T1-3LT**	EPA 3010A	650489	EPA 6020B	650506
92563385043	**T1-4LT**	EPA 3010A	650489	EPA 6020B	650506
92563385044	**T2-2LT**	EPA 3010A	650489	EPA 6020B	650506

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385045	**T2-3LT**	EPA 3010A	650489	EPA 6020B	650506
92563385046	**T2-4LT**	EPA 3010A	650489	EPA 6020B	650506
92563385047	**T3-2LT**	EPA 3010A	650489	EPA 6020B	650506
92563385048	**T3-3LT**	EPA 3010A	650489	EPA 6020B	650506
92563385049	**T3-4LT**	EPA 3010A	650489	EPA 6020B	650506
92563385050	**BG-1LT**	EPA 3010A	650489	EPA 6020B	650506
92563385051	**DUP-4**	EPA 3010A	650489	EPA 6020B	650506
92563385052	**DUP-5**	EPA 3010A	650489	EPA 6020B	650506
92563385053	**FB-2**	EPA 3010A	650489	EPA 6020B	650506
92563385054	**EB-2**	EPA 3010A	650489	EPA 6020B	650506
92563385001	**T1-1HT**	SM 2320B-2011	651103		
92563385002	**T1-2HT**	SM 2320B-2011	651103		
92563385003	**T1-2HTS**	SM 2320B-2011	651103		
92563385004	**T1-3HT**	SM 2320B-2011	651103		
92563385005	**T1-3HTS**	SM 2320B-2011	651103		
92563385006	**T1-4HT**	SM 2320B-2011	649659		
92563385007	**T1-4HTS**	SM 2320B-2011	649659		
92563385008	**T2-1HT**	SM 2320B-2011	649659		
92563385009	**T2-2HT**	SM 2320B-2011	649659		
92563385010	**T2-2HTS**	SM 2320B-2011	649659		
92563385011	**T2-3HT**	SM 2320B-2011	649659		
92563385012	**T2-3HTS**	SM 2320B-2011	649659		
92563385013	**T2-4HT**	SM 2320B-2011	649659		
92563385014	**T2-4HTS**	SM 2320B-2011	649659		
92563385015	**T3-1HT**	SM 2320B-2011	649659		
92563385016	**T3-2HT**	SM 2320B-2011	649659		
92563385017	**T3-2HTS**	SM 2320B-2011	649659		
92563385018	**T3-3HT**	SM 2320B-2011	649659		
92563385019	**T3-3HTS**	SM 2320B-2011	649659		
92563385020	**T3-4HT**	SM 2320B-2011	649659		
92563385021	**T3-4HTS**	SM 2320B-2011	649661		
92563385022	**T4-1HB**	SM 2320B-2011	649661		
92563385023	**T4-1HS**	SM 2320B-2011	649661		
92563385024	**T4-2HB**	SM 2320B-2011	649661		
92563385025	**T4-2HS**	SM 2320B-2011	649661		
92563385026	**T4-3HB**	SM 2320B-2011	649661		
92563385027	**T4-3HS**	SM 2320B-2011	649661		
92563385028	**T4-4HB**	SM 2320B-2011	649661		
92563385029	**T4-4HS**	SM 2320B-2011	649661		
92563385030	**T4-1L**	SM 2320B-2011	649661		
92563385031	**T4-2L**	SM 2320B-2011	649661		
92563385032	**T4-3L**	SM 2320B-2011	649661		
92563385033	**T4-4L**	SM 2320B-2011	649661		
92563385034	**BG-2HT**	SM 2320B-2011	649661		
92563385035	**DUP-1**	SM 2320B-2011	649661		
92563385036	**DUP-2**	SM 2320B-2011	651424		
92563385037	**DUP-3**	SM 2320B-2011	651424		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385038	**FB-1**	SM 2320B-2011	651424		
92563385039	**EB-1**	SM 2320B-2011	651424		
92563385040	**T1-1LT**	SM 2320B-2011	651424		
92563385041	**T1-2LT**	SM 2320B-2011	651989		
92563385042	**T1-3LT**	SM 2320B-2011	651989		
92563385043	**T1-4LT**	SM 2320B-2011	651989		
92563385044	**T2-2LT**	SM 2320B-2011	651989		
92563385045	**T2-3LT**	SM 2320B-2011	651989		
92563385046	**T2-4LT**	SM 2320B-2011	651989		
92563385047	**T3-2LT**	SM 2320B-2011	651989		
92563385048	**T3-3LT**	SM 2320B-2011	651989		
92563385049	**T3-4LT**	SM 2320B-2011	651989		
92563385050	**BG-1LT**	SM 2320B-2011	651989		
92563385051	**DUP-4**	SM 2320B-2011	651989		
92563385052	**DUP-5**	SM 2320B-2011	651989		
92563385053	**FB-2**	SM 2320B-2011	651989		
92563385054	**EB-2**	SM 2320B-2011	651989		
92563385001	**T1-1HT**	SM 2540C-2011	649877		
92563385002	**T1-2HT**	SM 2540C-2011	649877		
92563385003	**T1-2HTS**	SM 2540C-2011	649877		
92563385004	**T1-3HT**	SM 2540C-2011	649877		
92563385005	**T1-3HTS**	SM 2540C-2011	649877		
92563385006	**T1-4HT**	SM 2540C-2011	649877		
92563385007	**T1-4HTS**	SM 2540C-2011	649877		
92563385008	**T2-1HT**	SM 2540C-2011	649877		
92563385009	**T2-2HT**	SM 2540C-2011	649877		
92563385010	**T2-2HTS**	SM 2540C-2011	649877		
92563385011	**T2-3HT**	SM 2540C-2011	649877		
92563385012	**T2-3HTS**	SM 2540C-2011	649877		
92563385013	**T2-4HT**	SM 2540C-2011	649877		
92563385014	**T2-4HTS**	SM 2540C-2011	649877		
92563385015	**T3-1HT**	SM 2540C-2011	649879		
92563385016	**T3-2HT**	SM 2540C-2011	649879		
92563385017	**T3-2HTS**	SM 2540C-2011	649879		
92563385018	**T3-3HT**	SM 2540C-2011	649879		
92563385019	**T3-3HTS**	SM 2540C-2011	649879		
92563385020	**T3-4HT**	SM 2540C-2011	649879		
92563385021	**T3-4HTS**	SM 2540C-2011	649879		
92563385022	**T4-1HB**	SM 2540C-2011	649735		
92563385023	**T4-1HS**	SM 2540C-2011	649735		
92563385024	**T4-2HB**	SM 2540C-2011	649735		
92563385025	**T4-2HS**	SM 2540C-2011	649735		
92563385026	**T4-3HB**	SM 2540C-2011	649735		
92563385027	**T4-3HS**	SM 2540C-2011	649735		
92563385028	**T4-4HB**	SM 2540C-2011	649735		
92563385029	**T4-4HS**	SM 2540C-2011	649735		
92563385030	**T4-1L**	SM 2540C-2011	649735		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385031	**T4-2L**	SM 2540C-2011	649735		
92563385032	**T4-3L**	SM 2540C-2011	649735		
92563385033	**T4-4L**	SM 2540C-2011	649735		
92563385034	**BG-2HT**	SM 2540C-2011	649735		
92563385035	**DUP-1**	SM 2540C-2011	649735		
92563385036	**DUP-2**	SM 2540C-2011	649879		
92563385037	**DUP-3**	SM 2540C-2011	649879		
92563385038	**FB-1**	SM 2540C-2011	649879		
92563385039	**EB-1**	SM 2540C-2011	649879		
92563385040	**T1-1LT**	SM 2540C-2011	650699		
92563385041	**T1-2LT**	SM 2540C-2011	650699		
92563385042	**T1-3LT**	SM 2540C-2011	650699		
92563385043	**T1-4LT**	SM 2540C-2011	650699		
92563385044	**T2-2LT**	SM 2540C-2011	650699		
92563385045	**T2-3LT**	SM 2540C-2011	650699		
92563385046	**T2-4LT**	SM 2540C-2011	650699		
92563385047	**T3-2LT**	SM 2540C-2011	650699		
92563385048	**T3-3LT**	SM 2540C-2011	650699		
92563385049	**T3-4LT**	SM 2540C-2011	650699		
92563385050	**BG-1LT**	SM 2540C-2011	650699		
92563385051	**DUP-4**	SM 2540C-2011	650699		
92563385052	**DUP-5**	SM 2540C-2011	650699		
92563385053	**FB-2**	SM 2540C-2011	650950		
92563385054	**EB-2**	SM 2540C-2011	650950		
92563385001	**T1-1HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385002	**T1-2HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385003	**T1-2HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385004	**T1-3HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385005	**T1-3HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385006	**T1-4HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385007	**T1-4HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385008	**T2-1HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385009	**T2-2HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385010	**T2-2HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385011	**T2-3HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385012	**T2-3HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385013	**T2-4HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385014	**T2-4HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385015	**T3-1HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385016	**T3-2HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385017	**T3-2HTS**	EPA 300.0 Rev 2.1 1993	649577		
92563385018	**T3-3HT**	EPA 300.0 Rev 2.1 1993	649577		
92563385019	**T3-3HTS**	EPA 300.0 Rev 2.1 1993	649578		
92563385020	**T3-4HT**	EPA 300.0 Rev 2.1 1993	649578		
92563385021	**T3-4HTS**	EPA 300.0 Rev 2.1 1993	649578		
92563385022	**T4-1HB**	EPA 300.0 Rev 2.1 1993	649578		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92563385

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92563385023	**T4-1HS**	EPA 300.0 Rev 2.1 1993	649578		
92563385024	**T4-2HB**	EPA 300.0 Rev 2.1 1993	649578		
92563385025	**T4-2HS**	EPA 300.0 Rev 2.1 1993	649578		
92563385026	**T4-3HB**	EPA 300.0 Rev 2.1 1993	649578		
92563385027	**T4-3HS**	EPA 300.0 Rev 2.1 1993	649578		
92563385028	**T4-4HB**	EPA 300.0 Rev 2.1 1993	649578		
92563385029	**T4-4HS**	EPA 300.0 Rev 2.1 1993	649578		
92563385030	**T4-1L**	EPA 300.0 Rev 2.1 1993	649578		
92563385031	**T4-2L**	EPA 300.0 Rev 2.1 1993	649578		
92563385032	**T4-3L**	EPA 300.0 Rev 2.1 1993	649578		
92563385033	**T4-4L**	EPA 300.0 Rev 2.1 1993	649578		
92563385034	**BG-2HT**	EPA 300.0 Rev 2.1 1993	649578		
92563385035	**DUP-1**	EPA 300.0 Rev 2.1 1993	649578		
92563385036	**DUP-2**	EPA 300.0 Rev 2.1 1993	649578		
92563385037	**DUP-3**	EPA 300.0 Rev 2.1 1993	649578		
92563385038	**FB-1**	EPA 300.0 Rev 2.1 1993	649578		
92563385039	**EB-1**	EPA 300.0 Rev 2.1 1993	649791		
92563385040	**T1-1LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385041	**T1-2LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385042	**T1-3LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385043	**T1-4LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385044	**T2-2LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385045	**T2-3LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385046	**T2-4LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385047	**T3-2LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385048	**T3-3LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385049	**T3-4LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385050	**BG-1LT**	EPA 300.0 Rev 2.1 1993	650528		
92563385051	**DUP-4**	EPA 300.0 Rev 2.1 1993	650528		
92563385052	**DUP-5**	EPA 300.0 Rev 2.1 1993	650528		
92563385053	**FB-2**	EPA 300.0 Rev 2.1 1993	650528		
92563385054	**EB-2**	EPA 300.0 Rev 2.1 1993	650528		

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Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☑ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Georgia Power

Project #:

WO#: 92563385

92563385

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☐ No

Date/Initials Person Examining Contents: 9/9/21

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 93171 ☑ Wet ☐ Blue ☐ None

Type of Ice:

Cooler Temp: 1.4-3.2 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 1.4-3.2

USDA Regulated Soil (☑ N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

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

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

Project **WO# : 92563385**

PM: NMG **Due Date: 10/04/21**

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-V/H/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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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.

WO# : 92563385

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

Project #

PM: NMG Due Date: 10/04/21

CLIENT: GA-GA Power

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

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

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GN (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AGOU-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

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

Project **WO#: 92563385**

PM: NMG Due Date: 10/04/21

CLIENT: GA-GA Power

Item#	BP4N-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGKU-Wide-mouthed Glass Jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH4)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
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Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

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

Project #

WO# : 92563385

PM: NMG Due Date: 10/04/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 ml Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGKU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG1U-250 ml Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 ml Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 ml VOA Na2S2O3 (N/A)	VG9U-40 ml VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 ml Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 ml Plastic (NH2)2SO4 (9.3-9.7)	AG0U-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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Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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Page: 1 Of 1

Section A — Required Client Information:
Company: Georgia Power
Address: 1000 Weatherstone Parkway
Woodstock, GA 30188
Email: kevin.stephenson@resoluteenv.com
Phone: (678)548-9415 Fax:
Requested Due Date:

Section B — Required Project Information:
Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus Surface Water Sampling
Project #:

Section C — Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'oleo@pacelabs.com
Pace Profile #: 10768-14

Regulatory Agency
State / Location: GA

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

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

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	6010/6020	Alk/Cl F SO4	TDS	Residual Chlorine (Y/N)	
1	T1-1HT	WT		9/23/21	1207				3	2		1						x	x	x		pH: 7.05
2	T1-2HT	WT		9/23/21	1213				3	2		1						x	x	x		pH: 6.97
3	T1-2HTS	WT		9/23/21	1217				3	2		1						x	x	x		pH: 7.15
4	T1-3HT	WT		9/23/21	1228				3	2		1						x	x	x		pH: 6.99
5	T1-3HTS	WT		9/23/21	1223				3	2		1						x	x	x		pH: 7.08
6	T1-4HT	WT		9/23/21	1409				3	2		1						x	x	x		pH: 6.98
7	T1-4HTS	WT		9/23/21	1402				3	2		1						x	x	x		pH: 7.14
8	T2-1HT	WT		9/23/21	1141				3	2		1						x	x	x		pH: 6.89
9	T2-2HT	WT		9/23/21	1149				3	2		1						x	x	x		pH: 6.87
10	T2-2HTS	WT		9/23/21	1153				3	2		1						x	x	x		pH: 7.05
11	T2-3HT	WT		9/23/21	1252				3	2		1						x	x	x		pH: 6.96
12	T2-3HTS	WT		9/23/21	1245				3	2		1						x	x	x		pH: 7.18

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Looker	9/24/21	1030	Fedex	9/24/21	1030	3.2	Y	Y	Y
				AiRuckir / PACE / AVL	9-25-21	1100	1.4	Y	Y	Y
							1.6	Y	Y	Y
							1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Robert Mull, William Looker
SIGNATURE of SAMPLER: [signature] DATE Signed: 9/23/21

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 Of 2

Section A — Required Client Information:		Section B — Required Project Information:		Section C — Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@resolutecnv.com	Purchase Order #:		Pace Quote:	
Phone:	(678)548-9415 Fax:	Project Name:	McManus Surface Water Sampling	Pace Project Manager:	rico.dioleo@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10768-14

Regulatory Program: GA

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique.	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Required Analyses (Y/N): 6010/6020	Alk/Cl, F, SO4	TDS	Residual Chlorine (Y/N)	
13	T2-4HT	WT		9/23/21	1347				3	2		1							x	x	x		pH 6.96
14	T2-4HTS	WT		9/23/21	1340				3	2		1							x	x	x		pH 7.09
15	T3-1HT	WT		9/23/21	1116				3	2		1							x	x	x		pH 7.12
16	T3-2HT	WT		9/23/21	1125				3	2		1							x	x	x		pH 6.79
17	T3-2HTS	WT		9/23/21	1130				3	2		1							x	x	x		pH 7.04
18	T3-3HT	WT		9/23/21	1313				3	2		1							x	x	x		pH 6.92
19	T3-3HTS	WT		9/23/21	1307				3	2		1							x	x	x		pH 7.24
20	T3-4HT	WT		9/23/21	1329				3	2		1							x	x	x		pH 6.94
21	T3-4HTS	WT		9/23/21	1324				3	2		1							x	x	x		pH 7.09
22	T4-1HB	WT		9/22/21	1256				3	2		1							x	x	x		pH 7.06
23	T4-1HS	WT		9/22/21	1251				3	2		1							x	x	x		pH 7.22
24	T4-2HB	WT		9/22/21	1308				3	2		1							x	x	x		pH 7.04

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Looker	9/24/21	1030	Fedex	9/24/21	1030	3.2	Y	Y	Y
				A.Rucker/PACE/AVL	9-25-21	1100	1.4	Y	Y	Y
							1.6	Y	Y	Y
							1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Muil, William Looker

SIGNATURE of SAMPLER: DATE Signed: 9/23/21

Pace Analytical®

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Page : 3 Of 3

Section A — Required Client Information:

Company:	Georgia Power
Address:	1003 Weatherstone Parkway
	Woodstock GA 30188
Email:	kevin.stephenson@resolutionenv.com
Phone:	(678)548-9415 Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	Kevin Stephenson
Copy To:	
Purchase Order #:	
Project Name:	McManus Surface Water Sampling
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	nicole.d'oleo@pacelabs.com,
Pace Profile #:	10768-14

Regulatory Agency:

State / Location: GA

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	6010/6020	Alk/Cl, F, SO4	TDS	Residual Chlorine (Y/N)	
25	T4-2HS	WT		9/22/21	1303				3	2		1							x	x	x		pH: 7.13
26	T4-3HB	WT		9/22/21	1323				3	2		1							x	x	x		pH: 7.04
27	T4-3HS	WT		9/22/21	1315				3	2		1							x	x	x		pH: 7.16
28	T4-4HB	WT		9/22/21	1335				3	2		1							x	x	x		pH: 7.08
29	T4-4HS	WT		9/22/21	1335				3	2		1							x	x	x		pH: 7.17
30	~~T1-1ET~~	WT																	x	x	x		
31	~~T1-2ET~~	WT																	x	x	x		
32	~~T1-3ET~~	WT																	x	x	x		
33	~~T1-4ET~~	WT																	x	x	x		
34	~~T2-2LT~~	WT																	x	x	x		
35	~~T2-3LT~~	WT																	x	x	x		
36	~~T2-4LT~~	WT																	x	x	x		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Leaker	9/24/21	1030	Fedex	9/24/21	1030	3.2	Y	Y	Y
				A. Rucker / PACE / AVL	9-25-21	1100	1.4	Y	Y	Y
							1.6	Y	Y	Y
							1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Mull, William Leaker

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/23/21

Pace Analytical®

CHAIN-OF-CUSTODY / Analytical Request Document

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Page : 4 Of 4

Section A — Required Client Information:

Company:	Georgia Power
Address:	1003 Weatherstone Parkway
	Woodstock, GA 30188
Email:	kevin.stephenson@resolutionv.com
Phone:	(678)548-9415 Fax
Requested Due Date	

Section B — Required Project Information:

Report To:	Kevin Stephenson
Copy To:	
Purchase Order #:	
Project Name:	McManus Surface Water Sampling
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	nicole.d'oleo@pacelabs.com,
Pace Profile #:	10768-14

Regulatory Agency:

State / Location: GA

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

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

Requested Analysis Filtered (Y/N)

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37	~~T3-2LT~~	WT																	x	x	x		
38	~~T3-3LT~~	WT																	x	x	x		
39	~~T3-4LT~~	WT																	x	x	x		
40	T4-1L	WT		9/22/21	1929				3	2		1							x	x	x		pH 7.35
41	T4-2L	WT		9/22/21	1911				3	2		1							x	x	x		pH 7.31
42	T4-3L	WT		9/22/21	1905				3	2		1							x	x	x		pH 7.38
43	T4-4L	WT		9/22/21	1817				3	2		1							x	x	x		pH 7.32
44	~~BG-4LT~~	WT																	x	x	x		
45	BG-2HT	WT		9/22/21	1021				3	2		1							x	x	x		pH 7.13
46	DUP 1	WT		9/22/21	—				3	2		1							x	x	x		
47	DUP 2	WT		9/23/21	—				3	2		1							x	x	x		
48	DUP-3	WT		9/23/21	—				3	2		1							x	x	x		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Looker	9/24/21	1030	Fedex	9/24/21	1030	3.2	Y	Y	Y
				A. Ruckle / PACE / AVL	9-25-21	1100	1.4	Y	Y	Y
							1.6	Y	Y	Y
							1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Mult, William Looker

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/23/21

CHAIN-OF-CUSTODY / Analytical Request Document

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page : 5 Of 5

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@resolutesw.com	Purchase Order #:		Pace Quote:	
Phone:	(678)548-0415 Fax:	Project Name:	McManus Surface Water Sampling	Pace Project Manager:	nicole.d'olio@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10768-14

Regulatory Program: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	EC/DO/pH	Alk/Cl, F, SO4	TDS	Residual Chlorine (Y/N)
49	~~SHR-4~~	WT																	X	X	X	
50	~~SHR-5~~	WT																	X	X	X	
51	FB-1	WT		9/23/21	1510				3	2		1							X	X	X	
52	EB-1	WT		9/23/21	1515				3	2		1							X	X	X	
53		WT																	X	X	X	
54		WT																	X	X	X	
55		WT																	X	X	X	
56		WT																	X	X	X	
57																						
58																						
59																						
60																						

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	William Leaker	9/24/21	1030	Fedex	9/24/21	1030	3.2	Y	Y	Y
				A. Ryder/PACE/AVL	9-25-21	1100	1.4	Y	Y	Y
							1.6	Y	Y	Y
							1.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Mull, William Leaker

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/23/21

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

January 13, 2022

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

RE: Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 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 - Green Bay

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

Sincerely,

Nicole D'Oleo
nicole.d'oleo@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Anna Bottum, ERM
Andrea Brazell, ERM
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Lacy Smith, ERM
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Caitlin Tillema, ERM
Christine Weaver, ERM
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services Charlotte
South Carolina Laboratory ID: 99006
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Laboratory ID: 99006
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DoH Drinking Water #: LA029
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Laboratory ID: 99030
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92578470001	**T1-4HT**	Water	12/15/21 09:50	12/16/21 11:00
92578470002	**T1-4HTS**	Water	12/15/21 09:54	12/16/21 11:00
92578470003	**T2-1HT**	Water	12/15/21 09:05	12/16/21 11:00
92578470004	**T2-2HT**	Water	12/15/21 09:16	12/16/21 11:00
92578470005	**T2-2HTS**	Water	12/15/21 09:20	12/16/21 11:00
92578470006	**T2-3HT**	Water	12/15/21 09:28	12/16/21 11:00
92578470007	**T2-3HTS**	Water	12/15/21 09:34	12/16/21 11:00
92578470008	**T2-4HT**	Water	12/15/21 10:16	12/16/21 11:00
92578470009	**T2-4HTS**	Water	12/15/21 10:20	12/16/21 11:00
92578470010	**T3-4HT**	Water	12/15/21 10:36	12/16/21 11:00
92578470011	**T3-4HTS**	Water	12/15/21 10:42	12/16/21 11:00
92578470012	**T4-1HB**	Water	12/15/21 07:06	12/16/21 11:00
92578470013	**T4-1HS**	Water	12/15/21 07:00	12/16/21 11:00
92578470014	**T4-2HB**	Water	12/15/21 07:22	12/16/21 11:00
92578470015	**T4-2HS**	Water	12/15/21 07:25	12/16/21 11:00
92578470016	**T4-3HB**	Water	12/15/21 07:40	12/16/21 11:00
92578470017	**T4-3HS**	Water	12/15/21 07:44	12/16/21 11:00
92578470018	**T4-4HB**	Water	12/15/21 08:04	12/16/21 11:00
92578470019	**T4-4HS**	Water	12/15/21 08:08	12/16/21 11:00
92578470020	**T1-4LT**	Water	12/15/21 14:48	12/16/21 11:00
92578470021	**T2-4LT**	Water	12/15/21 15:00	12/16/21 11:00
92578470022	**T3-4LT**	Water	12/15/21 15:10	12/16/21 11:00
92578470023	**T4-4L**	Water	12/15/21 13:48	12/16/21 11:00
92578470024	**BG-1LT**	Water	12/15/21 12:50	12/16/21 11:00
92578470025	**BG-2HT**	Water	12/15/21 08:41	12/16/21 11:00
92578470026	**DUP-1**	Water	12/15/21 00:00	12/16/21 11:00
92578470027	**DUP-2**	Water	12/15/21 00:00	12/16/21 11:00
92578470028	**DUP-3**	Water	12/15/21 00:00	12/16/21 11:00
92578470029	**FB-1**	Water	12/15/21 16:12	12/16/21 11:00
92578470030	**EB-1**	Water	12/15/21 16:20	12/16/21 11:00

REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92578470001	**T1-4HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470002	**T1-4HTS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470003	**T2-1HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470004	**T2-2HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470005	**T2-2HTS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470006	**T2-3HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470007	**T2-3HTS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470008	**T2-4HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470009	**T2-4HTS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470010	**T3-4HT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470011	**T3-4HTS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470012	**T4-1HB**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470013	**T4-1HS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470014	**T4-2HB**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470015	**T4-2HS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470016	**T4-3HB**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470017	**T4-3HS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470018	**T4-4HB**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470019	**T4-4HS**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470020	**T1-4LT**	EPA 6010D	CBV, DS	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470021	**T2-4LT**	EPA 6010D	CBV	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470022	**T3-4LT**	EPA 6010D	DS, RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470023	**T4-4L**	EPA 6010D	DS, RDT	4	PASI-A

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470024	**BG-1LT**	EPA 6010D	DS, RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470025	**BG-2HT**	EPA 6010D	DS, RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470026	**DUP-1**	EPA 6010D	DS, RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470027	**DUP-2**	EPA 6010D	DS, RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470028	**DUP-3**	EPA 6010D	DS, RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470029	**FB-1**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A
92578470030	**EB-1**	EPA 6010D	RDT	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B	TMK	3	PASI-G

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C-2015	MAB2	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JCM	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte
PASI-G = Pace Analytical Services - Green Bay

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470001	**T1-4HT**					
	Performed by	CUSTOMER			12/20/21 11:41	
	pH	7.47	Std. Units		12/20/21 11:41	
EPA 6010D	Calcium	254	mg/L	2.0	01/10/22 12:33	M1
EPA 6010D	Magnesium	748	mg/L	2.0	01/10/22 12:33	M1
EPA 6010D	Potassium	245	mg/L	100	01/10/22 12:33	M1
EPA 6010D	Sodium	6160	mg/L	1000	01/11/22 02:16	M1
EPA 6020B	Boron	2.2J	mg/L	2.5	12/27/21 12:56	D3,M1
EPA 6020B	Lithium	0.091J	mg/L	0.12	12/27/21 12:56	D3
SM 2320B	Alkalinity, Total as CaCO3	103	mg/L	10.0	12/20/21 21:09	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	103	mg/L	10.0	12/20/21 21:09	
SM 2540C-2015	Total Dissolved Solids	21000	mg/L	1250	12/20/21 11:53	
EPA 300.0 Rev 2.1 1993	Chloride	9760	mg/L	100	12/17/21 18:57	
EPA 300.0 Rev 2.1 1993	Sulfate	1350	mg/L	100	12/17/21 18:57	
92578470002	**T1-4HTS**					
	Performed by	CUSTOMER			12/20/21 11:42	
	pH	7.44	Std. Units		12/20/21 11:42	
EPA 6010D	Calcium	241	mg/L	2.0	01/10/22 12:53	
EPA 6010D	Magnesium	712	mg/L	2.0	01/10/22 12:53	
EPA 6010D	Potassium	234	mg/L	100	01/10/22 12:53	
EPA 6010D	Sodium	5800	mg/L	1000	01/11/22 02:41	
EPA 6020B	Boron	2.2J	mg/L	2.5	12/27/21 13:27	D3
EPA 6020B	Lithium	0.091J	mg/L	0.12	12/27/21 13:27	D3
SM 2320B	Alkalinity, Total as CaCO3	99.3	mg/L	10.0	12/20/21 21:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.3	mg/L	10.0	12/20/21 21:35	
SM 2540C-2015	Total Dissolved Solids	21300	mg/L	1250	12/20/21 11:53	
EPA 300.0 Rev 2.1 1993	Chloride	9680	mg/L	100	12/17/21 19:11	
EPA 300.0 Rev 2.1 1993	Sulfate	1340	mg/L	100	12/17/21 19:11	
92578470003	**T2-1HT**					
	Performed by	CUSTOMER			12/20/21 11:42	
	pH	7.58	Std. Units		12/20/21 11:42	
EPA 6010D	Calcium	252	mg/L	2.0	01/10/22 12:57	
EPA 6010D	Magnesium	739	mg/L	2.0	01/10/22 12:57	
EPA 6010D	Potassium	242	mg/L	100	01/10/22 12:57	
EPA 6010D	Sodium	5900	mg/L	1000	01/11/22 02:45	
EPA 6020B	Boron	2.2J	mg/L	2.5	12/27/21 13:30	D3
EPA 6020B	Lithium	0.092J	mg/L	0.12	12/27/21 13:30	D3
SM 2320B	Alkalinity, Total as CaCO3	97.7	mg/L	10.0	12/20/21 21:41	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	97.7	mg/L	10.0	12/20/21 21:41	
SM 2540C-2015	Total Dissolved Solids	18800	mg/L	1250	12/21/21 10:27	D6
EPA 300.0 Rev 2.1 1993	Chloride	9670	mg/L	100	12/17/21 19:25	
EPA 300.0 Rev 2.1 1993	Sulfate	1340	mg/L	100	12/17/21 19:25	
92578470004	**T2-2HT**					
	Performed by	CUSTOMER			12/20/21 11:42	

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470004	**T2-2HT**					
	pH	7.48	Std. Units		12/20/21 11:42	
EPA 6010D	Calcium	258	mg/L	2.0	01/10/22 13:00	
EPA 6010D	Magnesium	755	mg/L	2.0	01/10/22 13:00	
EPA 6010D	Potassium	248	mg/L	100	01/10/22 13:00	
EPA 6010D	Sodium	6050	mg/L	1000	01/11/22 02:48	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 13:34	D3
EPA 6020B	Lithium	0.094J	mg/L	0.12	12/27/21 13:34	D3
SM 2320B	Alkalinity, Total as CaCO3	101	mg/L	10.0	12/20/21 21:47	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	101	mg/L	10.0	12/20/21 21:47	
SM 2540C-2015	Total Dissolved Solids	17200	mg/L	1250	12/21/21 10:27	
EPA 300.0 Rev 2.1 1993	Chloride	9630	mg/L	100	12/17/21 19:39	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/17/21 19:39	
92578470005	**T2-2HTS**					
	Performed by	CUSTOMER			12/20/21 11:43	
	pH	7.46	Std. Units		12/20/21 11:43	
EPA 6010D	Calcium	260	mg/L	2.0	01/10/22 13:03	
EPA 6010D	Magnesium	760	mg/L	2.0	01/10/22 13:03	
EPA 6010D	Potassium	248	mg/L	100	01/10/22 13:03	
EPA 6010D	Sodium	5840	mg/L	1000	01/11/22 02:51	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 13:38	D3
EPA 6020B	Lithium	0.096J	mg/L	0.12	12/27/21 13:38	D3
SM 2320B	Alkalinity, Total as CaCO3	99.4	mg/L	10.0	12/20/21 21:53	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.4	mg/L	10.0	12/20/21 21:53	
SM 2540C-2015	Total Dissolved Solids	18600	mg/L	1250	12/21/21 10:27	
EPA 300.0 Rev 2.1 1993	Chloride	9700	mg/L	100	12/18/21 00:00	
EPA 300.0 Rev 2.1 1993	Sulfate	1340	mg/L	100	12/18/21 00:00	
92578470006	**T2-3HT**					
	Performed by	CUSTOMER			12/20/21 11:43	
	pH	7.45	Std. Units		12/20/21 11:43	
EPA 6010D	Calcium	239	mg/L	2.0	01/10/22 13:07	
EPA 6010D	Magnesium	699	mg/L	2.0	01/10/22 13:07	
EPA 6010D	Potassium	231	mg/L	100	01/10/22 13:07	
EPA 6010D	Sodium	5920	mg/L	1000	01/11/22 02:54	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 13:41	D3
EPA 6020B	Lithium	0.095J	mg/L	0.12	12/27/21 13:41	D3
SM 2320B	Alkalinity, Total as CaCO3	96.6	mg/L	10.0	12/20/21 21:59	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	96.6	mg/L	10.0	12/20/21 21:59	
SM 2540C-2015	Total Dissolved Solids	19400	mg/L	1250	12/21/21 10:29	
EPA 300.0 Rev 2.1 1993	Chloride	9700	mg/L	100	12/18/21 00:14	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 00:14	
92578470007	**T2-3HTS**					
	Performed by	CUSTOMER			12/20/21 11:43	
	pH	7.45	Std. Units		12/20/21 11:43	

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470007	**T2-3HTS**					
EPA 6010D	Calcium	248	mg/L	2.0	01/10/22 13:10	
EPA 6010D	Magnesium	733	mg/L	2.0	01/10/22 13:10	
EPA 6010D	Potassium	242	mg/L	100	01/10/22 13:10	
EPA 6010D	Sodium	6260	mg/L	1000	01/11/22 02:57	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 17:14	D3
EPA 6020B	Lithium	0.093J	mg/L	0.12	12/27/21 17:14	D3
SM 2320B	Alkalinity, Total as CaCO3	102	mg/L	10.0	12/20/21 22:21	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	102	mg/L	10.0	12/20/21 22:21	
SM 2540C-2015	Total Dissolved Solids	19200	mg/L	1250	12/21/21 10:29	
EPA 300.0 Rev 2.1 1993	Chloride	9750	mg/L	100	12/18/21 00:28	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 00:28	
92578470008	**T2-4HT**					
	Performed by	CUSTOMER			12/20/21 11:43	
	pH	7.49	Std. Units		12/20/21 11:43	
EPA 6010D	Calcium	251	mg/L	2.0	01/10/22 13:13	
EPA 6010D	Magnesium	734	mg/L	2.0	01/10/22 13:13	
EPA 6010D	Potassium	240	mg/L	100	01/10/22 13:13	
EPA 6010D	Sodium	5840	mg/L	1000	01/11/22 03:00	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 17:18	D3
EPA 6020B	Lithium	0.092J	mg/L	0.12	12/27/21 17:18	D3
SM 2320B	Alkalinity, Total as CaCO3	100	mg/L	10.0	12/20/21 22:27	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	100	mg/L	10.0	12/20/21 22:27	
SM 2540C-2015	Total Dissolved Solids	19100	mg/L	1250	12/21/21 10:29	
EPA 300.0 Rev 2.1 1993	Chloride	9480	mg/L	100	12/18/21 00:42	
EPA 300.0 Rev 2.1 1993	Sulfate	1290	mg/L	100	12/18/21 00:42	
92578470009	**T2-4HTS**					
	Performed by	CUSTOMER			12/20/21 11:43	
	pH	7.50	Std. Units		12/20/21 11:43	
EPA 6010D	Calcium	243	mg/L	2.0	01/10/22 13:17	
EPA 6010D	Magnesium	711	mg/L	2.0	01/10/22 13:17	
EPA 6010D	Potassium	235	mg/L	100	01/10/22 13:17	
EPA 6010D	Sodium	6000	mg/L	1000	01/11/22 03:10	
EPA 6020B	Boron	2.3J	mg/L	2.5	12/27/21 17:21	D3
EPA 6020B	Lithium	0.089J	mg/L	0.12	12/27/21 17:21	D3
SM 2320B	Alkalinity, Total as CaCO3	101	mg/L	10.0	12/20/21 22:33	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	101	mg/L	10.0	12/20/21 22:33	
SM 2540C-2015	Total Dissolved Solids	20000	mg/L	1250	12/21/21 10:29	
EPA 300.0 Rev 2.1 1993	Chloride	9540	mg/L	100	12/18/21 00:56	M1
EPA 300.0 Rev 2.1 1993	Sulfate	1300	mg/L	100	12/18/21 00:56	M1
92578470010	**T3-4HT**					
	Performed by	CUSTOMER			12/20/21 11:44	
	pH	7.45	Std. Units		12/20/21 11:44	
EPA 6010D	Calcium	248	mg/L	2.0	01/10/22 13:27	

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470010	**T3-4HT**					
EPA 6010D	Magnesium	732	mg/L	2.0	01/10/22 13:27	
EPA 6010D	Potassium	241	mg/L	100	01/10/22 13:27	
EPA 6010D	Sodium	6200	mg/L	1000	01/11/22 03:13	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 17:25	D3
EPA 6020B	Lithium	0.091J	mg/L	0.12	12/27/21 17:25	D3
SM 2320B	Alkalinity, Total as CaCO3	101	mg/L	10.0	12/20/21 22:39	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	101	mg/L	10.0	12/20/21 22:39	
SM 2540C-2015	Total Dissolved Solids	19800	mg/L	1250	12/21/21 10:29	
EPA 300.0 Rev 2.1 1993	Chloride	9440	mg/L	100	12/18/21 01:39	
EPA 300.0 Rev 2.1 1993	Sulfate	1290	mg/L	100	12/18/21 01:39	
92578470011	**T3-4HTS**					
	Performed by	CUSTOMER			12/20/21 11:44	
	pH	7.46	Std. Units		12/20/21 11:44	
EPA 6010D	Calcium	246	mg/L	2.0	01/10/22 13:30	
EPA 6010D	Magnesium	730	mg/L	2.0	01/10/22 13:30	
EPA 6010D	Potassium	243	mg/L	100	01/10/22 13:30	
EPA 6010D	Sodium	6180	mg/L	1000	01/11/22 03:16	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 17:29	D3
EPA 6020B	Lithium	0.089J	mg/L	0.12	12/27/21 17:29	D3
SM 2320B	Alkalinity, Total as CaCO3	99.0	mg/L	10.0	12/20/21 22:45	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.0	mg/L	10.0	12/20/21 22:45	
SM 2540C-2015	Total Dissolved Solids	19000	mg/L	1250	12/21/21 10:29	
EPA 300.0 Rev 2.1 1993	Chloride	9740	mg/L	100	12/18/21 01:53	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 01:53	
92578470012	**T4-1HB**					
	Performed by	CUSTOMER			12/20/21 11:44	
	pH	7.35	Std. Units		12/20/21 11:44	
EPA 6010D	Calcium	263	mg/L	2.0	01/10/22 13:33	
EPA 6010D	Magnesium	774	mg/L	2.0	01/10/22 13:33	
EPA 6010D	Potassium	257	mg/L	100	01/10/22 13:33	
EPA 6010D	Sodium	6190	mg/L	1000	01/11/22 03:19	
EPA 6020B	Boron	2.5	mg/L	2.5	12/27/21 17:32	D3
EPA 6020B	Lithium	0.094J	mg/L	0.12	12/27/21 17:32	D3
SM 2320B	Alkalinity, Total as CaCO3	106	mg/L	10.0	12/20/21 22:51	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	106	mg/L	10.0	12/20/21 22:51	
SM 2540C-2015	Total Dissolved Solids	20800	mg/L	1250	12/21/21 10:31	
EPA 300.0 Rev 2.1 1993	Chloride	11300	mg/L	200	12/18/21 14:05	
EPA 300.0 Rev 2.1 1993	Sulfate	1410	mg/L	100	12/18/21 02:08	
92578470013	**T4-1HS**					
	Performed by	CUSTOMER			12/20/21 11:44	
	pH	7.40	Std. Units		12/20/21 11:44	
EPA 6010D	Calcium	276	mg/L	2.0	01/10/22 13:37	
EPA 6010D	Magnesium	814	mg/L	2.0	01/10/22 13:37	

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470013	**T4-1HS**					
EPA 6010D	Potassium	268	mg/L	100	01/10/22 13:37	
EPA 6010D	Sodium	6430	mg/L	1000	01/11/22 03:23	
EPA 6020B	Boron	2.5J	mg/L	2.5	12/27/21 17:36	D3
EPA 6020B	Lithium	0.095J	mg/L	0.12	12/27/21 17:36	D3
SM 2320B	Alkalinity, Total as CaCO3	105	mg/L	10.0	12/20/21 22:57	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	10.0	12/20/21 22:57	
SM 2540C-2015	Total Dissolved Solids	21200	mg/L	1250	12/21/21 10:31	
EPA 300.0 Rev 2.1 1993	Chloride	10400	mg/L	200	12/18/21 14:19	
EPA 300.0 Rev 2.1 1993	Sulfate	1430	mg/L	100	12/18/21 03:34	
92578470014	**T4-2HB**					
	Performed by	CUSTOMER			12/20/21 11:44	
	pH	7.44	Std. Units		12/20/21 11:44	
EPA 6010D	Calcium	273	mg/L	2.0	01/10/22 13:40	
EPA 6010D	Magnesium	808	mg/L	2.0	01/10/22 13:40	
EPA 6010D	Potassium	269	mg/L	100	01/10/22 13:40	
EPA 6010D	Sodium	6730	mg/L	1000	01/11/22 03:26	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 17:50	D3
EPA 6020B	Lithium	0.096J	mg/L	0.12	12/27/21 17:50	D3
SM 2320B	Alkalinity, Total as CaCO3	105	mg/L	10.0	12/20/21 23:03	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	10.0	12/20/21 23:03	
SM 2540C-2015	Total Dissolved Solids	21100	mg/L	1250	12/21/21 10:31	
EPA 300.0 Rev 2.1 1993	Chloride	10100	mg/L	200	12/18/21 14:33	
EPA 300.0 Rev 2.1 1993	Sulfate	1440	mg/L	100	12/18/21 03:48	
92578470015	**T4-2HS**					
	Performed by	CUSTOMER			12/20/21 11:45	
	pH	7.45	Std. Units		12/20/21 11:45	
EPA 6010D	Calcium	294	mg/L	2.0	01/10/22 13:44	
EPA 6010D	Magnesium	868	mg/L	2.0	01/10/22 13:44	
EPA 6010D	Potassium	284	mg/L	100	01/10/22 13:44	
EPA 6010D	Sodium	6710	mg/L	1000	01/11/22 03:29	
EPA 6020B	Boron	2.6	mg/L	2.5	12/27/21 17:54	D3
EPA 6020B	Lithium	0.10J	mg/L	0.12	12/27/21 17:54	D3
SM 2320B	Alkalinity, Total as CaCO3	108	mg/L	10.0	12/20/21 23:10	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	10.0	12/20/21 23:10	
SM 2540C-2015	Total Dissolved Solids	21100	mg/L	1250	12/21/21 10:31	
EPA 300.0 Rev 2.1 1993	Chloride	11300	mg/L	200	12/18/21 14:48	
EPA 300.0 Rev 2.1 1993	Sulfate	1410	mg/L	100	12/18/21 04:03	
92578470016	**T4-3HB**					
	Performed by	CUSTOMER			12/20/21 11:45	
	pH	7.49	Std. Units		12/20/21 11:45	
EPA 6010D	Calcium	284	mg/L	2.0	01/10/22 13:47	
EPA 6010D	Magnesium	838	mg/L	2.0	01/10/22 13:47	
EPA 6010D	Potassium	278	mg/L	100	01/10/22 13:47	

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(770)734-4200

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470016	**T4-3HB**					
EPA 6010D	Sodium	6790	mg/L	1000	01/11/22 03:32	
EPA 6020B	Boron	2.6	mg/L	2.5	12/27/21 17:58	D3
EPA 6020B	Lithium	0.098J	mg/L	0.12	12/27/21 17:58	D3
SM 2320B	Alkalinity, Total as CaCO3	105	mg/L	10.0	12/20/21 23:16	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	10.0	12/20/21 23:16	
SM 2540C-2015	Total Dissolved Solids	21800	mg/L	1250	12/21/21 10:31	
EPA 300.0 Rev 2.1 1993	Chloride	9880	mg/L	200	12/18/21 15:02	
EPA 300.0 Rev 2.1 1993	Sulfate	1420	mg/L	100	12/18/21 04:17	
92578470017	**T4-3HS**					
	Performed by	CUSTOMER			12/20/21 11:45	
	pH	7.55	Std. Units		12/20/21 11:45	
EPA 6010D	Calcium	281	mg/L	2.0	01/10/22 13:50	
EPA 6010D	Magnesium	832	mg/L	2.0	01/10/22 13:50	
EPA 6010D	Potassium	274	mg/L	100	01/10/22 13:50	
EPA 6010D	Sodium	6570	mg/L	1000	01/11/22 03:35	
EPA 6020B	Boron	2.6	mg/L	2.5	12/27/21 18:01	D3
EPA 6020B	Lithium	0.10J	mg/L	0.12	12/27/21 18:01	D3
SM 2320B	Alkalinity, Total as CaCO3	107	mg/L	10.0	12/20/21 23:37	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	107	mg/L	10.0	12/20/21 23:37	
SM 2540C-2015	Total Dissolved Solids	22200	mg/L	1250	12/21/21 10:33	
EPA 300.0 Rev 2.1 1993	Chloride	11800	mg/L	200	12/18/21 15:16	
EPA 300.0 Rev 2.1 1993	Sulfate	1410	mg/L	100	12/18/21 04:31	
92578470018	**T4-4HB**					
	Performed by	CUSTOMER			12/20/21 11:45	
	pH	7.52	Std. Units		12/20/21 11:45	
EPA 6010D	Calcium	281	mg/L	2.0	01/10/22 13:54	
EPA 6010D	Magnesium	830	mg/L	2.0	01/10/22 13:54	
EPA 6010D	Potassium	275	mg/L	100	01/10/22 13:54	
EPA 6010D	Sodium	6300	mg/L	1000	01/11/22 03:38	
EPA 6020B	Boron	2.8	mg/L	2.5	12/27/21 18:05	D3
EPA 6020B	Lithium	0.10J	mg/L	0.12	12/27/21 18:05	D3
SM 2320B	Alkalinity, Total as CaCO3	105	mg/L	10.0	12/20/21 23:43	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	10.0	12/20/21 23:43	
SM 2540C-2015	Total Dissolved Solids	21400	mg/L	1250	12/21/21 10:33	
EPA 300.0 Rev 2.1 1993	Chloride	10800	mg/L	200	12/18/21 15:30	
EPA 300.0 Rev 2.1 1993	Sulfate	1420	mg/L	100	12/18/21 04:45	
92578470019	**T4-4HS**					
	Performed by	CUSTOMER			12/20/21 11:46	
	pH	7.50	Std. Units		12/20/21 11:46	
EPA 6010D	Calcium	252	mg/L	2.0	01/10/22 13:57	
EPA 6010D	Magnesium	752	mg/L	2.0	01/10/22 13:57	
EPA 6010D	Potassium	251	mg/L	100	01/10/22 13:57	
EPA 6010D	Sodium	6180	mg/L	1000	01/11/22 03:48	

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

SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470019	**T4-4HS**					
EPA 6020B	Boron	2.8	mg/L	2.5	12/27/21 18:08	D3
EPA 6020B	Lithium	0.10J	mg/L	0.12	12/27/21 18:08	D3
SM 2320B	Alkalinity, Total as CaCO3	104	mg/L	10.0	12/20/21 23:49	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	10.0	12/20/21 23:49	
SM 2540C-2015	Total Dissolved Solids	21500	mg/L	1250	12/21/21 10:33	
EPA 300.0 Rev 2.1 1993	Chloride	11300	mg/L	200	12/18/21 16:28	M1, R1
EPA 300.0 Rev 2.1 1993	Sulfate	1430	mg/L	100	12/18/21 05:28	M1
92578470020	**T1-4LT**					
	Performed by	CUSTOMER			12/20/21 11:46	
	pH	7.67	Std. Units		12/20/21 11:46	
EPA 6010D	Calcium	245	mg/L	2.0	01/10/22 14:13	
EPA 6010D	Magnesium	725	mg/L	2.0	01/10/22 14:13	
EPA 6010D	Potassium	240	mg/L	100	01/10/22 14:13	
EPA 6010D	Sodium	6000	mg/L	1000	01/11/22 03:51	
EPA 6020B	Boron	2.6	mg/L	2.5	12/27/21 18:12	D3
EPA 6020B	Lithium	0.099J	mg/L	0.12	12/27/21 18:12	D3
SM 2320B	Alkalinity, Total as CaCO3	99.0	mg/L	10.0	12/20/21 23:55	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.0	mg/L	10.0	12/20/21 23:55	
SM 2540C-2015	Total Dissolved Solids	20400	mg/L	1250	12/21/21 10:33	
EPA 300.0 Rev 2.1 1993	Chloride	9790	mg/L	100	12/18/21 07:23	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 07:23	
92578470021	**T2-4LT**					
	Performed by	CUSTOMER			12/20/21 11:46	
	pH	7.68	Std. Units		12/20/21 11:46	
EPA 6010D	Calcium	224	mg/L	1.0	01/07/22 14:43	
EPA 6010D	Magnesium	675	mg/L	1.0	01/07/22 14:43	
EPA 6010D	Potassium	221	mg/L	50.0	01/07/22 14:43	
EPA 6010D	Sodium	5760	mg/L	500	01/10/22 00:35	
EPA 6020B	Boron	2.4J	mg/L	2.5	12/27/21 18:47	D3,M1
EPA 6020B	Lithium	0.085J	mg/L	0.12	12/27/21 18:47	D3
SM 2320B	Alkalinity, Total as CaCO3	102	mg/L	10.0	12/21/21 00:13	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	102	mg/L	10.0	12/21/21 00:13	
SM 2540C-2015	Total Dissolved Solids	19200	mg/L	1250	12/21/21 10:33	
EPA 300.0 Rev 2.1 1993	Chloride	9780	mg/L	100	12/18/21 07:38	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 07:38	
92578470022	**T3-4LT**					
	Performed by	CUSTOMER			12/20/21 11:46	
	pH	7.62	Std. Units		12/20/21 11:46	
EPA 6010D	Calcium	247	mg/L	2.0	01/12/22 07:13	M1
EPA 6010D	Magnesium	744	mg/L	2.0	01/12/22 07:13	M1
EPA 6010D	Potassium	251	mg/L	100	01/12/22 07:13	M1
EPA 6010D	Sodium	6390	mg/L	1000	01/13/22 02:35	M1
EPA 6020B	Boron	0.24J	mg/L	1.0	12/27/21 11:12	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470022	**T3-4LT**					
SM 2320B	Alkalinity, Total as CaCO3	102	mg/L	10.0	12/21/21 00:38	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	102	mg/L	10.0	12/21/21 00:38	
SM 2540C-2015	Total Dissolved Solids	20800	mg/L	1250	12/21/21 10:33	
EPA 300.0 Rev 2.1 1993	Chloride	9790	mg/L	100	12/18/21 07:52	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 07:52	
92578470023	**T4-4L**					
	Performed by	CUSTOMER			12/20/21 11:47	
	pH	7.60	Std. Units		12/20/21 11:47	
EPA 6010D	Calcium	249	mg/L	2.0	01/12/22 07:32	
EPA 6010D	Magnesium	751	mg/L	2.0	01/12/22 07:32	
EPA 6010D	Potassium	251	mg/L	100	01/12/22 07:32	
EPA 6010D	Sodium	6270	mg/L	1000	01/13/22 03:00	
EPA 6020B	Boron	0.26J	mg/L	1.0	12/27/21 11:38	
EPA 6020B	Lithium	0.010J	mg/L	0.050	12/27/21 11:38	
SM 2320B	Alkalinity, Total as CaCO3	109	mg/L	10.0	12/21/21 00:59	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	109	mg/L	10.0	12/21/21 00:59	
SM 2540C-2015	Total Dissolved Solids	20700	mg/L	1250	12/21/21 10:37	
EPA 300.0 Rev 2.1 1993	Chloride	10600	mg/L	200	12/18/21 17:11	
EPA 300.0 Rev 2.1 1993	Sulfate	1410	mg/L	100	12/18/21 08:06	
92578470024	**BG-1LT**					
	Performed by	CUSTOMER			12/20/21 11:47	
	pH	7.50	Std. Units		12/20/21 11:47	
EPA 6010D	Calcium	235	mg/L	2.0	01/12/22 07:52	
EPA 6010D	Magnesium	706	mg/L	2.0	01/12/22 07:52	
EPA 6010D	Potassium	238	mg/L	100	01/12/22 07:52	
EPA 6010D	Sodium	5730	mg/L	1000	01/13/22 03:04	
EPA 6020B	Boron	0.25J	mg/L	1.0	12/27/21 11:41	
EPA 6020B	Lithium	0.010J	mg/L	0.050	12/27/21 11:41	
SM 2320B	Alkalinity, Total as CaCO3	103	mg/L	10.0	12/21/21 01:05	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	103	mg/L	10.0	12/21/21 01:05	
SM 2540C-2015	Total Dissolved Solids	19800	mg/L	833	12/21/21 10:37	
EPA 300.0 Rev 2.1 1993	Chloride	9830	mg/L	100	12/18/21 08:20	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 08:20	
92578470025	**BG-2HT**					
	Performed by	CUSTOMER			12/20/21 11:47	
	pH	7.62	Std. Units		12/20/21 11:47	
EPA 6010D	Calcium	259	mg/L	2.0	01/12/22 07:56	
EPA 6010D	Magnesium	796	mg/L	2.0	01/12/22 07:56	
EPA 6010D	Potassium	268	mg/L	100	01/12/22 07:56	
EPA 6010D	Sodium	7240	mg/L	1000	01/13/22 03:07	
EPA 6020B	Boron	0.28J	mg/L	1.0	12/27/21 11:45	
EPA 6020B	Lithium	0.011J	mg/L	0.050	12/27/21 11:45	
SM 2320B	Alkalinity, Total as CaCO3	109	mg/L	10.0	12/21/21 01:11	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92578470025	**BG-2HT**					
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	109	mg/L	10.0	12/21/21 01:11	
SM 2540C-2015	Total Dissolved Solids	22600	mg/L	1250	12/21/21 10:37	
EPA 300.0 Rev 2.1 1993	Chloride	10600	mg/L	200	12/18/21 17:25	
EPA 300.0 Rev 2.1 1993	Sulfate	1540	mg/L	100	12/18/21 08:34	
92578470026	**DUP-1**					
EPA 6010D	Calcium	231	mg/L	2.0	01/12/22 07:36	
EPA 6010D	Magnesium	697	mg/L	2.0	01/12/22 07:36	
EPA 6010D	Potassium	234	mg/L	100	01/12/22 07:36	
EPA 6010D	Sodium	5850	mg/L	1000	01/13/22 03:10	
EPA 6020B	Boron	0.25J	mg/L	1.0	12/27/21 11:49	
EPA 6020B	Lithium	0.010J	mg/L	0.050	12/27/21 11:49	
SM 2320B	Alkalinity, Total as CaCO3	101	mg/L	10.0	12/21/21 01:17	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	101	mg/L	10.0	12/21/21 01:17	
SM 2540C-2015	Total Dissolved Solids	20000	mg/L	833	12/21/21 10:39	
EPA 300.0 Rev 2.1 1993	Chloride	9860	mg/L	100	12/18/21 08:49	
EPA 300.0 Rev 2.1 1993	Sulfate	1340	mg/L	100	12/18/21 08:49	
92578470027	**DUP-2**					
EPA 6010D	Calcium	260	mg/L	2.0	01/12/22 07:39	
EPA 6010D	Magnesium	766	mg/L	2.0	01/12/22 07:39	
EPA 6010D	Potassium	264	mg/L	100	01/12/22 07:39	
EPA 6010D	Sodium	6510	mg/L	1000	01/13/22 03:13	
EPA 6020B	Boron	0.27J	mg/L	1.0	12/27/21 11:52	
SM 2320B	Alkalinity, Total as CaCO3	108	mg/L	10.0	12/21/21 01:23	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	10.0	12/21/21 01:23	
SM 2540C-2015	Total Dissolved Solids	20800	mg/L	833	12/21/21 10:39	
EPA 300.0 Rev 2.1 1993	Chloride	6830	mg/L	200	12/18/21 17:39	
EPA 300.0 Rev 2.1 1993	Sulfate	1420	mg/L	100	12/18/21 09:03	
92578470028	**DUP-3**					
EPA 6010D	Calcium	234	mg/L	2.0	01/12/22 07:43	
EPA 6010D	Magnesium	698	mg/L	2.0	01/12/22 07:43	
EPA 6010D	Potassium	237	mg/L	100	01/12/22 07:43	
EPA 6010D	Sodium	5970	mg/L	1000	01/13/22 03:17	
EPA 6020B	Boron	0.24J	mg/L	1.0	12/27/21 12:14	
SM 2320B	Alkalinity, Total as CaCO3	99.1	mg/L	10.0	12/21/21 01:29	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	99.1	mg/L	10.0	12/21/21 01:29	
SM 2540C-2015	Total Dissolved Solids	19800	mg/L	833	12/21/21 10:39	
EPA 300.0 Rev 2.1 1993	Chloride	9750	mg/L	100	12/18/21 09:17	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	100	12/18/21 09:17	
92578470029	**FB-1**					
SM 2320B	Alkalinity, Total as CaCO3	8.2J	mg/L	10.0	12/21/21 01:35	
SM 2320B	Alkalinity,Bicarbonate (CaCO3)	8.2J	mg/L	10.0	12/21/21 01:35	
92578470030	**EB-1**					
EPA 300.0 Rev 2.1 1993	Chloride	11.6	mg/L	1.0	12/18/21 13:21	
EPA 300.0 Rev 2.1 1993	Sulfate	1.5	mg/L	1.0	12/18/21 13:21	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T1-4HT **Lab ID: 92578470001** Collected: 12/15/21 09:50 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:41		
pH	**7.47**	Std. Units			1		12/20/21 11:41		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**254**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 12:33	7440-70-2	M1
Magnesium	**748**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 12:33	7439-95-4	M1
Potassium	**245**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 12:33	7440-09-7	M1
Sodium	**6160**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:16	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 12:56	7440-38-2	D3
Boron	**2.2J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 12:56	7440-42-8	D3,M1
Lithium	**0.091J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 12:56	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**103**	mg/L	10.0	5.0	1		12/20/21 21:09		
Alkalinity,Bicarbonate (CaCO3)	**103**	mg/L	10.0	5.0	1		12/20/21 21:09		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 21:09		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21000**	mg/L	1250	1250	1		12/20/21 11:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9760**	mg/L	100	60.0	100		12/17/21 18:57	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/17/21 18:57	16984-48-8	D3
Sulfate	**1350**	mg/L	100	50.0	100		12/17/21 18:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T1-4HTS **Lab ID: 92578470002** Collected: 12/15/21 09:54 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:42		
pH	**7.44**	Std. Units			1		12/20/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**241**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 12:53	7440-70-2	
Magnesium	**712**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 12:53	7439-95-4	
Potassium	**234**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 12:53	7440-09-7	
Sodium	**5800**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:41	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 13:27	7440-38-2	D3
Boron	**2.2J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 13:27	7440-42-8	D3
Lithium	**0.091J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 13:27	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**99.3**	mg/L	10.0	5.0	1		12/20/21 21:35		
Alkalinity,Bicarbonate (CaCO3)	**99.3**	mg/L	10.0	5.0	1		12/20/21 21:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 21:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21300**	mg/L	1250	1250	1		12/20/21 11:53		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9680**	mg/L	100	60.0	100		12/17/21 19:11	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/17/21 19:11	16984-48-8	D3
Sulfate	**1340**	mg/L	100	50.0	100		12/17/21 19:11	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-1HT **Lab ID: 92578470003** Collected: 12/15/21 09:05 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:42		
pH	**7.58**	Std. Units			1		12/20/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**252**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 12:57	7440-70-2	
Magnesium	**739**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 12:57	7439-95-4	
Potassium	**242**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 12:57	7440-09-7	
Sodium	**5900**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:45	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 13:30	7440-38-2	D3
Boron	**2.2J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 13:30	7440-42-8	D3
Lithium	**0.092J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 13:30	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**97.7**	mg/L	10.0	5.0	1		12/20/21 21:41		
Alkalinity,Bicarbonate (CaCO3)	**97.7**	mg/L	10.0	5.0	1		12/20/21 21:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 21:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**18800**	mg/L	1250	1250	1		12/21/21 10:27		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9670**	mg/L	100	60.0	100		12/17/21 19:25	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/17/21 19:25	16984-48-8	D3
Sulfate	**1340**	mg/L	100	50.0	100		12/17/21 19:25	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-2HT **Lab ID: 92578470004** Collected: 12/15/21 09:16 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:42		
pH	**7.48**	Std. Units			1		12/20/21 11:42		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**258**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:00	7440-70-2	
Magnesium	**755**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:00	7439-95-4	
Potassium	**248**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:00	7440-09-7	
Sodium	**6050**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:48	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 13:34	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 13:34	7440-42-8	D3
Lithium	**0.094J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 13:34	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**101**	mg/L	10.0	5.0	1		12/20/21 21:47		
Alkalinity,Bicarbonate (CaCO3)	**101**	mg/L	10.0	5.0	1		12/20/21 21:47		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 21:47		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**17200**	mg/L	1250	1250	1		12/21/21 10:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9630**	mg/L	100	60.0	100		12/17/21 19:39	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/17/21 19:39	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/17/21 19:39	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-2HTS **Lab ID: 92578470005** Collected: 12/15/21 09:20 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:43		
pH	**7.46**	Std. Units			1		12/20/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**260**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:03	7440-70-2	
Magnesium	**760**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:03	7439-95-4	
Potassium	**248**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:03	7440-09-7	
Sodium	**5840**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:51	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 13:38	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 13:38	7440-42-8	D3
Lithium	**0.096J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 13:38	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**99.4**	mg/L	10.0	5.0	1		12/20/21 21:53		
Alkalinity,Bicarbonate (CaCO3)	**99.4**	mg/L	10.0	5.0	1		12/20/21 21:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 21:53		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**18600**	mg/L	1250	1250	1		12/21/21 10:27		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9700**	mg/L	100	60.0	100		12/18/21 00:00	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 00:00	16984-48-8	D3
Sulfate	**1340**	mg/L	100	50.0	100		12/18/21 00:00	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-3HT **Lab ID: 92578470006** Collected: 12/15/21 09:28 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:43		
pH	**7.45**	Std. Units			1		12/20/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**239**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:07	7440-70-2	
Magnesium	**699**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:07	7439-95-4	
Potassium	**231**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:07	7440-09-7	
Sodium	**5920**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:54	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 13:41	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 13:41	7440-42-8	D3
Lithium	**0.095J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 13:41	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**96.6**	mg/L	10.0	5.0	1		12/20/21 21:59		
Alkalinity,Bicarbonate (CaCO3)	**96.6**	mg/L	10.0	5.0	1		12/20/21 21:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 21:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19400**	mg/L	1250	1250	1		12/21/21 10:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9700**	mg/L	100	60.0	100		12/18/21 00:14	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 00:14	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 00:14	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-3HTS **Lab ID: 92578470007** Collected: 12/15/21 09:34 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:43		
pH	**7.45**	Std. Units			1		12/20/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**248**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:10	7440-70-2	
Magnesium	**733**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:10	7439-95-4	
Potassium	**242**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:10	7440-09-7	
Sodium	**6260**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 02:57	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:14	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:14	7440-42-8	D3
Lithium	**0.093J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:14	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**102**	mg/L	10.0	5.0	1		12/20/21 22:21		
Alkalinity,Bicarbonate (CaCO3)	**102**	mg/L	10.0	5.0	1		12/20/21 22:21		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:21		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19200**	mg/L	1250	1250	1		12/21/21 10:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9750**	mg/L	100	60.0	100		12/18/21 00:28	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 00:28	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 00:28	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-4HT **Lab ID: 92578470008** Collected: 12/15/21 10:16 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:43		
pH	**7.49**	Std. Units			1		12/20/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**251**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:13	7440-70-2	
Magnesium	**734**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:13	7439-95-4	
Potassium	**240**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:13	7440-09-7	
Sodium	**5840**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:00	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:18	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:18	7440-42-8	D3
Lithium	**0.092J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:18	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**100**	mg/L	10.0	5.0	1		12/20/21 22:27		
Alkalinity,Bicarbonate (CaCO3)	**100**	mg/L	10.0	5.0	1		12/20/21 22:27		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19100**	mg/L	1250	1250	1		12/21/21 10:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9480**	mg/L	100	60.0	100		12/18/21 00:42	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 00:42	16984-48-8	D3
Sulfate	**1290**	mg/L	100	50.0	100		12/18/21 00:42	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-4HTS **Lab ID: 92578470009** Collected: 12/15/21 10:20 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:43		
pH	**7.50**	Std. Units			1		12/20/21 11:43		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**243**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:17	7440-70-2	
Magnesium	**711**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:17	7439-95-4	
Potassium	**235**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:17	7440-09-7	
Sodium	**6000**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:10	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:21	7440-38-2	D3
Boron	**2.3J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:21	7440-42-8	D3
Lithium	**0.089J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:21	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**101**	mg/L	10.0	5.0	1		12/20/21 22:33		
Alkalinity,Bicarbonate (CaCO3)	**101**	mg/L	10.0	5.0	1		12/20/21 22:33		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:33		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20000**	mg/L	1250	1250	1		12/21/21 10:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9540**	mg/L	100	60.0	100		12/18/21 00:56	16887-00-6	M1
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 00:56	16984-48-8	D3,M1
Sulfate	**1300**	mg/L	100	50.0	100		12/18/21 00:56	14808-79-8	M1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T3-4HT **Lab ID: 92578470010** Collected: 12/15/21 10:36 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:44		
pH	**7.45**	Std. Units			1		12/20/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**248**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:27	7440-70-2	
Magnesium	**732**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:27	7439-95-4	
Potassium	**241**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:27	7440-09-7	
Sodium	**6200**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:13	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:25	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:25	7440-42-8	D3
Lithium	**0.091J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:25	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**101**	mg/L	10.0	5.0	1		12/20/21 22:39		
Alkalinity,Bicarbonate (CaCO3)	**101**	mg/L	10.0	5.0	1		12/20/21 22:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:39		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19800**	mg/L	1250	1250	1		12/21/21 10:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9440**	mg/L	100	60.0	100		12/18/21 01:39	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 01:39	16984-48-8	D3
Sulfate	**1290**	mg/L	100	50.0	100		12/18/21 01:39	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T3-4HTS **Lab ID: 92578470011** Collected: 12/15/21 10:42 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:44		
pH	**7.46**	Std. Units			1		12/20/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**246**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:30	7440-70-2	
Magnesium	**730**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:30	7439-95-4	
Potassium	**243**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:30	7440-09-7	
Sodium	**6180**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:16	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:29	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:29	7440-42-8	D3
Lithium	**0.089J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:29	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**99.0**	mg/L	10.0	5.0	1		12/20/21 22:45		
Alkalinity,Bicarbonate (CaCO3)	**99.0**	mg/L	10.0	5.0	1		12/20/21 22:45		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:45		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19000**	mg/L	1250	1250	1		12/21/21 10:29		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9740**	mg/L	100	60.0	100		12/18/21 01:53	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 01:53	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 01:53	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-1HB **Lab ID: 92578470012** Collected: 12/15/21 07:06 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:44		
pH	**7.35**	Std. Units			1		12/20/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**263**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:33	7440-70-2	
Magnesium	**774**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:33	7439-95-4	
Potassium	**257**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:33	7440-09-7	
Sodium	**6190**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:19	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:32	7440-38-2	D3
Boron	**2.5**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:32	7440-42-8	D3
Lithium	**0.094J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:32	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**106**	mg/L	10.0	5.0	1		12/20/21 22:51		
Alkalinity,Bicarbonate (CaCO3)	**106**	mg/L	10.0	5.0	1		12/20/21 22:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:51		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20800**	mg/L	1250	1250	1		12/21/21 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11300**	mg/L	200	120	200		12/18/21 14:05	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 02:08	16984-48-8	D3
Sulfate	**1410**	mg/L	100	50.0	100		12/18/21 02:08	14808-79-8	

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(770)734-4200

ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-1HS **Lab ID: 92578470013** Collected: 12/15/21 07:00 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:44		
pH	**7.40**	Std. Units			1		12/20/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**276**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:37	7440-70-2	
Magnesium	**814**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:37	7439-95-4	
Potassium	**268**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:37	7440-09-7	
Sodium	**6430**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:23	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:36	7440-38-2	D3
Boron	**2.5J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:36	7440-42-8	D3
Lithium	**0.095J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:36	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**105**	mg/L	10.0	5.0	1		12/20/21 22:57		
Alkalinity,Bicarbonate (CaCO3)	**105**	mg/L	10.0	5.0	1		12/20/21 22:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 22:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21200**	mg/L	1250	1250	1		12/21/21 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10400**	mg/L	200	120	200		12/18/21 14:19	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 03:34	16984-48-8	D3
Sulfate	**1430**	mg/L	100	50.0	100		12/18/21 03:34	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-2HB **Lab ID: 92578470014** Collected: 12/15/21 07:22 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:44		
pH	**7.44**	Std. Units			1		12/20/21 11:44		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**273**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:40	7440-70-2	
Magnesium	**808**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:40	7439-95-4	
Potassium	**269**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:40	7440-09-7	
Sodium	**6730**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:26	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:50	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:50	7440-42-8	D3
Lithium	**0.096J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:50	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**105**	mg/L	10.0	5.0	1		12/20/21 23:03		
Alkalinity,Bicarbonate (CaCO3)	**105**	mg/L	10.0	5.0	1		12/20/21 23:03		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21100**	mg/L	1250	1250	1		12/21/21 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10100**	mg/L	200	120	200		12/18/21 14:33	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 03:48	16984-48-8	D3
Sulfate	**1440**	mg/L	100	50.0	100		12/18/21 03:48	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-2HS **Lab ID: 92578470015** Collected: 12/15/21 07:25 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:45		
pH	**7.45**	Std. Units			1		12/20/21 11:45		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**294**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:44	7440-70-2	
Magnesium	**868**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:44	7439-95-4	
Potassium	**284**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:44	7440-09-7	
Sodium	**6710**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:29	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:54	7440-38-2	D3
Boron	**2.6**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:54	7440-42-8	D3
Lithium	**0.10J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:54	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**108**	mg/L	10.0	5.0	1		12/20/21 23:10		
Alkalinity,Bicarbonate (CaCO3)	**108**	mg/L	10.0	5.0	1		12/20/21 23:10		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:10		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21100**	mg/L	1250	1250	1		12/21/21 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11300**	mg/L	200	120	200		12/18/21 14:48	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 04:03	16984-48-8	D3
Sulfate	**1410**	mg/L	100	50.0	100		12/18/21 04:03	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-3HB **Lab ID: 92578470016** Collected: 12/15/21 07:40 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:45		
pH	**7.49**	Std. Units			1		12/20/21 11:45		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**284**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:47	7440-70-2	
Magnesium	**838**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:47	7439-95-4	
Potassium	**278**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:47	7440-09-7	
Sodium	**6790**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:32	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 17:58	7440-38-2	D3
Boron	**2.6**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 17:58	7440-42-8	D3
Lithium	**0.098J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 17:58	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**105**	mg/L	10.0	5.0	1		12/20/21 23:16		
Alkalinity,Bicarbonate (CaCO3)	**105**	mg/L	10.0	5.0	1		12/20/21 23:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21800**	mg/L	1250	1250	1		12/21/21 10:31		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9880**	mg/L	200	120	200		12/18/21 15:02	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 04:17	16984-48-8	D3
Sulfate	**1420**	mg/L	100	50.0	100		12/18/21 04:17	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-3HS **Lab ID: 92578470017** Collected: 12/15/21 07:44 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:45		
pH	**7.55**	Std. Units			1		12/20/21 11:45		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**281**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:50	7440-70-2	
Magnesium	**832**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:50	7439-95-4	
Potassium	**274**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:50	7440-09-7	
Sodium	**6570**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:35	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 18:01	7440-38-2	D3
Boron	**2.6**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 18:01	7440-42-8	D3
Lithium	**0.10J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 18:01	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**107**	mg/L	10.0	5.0	1		12/20/21 23:37		
Alkalinity,Bicarbonate (CaCO3)	**107**	mg/L	10.0	5.0	1		12/20/21 23:37		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**22200**	mg/L	1250	1250	1		12/21/21 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11800**	mg/L	200	120	200		12/18/21 15:16	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 04:31	16984-48-8	D3
Sulfate	**1410**	mg/L	100	50.0	100		12/18/21 04:31	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-4HB **Lab ID: 92578470018** Collected: 12/15/21 08:04 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:45		
pH	**7.52**	Std. Units			1		12/20/21 11:45		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**281**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:54	7440-70-2	
Magnesium	**830**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:54	7439-95-4	
Potassium	**275**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:54	7440-09-7	
Sodium	**6300**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:38	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 18:05	7440-38-2	D3
Boron	**2.8**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 18:05	7440-42-8	D3
Lithium	**0.10J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 18:05	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**105**	mg/L	10.0	5.0	1		12/20/21 23:43		
Alkalinity,Bicarbonate (CaCO3)	**105**	mg/L	10.0	5.0	1		12/20/21 23:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21400**	mg/L	1250	1250	1		12/21/21 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10800**	mg/L	200	120	200		12/18/21 15:30	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 04:45	16984-48-8	D3
Sulfate	**1420**	mg/L	100	50.0	100		12/18/21 04:45	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-4HS **Lab ID: 92578470019** Collected: 12/15/21 08:08 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:46		
pH	**7.50**	Std. Units			1		12/20/21 11:46		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**252**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 13:57	7440-70-2	
Magnesium	**752**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 13:57	7439-95-4	
Potassium	**251**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 13:57	7440-09-7	
Sodium	**6180**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:48	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 18:08	7440-38-2	D3
Boron	**2.8**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 18:08	7440-42-8	D3
Lithium	**0.10J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 18:08	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**104**	mg/L	10.0	5.0	1		12/20/21 23:49		
Alkalinity,Bicarbonate (CaCO3)	**104**	mg/L	10.0	5.0	1		12/20/21 23:49		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**21500**	mg/L	1250	1250	1		12/21/21 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11300**	mg/L	200	120	200		12/18/21 16:28	16887-00-6	M1,R1
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 05:28	16984-48-8	D3,M1
Sulfate	**1430**	mg/L	100	50.0	100		12/18/21 05:28	14808-79-8	M1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T1-4LT **Lab ID: 92578470020** Collected: 12/15/21 14:48 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:46		
pH	**7.67**	Std. Units			1		12/20/21 11:46		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**245**	mg/L	2.0	1.9	20	12/20/21 11:19	01/10/22 14:13	7440-70-2	
Magnesium	**725**	mg/L	2.0	1.4	20	12/20/21 11:19	01/10/22 14:13	7439-95-4	
Potassium	**240**	mg/L	100	60.8	20	12/20/21 11:19	01/10/22 14:13	7440-09-7	
Sodium	**6000**	mg/L	1000	122	200	12/20/21 11:19	01/11/22 03:51	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 18:12	7440-38-2	D3
Boron	**2.6**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 18:12	7440-42-8	D3
Lithium	**0.099J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 18:12	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**99.0**	mg/L	10.0	5.0	1		12/20/21 23:55		
Alkalinity,Bicarbonate (CaCO3)	**99.0**	mg/L	10.0	5.0	1		12/20/21 23:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/20/21 23:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20400**	mg/L	1250	1250	1		12/21/21 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9790**	mg/L	100	60.0	100		12/18/21 07:23	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 07:23	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 07:23	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T2-4LT **Lab ID: 92578470021** Collected: 12/15/21 15:00 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:46		
pH	**7.68**	Std. Units			1		12/20/21 11:46		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**224**	mg/L	1.0	0.94	10	12/20/21 11:19	01/07/22 14:43	7440-70-2	
Magnesium	**675**	mg/L	1.0	0.68	10	12/20/21 11:19	01/07/22 14:43	7439-95-4	
Potassium	**221**	mg/L	50.0	30.4	10	12/20/21 11:19	01/07/22 14:43	7440-09-7	
Sodium	**5760**	mg/L	500	61.1	100	12/20/21 11:19	01/10/22 00:35	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	12/22/21 15:57	12/27/21 18:47	7440-38-2	D3
Boron	**2.4J**	mg/L	2.5	0.42	50	12/22/21 15:57	12/27/21 18:47	7440-42-8	D3,M1
Lithium	**0.085J**	mg/L	0.12	0.025	50	12/22/21 15:57	12/27/21 18:47	7439-93-2	D3
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**102**	mg/L	10.0	5.0	1		12/21/21 00:13		
Alkalinity,Bicarbonate (CaCO3)	**102**	mg/L	10.0	5.0	1		12/21/21 00:13		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 00:13		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19200**	mg/L	1250	1250	1		12/21/21 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9780**	mg/L	100	60.0	100		12/18/21 07:38	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 07:38	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 07:38	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T3-4LT **Lab ID: 92578470022** Collected: 12/15/21 15:10 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:46		
pH	**7.62**	Std. Units			1		12/20/21 11:46		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**247**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:13	7440-70-2	M1
Magnesium	**744**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:13	7439-95-4	M1
Potassium	**251**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:13	7440-09-7	M1
Sodium	**6390**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 02:35	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 11:12	7440-38-2	
Boron	**0.24J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 11:12	7440-42-8	
Lithium	ND	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 11:12	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**102**	mg/L	10.0	5.0	1		12/21/21 00:38		
Alkalinity,Bicarbonate (CaCO3)	**102**	mg/L	10.0	5.0	1		12/21/21 00:38		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 00:38		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20800**	mg/L	1250	1250	1		12/21/21 10:33		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9790**	mg/L	100	60.0	100		12/18/21 07:52	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 07:52	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 07:52	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: T4-4L **Lab ID: 92578470023** Collected: 12/15/21 13:48 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:47		
pH	**7.60**	Std. Units			1		12/20/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**249**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:32	7440-70-2	
Magnesium	**751**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:32	7439-95-4	
Potassium	**251**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:32	7440-09-7	
Sodium	**6270**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 03:00	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 11:38	7440-38-2	
Boron	**0.26J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 11:38	7440-42-8	
Lithium	**0.010J**	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 11:38	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**109**	mg/L	10.0	5.0	1		12/21/21 00:59		
Alkalinity,Bicarbonate (CaCO3)	**109**	mg/L	10.0	5.0	1		12/21/21 00:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 00:59		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20700**	mg/L	1250	1250	1		12/21/21 10:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10600**	mg/L	200	120	200		12/18/21 17:11	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 08:06	16984-48-8	D3
Sulfate	**1410**	mg/L	100	50.0	100		12/18/21 08:06	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: BG-1LT **Lab ID: 92578470024** Collected: 12/15/21 12:50 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:47		
pH	**7.50**	Std. Units			1		12/20/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**235**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:52	7440-70-2	
Magnesium	**706**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:52	7439-95-4	
Potassium	**238**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:52	7440-09-7	
Sodium	**5730**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 03:04	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 11:41	7440-38-2	
Boron	**0.25J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 11:41	7440-42-8	
Lithium	**0.010J**	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 11:41	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**103**	mg/L	10.0	5.0	1		12/21/21 01:05		
Alkalinity,Bicarbonate (CaCO3)	**103**	mg/L	10.0	5.0	1		12/21/21 01:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:05		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19800**	mg/L	833	833	1		12/21/21 10:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9830**	mg/L	100	60.0	100		12/18/21 08:20	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 08:20	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 08:20	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: BG-2HT **Lab ID: 92578470025** Collected: 12/15/21 08:41 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		12/20/21 11:47		
pH	**7.62**	Std. Units			1		12/20/21 11:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**259**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:56	7440-70-2	
Magnesium	**796**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:56	7439-95-4	
Potassium	**268**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:56	7440-09-7	
Sodium	**7240**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 03:07	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 11:45	7440-38-2	
Boron	**0.28J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 11:45	7440-42-8	
Lithium	**0.011J**	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 11:45	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**109**	mg/L	10.0	5.0	1		12/21/21 01:11		
Alkalinity,Bicarbonate (CaCO3)	**109**	mg/L	10.0	5.0	1		12/21/21 01:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:11		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**22600**	mg/L	1250	1250	1		12/21/21 10:37		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**10600**	mg/L	200	120	200		12/18/21 17:25	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 08:34	16984-48-8	D3
Sulfate	**1540**	mg/L	100	50.0	100		12/18/21 08:34	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: DUP-1 **Lab ID: 92578470026** Collected: 12/15/21 00:00 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**231**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:36	7440-70-2	
Magnesium	**697**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:36	7439-95-4	
Potassium	**234**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:36	7440-09-7	
Sodium	**5850**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 03:10	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 11:49	7440-38-2	
Boron	**0.25J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 11:49	7440-42-8	
Lithium	**0.010J**	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 11:49	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**101**	mg/L	10.0	5.0	1		12/21/21 01:17		
Alkalinity,Bicarbonate (CaCO3)	**101**	mg/L	10.0	5.0	1		12/21/21 01:17		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:17		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20000**	mg/L	833	833	1		12/21/21 10:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9860**	mg/L	100	60.0	100		12/18/21 08:49	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 08:49	16984-48-8	D3
Sulfate	**1340**	mg/L	100	50.0	100		12/18/21 08:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: DUP-2 **Lab ID: 92578470027** Collected: 12/15/21 00:00 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**260**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:39	7440-70-2	
Magnesium	**766**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:39	7439-95-4	
Potassium	**264**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:39	7440-09-7	
Sodium	**6510**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 03:13	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 11:52	7440-38-2	
Boron	**0.27J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 11:52	7440-42-8	
Lithium	ND	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 11:52	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**108**	mg/L	10.0	5.0	1		12/21/21 01:23		
Alkalinity,Bicarbonate (CaCO3)	**108**	mg/L	10.0	5.0	1		12/21/21 01:23		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:23		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**20800**	mg/L	833	833	1		12/21/21 10:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**6830**	mg/L	200	120	200		12/18/21 17:39	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 09:03	16984-48-8	D3
Sulfate	**1420**	mg/L	100	50.0	100		12/18/21 09:03	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: DUP-3 **Lab ID: 92578470028** Collected: 12/15/21 00:00 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**234**	mg/L	2.0	1.9	20	01/03/22 10:29	01/12/22 07:43	7440-70-2	
Magnesium	**698**	mg/L	2.0	1.4	20	01/03/22 10:29	01/12/22 07:43	7439-95-4	
Potassium	**237**	mg/L	100	60.8	20	01/03/22 10:29	01/12/22 07:43	7440-09-7	
Sodium	**5970**	mg/L	1000	122	200	01/03/22 10:29	01/13/22 03:17	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 12:14	7440-38-2	
Boron	**0.24J**	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 12:14	7440-42-8	
Lithium	ND	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 12:14	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**99.1**	mg/L	10.0	5.0	1		12/21/21 01:29		
Alkalinity,Bicarbonate (CaCO3)	**99.1**	mg/L	10.0	5.0	1		12/21/21 01:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:29		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	**19800**	mg/L	833	833	1		12/21/21 10:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9750**	mg/L	100	60.0	100		12/18/21 09:17	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		12/18/21 09:17	16984-48-8	D3
Sulfate	**1330**	mg/L	100	50.0	100		12/18/21 09:17	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: FB-1 **Lab ID: 92578470029** Collected: 12/15/21 16:12 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	01/03/22 10:29	01/13/22 03:20	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	01/03/22 10:29	01/13/22 03:20	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	01/03/22 10:29	01/13/22 03:20	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	01/03/22 10:29	01/13/22 03:20	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 12:18	7440-38-2	
Boron	ND	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 12:18	7440-42-8	
Lithium	ND	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 12:18	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	**8.2J**	mg/L	10.0	5.0	1		12/21/21 01:35		
Alkalinity,Bicarbonate (CaCO3)	**8.2J**	mg/L	10.0	5.0	1		12/21/21 01:35		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:35		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		12/21/21 10:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		12/18/21 10:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		12/18/21 10:27	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		12/18/21 10:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Sample: EB-1 **Lab ID: 92578470030** Collected: 12/15/21 16:20 Received: 12/16/21 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	01/03/22 10:29	01/13/22 03:23	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	01/03/22 10:29	01/13/22 03:23	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	01/03/22 10:29	01/13/22 03:23	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	01/03/22 10:29	01/13/22 03:23	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.020	0.0017	1	12/22/21 05:34	12/27/21 12:32	7440-38-2	
Boron	ND	mg/L	1.0	0.17	1	12/22/21 05:34	12/27/21 12:32	7440-42-8	
Lithium	ND	mg/L	0.050	0.010	1	12/22/21 05:34	12/27/21 12:32	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Green Bay								
Alkalinity, Total as CaCO3	ND	mg/L	10.0	5.0	1		12/21/21 01:41		
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	10.0	5.0	1		12/21/21 01:41		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2015 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		12/21/21 10:39		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**11.6**	mg/L	1.0	0.60	1		12/18/21 13:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		12/18/21 13:21	16984-48-8	
Sulfate	**1.5**	mg/L	1.0	0.50	1		12/18/21 13:21	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667169
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020

METHOD BLANK: 3495122 Matrix: Water
Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	01/10/22 12:27	
Magnesium	mg/L	ND	0.10	0.068	01/10/22 12:27	
Potassium	mg/L	ND	5.0	3.0	01/10/22 12:27	
Sodium	mg/L	ND	5.0	0.61	01/10/22 12:27	

LABORATORY CONTROL SAMPLE: 3495123

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.9	98	80-120	
Magnesium	mg/L	5	5.0	99	80-120	
Potassium	mg/L	5	4.9J	99	80-120	
Sodium	mg/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3495124 3495125

Parameter	Units	92578470001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	254	5	5	260	263	116	172	75-125	1	20	M1
Magnesium	mg/L	748	5	5	755	759	140	220	75-125	1	20	M1
Potassium	mg/L	245	5	5	252	252	152	156	75-125	0	20	M1
Sodium	mg/L	6160	5	5	6230	6160	1240	-160	75-125	1	20	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667170
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470021

METHOD BLANK: 3495126 Matrix: Water
Associated Lab Samples: 92578470021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	01/06/22 00:54	
Magnesium	mg/L	ND	0.10	0.068	01/06/22 00:54	
Potassium	mg/L	ND	5.0	3.0	01/06/22 00:54	
Sodium	mg/L	ND	5.0	0.61	01/06/22 00:54	

LABORATORY CONTROL SAMPLE: 3495127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.9	98	80-120	
Magnesium	mg/L	5	4.9	98	80-120	
Potassium	mg/L	5	5.0	100	80-120	
Sodium	mg/L	5	5.0	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3495128 3495129

Parameter	Units	92578199034 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	77100 ug/L	5	5	84.9	83.2	157	122	75-125	2	20	
Magnesium	mg/L	12000 ug/L	5	5	18.3	18.0	127	119	75-125	2	20	
Potassium	mg/L	15200 ug/L	5	5	21.4	21.0	124	116	75-125	2	20	
Sodium	mg/L	12300 ug/L	5	5	17.8	17.5	110	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 669366
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

METHOD BLANK: 3505218 Matrix: Water
Associated Lab Samples: 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	01/12/22 07:06	
Magnesium	mg/L	ND	0.10	0.068	01/12/22 07:06	
Potassium	mg/L	ND	5.0	3.0	01/12/22 07:06	
Sodium	mg/L	ND	5.0	0.61	01/12/22 07:06	

LABORATORY CONTROL SAMPLE: 3505219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.6	93	80-120	
Magnesium	mg/L	5	4.8	95	80-120	
Potassium	mg/L	5	4.8J	96	80-120	
Sodium	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3505220 3505221

Parameter	Units	92578470022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	247	5	5	243	243	-80	-80	75-125	0	20	M1
Magnesium	mg/L	744	5	5	714	713	-604	-628	75-125	0	20	M1
Potassium	mg/L	251	5	5	246	246	-104	-108	75-125	0	20	M1
Sodium	mg/L	6390	5	5	6110	6090	-5560	-6040	75-125	0	20	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667751
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020

METHOD BLANK: 3498318 Matrix: Water
Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	12/27/21 12:25	
Boron	mg/L	ND	0.050	0.0085	12/27/21 12:25	
Lithium	mg/L	ND	0.0025	0.00050	12/27/21 12:25	

LABORATORY CONTROL SAMPLE: 3498319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.05	0.052	103	80-120	
Boron	mg/L	0.05	0.051	101	80-120	
Lithium	mg/L	0.05	0.048	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3498320 3498321

Parameter	Units	92578470001 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	0.05	0.05	0.055	0.055	107	108	75-125	0	20	
Boron	mg/L	2.2J	0.05	0.05	2.3J	2.3J	168	132	75-125		20	M1
Lithium	mg/L	0.091J	0.05	0.05	0.14	0.14	90	104	75-125	5	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667752
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

METHOD BLANK: 3498322 Matrix: Water
Associated Lab Samples: 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	12/22/21 15:16	
Boron	mg/L	ND	0.050	0.0085	12/22/21 15:16	
Lithium	mg/L	ND	0.0025	0.00050	12/22/21 15:16	

LABORATORY CONTROL SAMPLE: 3498323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.05	0.051	102	80-120	
Boron	mg/L	0.05	0.051	101	80-120	
Lithium	mg/L	0.05	0.049	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3498334 3498335

Parameter	Units	92578470022 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	1	1	1.0	1.0	103	102	75-125	1	20	
Boron	mg/L	0.24J	1	1	1.1	1.1	84	86	75-125	2	20	
Lithium	mg/L	ND	1	1	0.93	0.92	92	91	75-125	2	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667969
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470021

METHOD BLANK: 3499273 Matrix: Water
Associated Lab Samples: 92578470021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	12/27/21 18:39	
Boron	mg/L	ND	0.050	0.0085	12/27/21 18:39	
Lithium	mg/L	ND	0.0025	0.00050	12/27/21 18:39	

LABORATORY CONTROL SAMPLE: 3499274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.05	0.048	97	80-120	
Boron	mg/L	0.05	0.048J	96	80-120	
Lithium	mg/L	0.05	0.044	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3499275 3499276

Parameter	Units	92578470021 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	0.05	0.05	0.055	0.055	106	106	75-125	0	20	
Boron	mg/L	2.4J	0.05	0.05	2.4J	2.6	-7	383	75-125		20	M1
Lithium	mg/L	0.085J	0.05	0.05	0.14	0.14	103	108	75-125	2	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 404651 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020

METHOD BLANK: 2335903 — Matrix: Water

Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	5.0	12/20/21 20:56	

LABORATORY CONTROL SAMPLE: 2335904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	200	213	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2335905 2335906

Parameter	Units	92578470001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	103	200	200	303	303	100	100	80-120	0	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 404652 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 92578470021, 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

METHOD BLANK: 2335909 — Matrix: Water
Associated Lab Samples: 92578470021, 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	5.0	12/21/21 00:01	

LABORATORY CONTROL SAMPLE: 2335910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	200	211	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2335911 2335912

Parameter	Units	92578470021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	102	200	200	303	303	101	100	80-120	0	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667219
QC Batch Method: SM 2540C-2015
Analysis Method: SM 2540C-2015
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470001, 92578470002

METHOD BLANK: 3495276 Matrix: Water
Associated Lab Samples: 92578470001, 92578470002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	12/20/21 11:47	

LABORATORY CONTROL SAMPLE: 3495277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	248	99	90-110	

SAMPLE DUPLICATE: 3495278

Parameter	Units	92578448012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	464	460	1	25	

SAMPLE DUPLICATE: 3495279

Parameter	Units	92578448022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1640	1650	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667487
QC Batch Method: SM 2540C-2015
Analysis Method: SM 2540C-2015
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020, 92578470021, 92578470022

METHOD BLANK: 3496783
Matrix: Water
Associated Lab Samples: 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018, 92578470019, 92578470020, 92578470021, 92578470022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	12/21/21 10:26	

LABORATORY CONTROL SAMPLE: 3496784

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	240	96	90-110	

SAMPLE DUPLICATE: 3496785

Parameter	Units	92578470003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	18800	43000	78	25	D6

SAMPLE DUPLICATE: 3496786

Parameter	Units	92578470013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	21200	21200	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667490 | Analysis Method: SM 2540C-2015
QC Batch Method: SM 2540C-2015 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

METHOD BLANK: 3496791 Matrix: Water
Associated Lab Samples: 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	12/21/21 10:37	

LABORATORY CONTROL SAMPLE: 3496792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	240	96	90-110	

SAMPLE DUPLICATE: 3496793

Parameter	Units	92578470023 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	20700	20800	1	25	

SAMPLE DUPLICATE: 3496794

Parameter	Units	92578650001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1260	1260	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667029
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018

METHOD BLANK: 3494332
Matrix: Water
Associated Lab Samples: 92578470001, 92578470002, 92578470003, 92578470004, 92578470005, 92578470006, 92578470007, 92578470008, 92578470009, 92578470010, 92578470011, 92578470012, 92578470013, 92578470014, 92578470015, 92578470016, 92578470017, 92578470018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	12/17/21 17:30	
Fluoride	mg/L	ND	0.10	0.050	12/17/21 17:30	
Sulfate	mg/L	ND	1.0	0.50	12/17/21 17:30	

LABORATORY CONTROL SAMPLE: 3494333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.5	101	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	50.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3494334 3494335

Parameter	Units	92577887004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	15.7	50	50	66.0	67.2	100	103	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.9	3.0	116	119	90-110	3	10	M1
Sulfate	mg/L	18.4	50	50	68.8	70.0	101	103	90-110	2	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3494336 3494337

Parameter	Units	92578470009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9540	50	50	9380	9390	-331	-297	90-110	0	10	M1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	76	80	90-110		10	D3,M1
Sulfate	mg/L	1300	50	50	1320	1330	46	52	90-110	0	10	M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

QC Batch: 667030
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92578470019, 92578470020, 92578470021, 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

METHOD BLANK: 3494342 Matrix: Water
Associated Lab Samples: 92578470019, 92578470020, 92578470021, 92578470022, 92578470023, 92578470024, 92578470025, 92578470026, 92578470027, 92578470028, 92578470029, 92578470030

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	12/18/21 04:59	
Fluoride	mg/L	ND	0.10	0.050	12/18/21 04:59	
Sulfate	mg/L	ND	1.0	0.50	12/18/21 04:59	

LABORATORY CONTROL SAMPLE: 3494343

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.1	106	90-110	
Fluoride	mg/L	2.5	2.7	109	90-110	
Sulfate	mg/L	50	52.4	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3494344 3494345

Parameter	Units	92578470019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	11300	50	50	11300	10100	55	-2340	90-110	11	10	M1,R1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	68	76	90-110		10	D3,M1
Sulfate	mg/L	1430	50	50	1460	1480	53	102	90-110	2	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3494346 3494347

Parameter	Units	92578470029 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	51.8	53.1	104	106	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	108	107	90-110	1	10	
Sulfate	mg/L	ND	50	50	51.5	52.7	103	105	90-110	2	10	

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QUALIFIERS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92578470001	**T1-4HT**				
92578470002	**T1-4HTS**				
92578470003	**T2-1HT**				
92578470004	**T2-2HT**				
92578470005	**T2-2HTS**				
92578470006	**T2-3HT**				
92578470007	**T2-3HTS**				
92578470008	**T2-4HT**				
92578470009	**T2-4HTS**				
92578470010	**T3-4HT**				
92578470011	**T3-4HTS**				
92578470012	**T4-1HB**				
92578470013	**T4-1HS**				
92578470014	**T4-2HB**				
92578470015	**T4-2HS**				
92578470016	**T4-3HB**				
92578470017	**T4-3HS**				
92578470018	**T4-4HB**				
92578470019	**T4-4HS**				
92578470020	**T1-4LT**				
92578470021	**T2-4LT**				
92578470022	**T3-4LT**				
92578470023	**T4-4L**				
92578470024	**BG-1LT**				
92578470025	**BG-2HT**				
92578470001	**T1-4HT**	EPA 3010A	667169	EPA 6010D	667347
92578470002	**T1-4HTS**	EPA 3010A	667169	EPA 6010D	667347
92578470003	**T2-1HT**	EPA 3010A	667169	EPA 6010D	667347
92578470004	**T2-2HT**	EPA 3010A	667169	EPA 6010D	667347
92578470005	**T2-2HTS**	EPA 3010A	667169	EPA 6010D	667347
92578470006	**T2-3HT**	EPA 3010A	667169	EPA 6010D	667347
92578470007	**T2-3HTS**	EPA 3010A	667169	EPA 6010D	667347
92578470008	**T2-4HT**	EPA 3010A	667169	EPA 6010D	667347
92578470009	**T2-4HTS**	EPA 3010A	667169	EPA 6010D	667347
92578470010	**T3-4HT**	EPA 3010A	667169	EPA 6010D	667347
92578470011	**T3-4HTS**	EPA 3010A	667169	EPA 6010D	667347
92578470012	**T4-1HB**	EPA 3010A	667169	EPA 6010D	667347
92578470013	**T4-1HS**	EPA 3010A	667169	EPA 6010D	667347
92578470014	**T4-2HB**	EPA 3010A	667169	EPA 6010D	667347
92578470015	**T4-2HS**	EPA 3010A	667169	EPA 6010D	667347
92578470016	**T4-3HB**	EPA 3010A	667169	EPA 6010D	667347
92578470017	**T4-3HS**	EPA 3010A	667169	EPA 6010D	667347
92578470018	**T4-4HB**	EPA 3010A	667169	EPA 6010D	667347
92578470019	**T4-4HS**	EPA 3010A	667169	EPA 6010D	667347
92578470020	**T1-4LT**	EPA 3010A	667169	EPA 6010D	667347
92578470021	**T2-4LT**	EPA 3010A	667170	EPA 6010D	667350
92578470022	**T3-4LT**	EPA 3010A	669366	EPA 6010D	669475

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92578470023	**T4-4L**	EPA 3010A	669366	EPA 6010D	669475
92578470024	**BG-1LT**	EPA 3010A	669366	EPA 6010D	669475
92578470025	**BG-2HT**	EPA 3010A	669366	EPA 6010D	669475
92578470026	**DUP-1**	EPA 3010A	669366	EPA 6010D	669475
92578470027	**DUP-2**	EPA 3010A	669366	EPA 6010D	669475
92578470028	**DUP-3**	EPA 3010A	669366	EPA 6010D	669475
92578470029	**FB-1**	EPA 3010A	669366	EPA 6010D	669475
92578470030	**EB-1**	EPA 3010A	669366	EPA 6010D	669475
92578470001	**T1-4HT**	EPA 3010A	667751	EPA 6020B	668069
92578470002	**T1-4HTS**	EPA 3010A	667751	EPA 6020B	668069
92578470003	**T2-1HT**	EPA 3010A	667751	EPA 6020B	668069
92578470004	**T2-2HT**	EPA 3010A	667751	EPA 6020B	668069
92578470005	**T2-2HTS**	EPA 3010A	667751	EPA 6020B	668069
92578470006	**T2-3HT**	EPA 3010A	667751	EPA 6020B	668069
92578470007	**T2-3HTS**	EPA 3010A	667751	EPA 6020B	668069
92578470008	**T2-4HT**	EPA 3010A	667751	EPA 6020B	668069
92578470009	**T2-4HTS**	EPA 3010A	667751	EPA 6020B	668069
92578470010	**T3-4HT**	EPA 3010A	667751	EPA 6020B	668069
92578470011	**T3-4HTS**	EPA 3010A	667751	EPA 6020B	668069
92578470012	**T4-1HB**	EPA 3010A	667751	EPA 6020B	668069
92578470013	**T4-1HS**	EPA 3010A	667751	EPA 6020B	668069
92578470014	**T4-2HB**	EPA 3010A	667751	EPA 6020B	668069
92578470015	**T4-2HS**	EPA 3010A	667751	EPA 6020B	668069
92578470016	**T4-3HB**	EPA 3010A	667751	EPA 6020B	668069
92578470017	**T4-3HS**	EPA 3010A	667751	EPA 6020B	668069
92578470018	**T4-4HB**	EPA 3010A	667751	EPA 6020B	668069
92578470019	**T4-4HS**	EPA 3010A	667751	EPA 6020B	668069
92578470020	**T1-4LT**	EPA 3010A	667751	EPA 6020B	668069
92578470021	**T2-4LT**	EPA 3010A	667969	EPA 6020B	668074
92578470022	**T3-4LT**	EPA 3010A	667752	EPA 6020B	667778
92578470023	**T4-4L**	EPA 3010A	667752	EPA 6020B	667778
92578470024	**BG-1LT**	EPA 3010A	667752	EPA 6020B	667778
92578470025	**BG-2HT**	EPA 3010A	667752	EPA 6020B	667778
92578470026	**DUP-1**	EPA 3010A	667752	EPA 6020B	667778
92578470027	**DUP-2**	EPA 3010A	667752	EPA 6020B	667778
92578470028	**DUP-3**	EPA 3010A	667752	EPA 6020B	667778
92578470029	**FB-1**	EPA 3010A	667752	EPA 6020B	667778
92578470030	**EB-1**	EPA 3010A	667752	EPA 6020B	667778
92578470001	**T1-4HT**	SM 2320B	404651		
92578470002	**T1-4HTS**	SM 2320B	404651		
92578470003	**T2-1HT**	SM 2320B	404651		
92578470004	**T2-2HT**	SM 2320B	404651		
92578470005	**T2-2HTS**	SM 2320B	404651		
92578470006	**T2-3HT**	SM 2320B	404651		
92578470007	**T2-3HTS**	SM 2320B	404651		
92578470008	**T2-4HT**	SM 2320B	404651		
92578470009	**T2-4HTS**	SM 2320B	404651		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92578470010	**T3-4HT**	SM 2320B	404651		
92578470011	**T3-4HTS**	SM 2320B	404651		
92578470012	**T4-1HB**	SM 2320B	404651		
92578470013	**T4-1HS**	SM 2320B	404651		
92578470014	**T4-2HB**	SM 2320B	404651		
92578470015	**T4-2HS**	SM 2320B	404651		
92578470016	**T4-3HB**	SM 2320B	404651		
92578470017	**T4-3HS**	SM 2320B	404651		
92578470018	**T4-4HB**	SM 2320B	404651		
92578470019	**T4-4HS**	SM 2320B	404651		
92578470020	**T1-4LT**	SM 2320B	404651		
92578470021	**T2-4LT**	SM 2320B	404652		
92578470022	**T3-4LT**	SM 2320B	404652		
92578470023	**T4-4L**	SM 2320B	404652		
92578470024	**BG-1LT**	SM 2320B	404652		
92578470025	**BG-2HT**	SM 2320B	404652		
92578470026	**DUP-1**	SM 2320B	404652		
92578470027	**DUP-2**	SM 2320B	404652		
92578470028	**DUP-3**	SM 2320B	404652		
92578470029	**FB-1**	SM 2320B	404652		
92578470030	**EB-1**	SM 2320B	404652		
92578470001	**T1-4HT**	SM 2540C-2015	667219		
92578470002	**T1-4HTS**	SM 2540C-2015	667219		
92578470003	**T2-1HT**	SM 2540C-2015	667487		
92578470004	**T2-2HT**	SM 2540C-2015	667487		
92578470005	**T2-2HTS**	SM 2540C-2015	667487		
92578470006	**T2-3HT**	SM 2540C-2015	667487		
92578470007	**T2-3HTS**	SM 2540C-2015	667487		
92578470008	**T2-4HT**	SM 2540C-2015	667487		
92578470009	**T2-4HTS**	SM 2540C-2015	667487		
92578470010	**T3-4HT**	SM 2540C-2015	667487		
92578470011	**T3-4HTS**	SM 2540C-2015	667487		
92578470012	**T4-1HB**	SM 2540C-2015	667487		
92578470013	**T4-1HS**	SM 2540C-2015	667487		
92578470014	**T4-2HB**	SM 2540C-2015	667487		
92578470015	**T4-2HS**	SM 2540C-2015	667487		
92578470016	**T4-3HB**	SM 2540C-2015	667487		
92578470017	**T4-3HS**	SM 2540C-2015	667487		
92578470018	**T4-4HB**	SM 2540C-2015	667487		
92578470019	**T4-4HS**	SM 2540C-2015	667487		
92578470020	**T1-4LT**	SM 2540C-2015	667487		
92578470021	**T2-4LT**	SM 2540C-2015	667487		
92578470022	**T3-4LT**	SM 2540C-2015	667487		
92578470023	**T4-4L**	SM 2540C-2015	667490		
92578470024	**BG-1LT**	SM 2540C-2015	667490		
92578470025	**BG-2HT**	SM 2540C-2015	667490		
92578470026	**DUP-1**	SM 2540C-2015	667490		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
Pace Project No.: 92578470

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92578470027	**DUP-2**	SM 2540C-2015	667490		
92578470028	**DUP-3**	SM 2540C-2015	667490		
92578470029	**FB-1**	SM 2540C-2015	667490		
92578470030	**EB-1**	SM 2540C-2015	667490		
92578470001	**T1-4HT**	EPA 300.0 Rev 2.1 1993	667029		
92578470002	**T1-4HTS**	EPA 300.0 Rev 2.1 1993	667029		
92578470003	**T2-1HT**	EPA 300.0 Rev 2.1 1993	667029		
92578470004	**T2-2HT**	EPA 300.0 Rev 2.1 1993	667029		
92578470005	**T2-2HTS**	EPA 300.0 Rev 2.1 1993	667029		
92578470006	**T2-3HT**	EPA 300.0 Rev 2.1 1993	667029		
92578470007	**T2-3HTS**	EPA 300.0 Rev 2.1 1993	667029		
92578470008	**T2-4HT**	EPA 300.0 Rev 2.1 1993	667029		
92578470009	**T2-4HTS**	EPA 300.0 Rev 2.1 1993	667029		
92578470010	**T3-4HT**	EPA 300.0 Rev 2.1 1993	667029		
92578470011	**T3-4HTS**	EPA 300.0 Rev 2.1 1993	667029		
92578470012	**T4-1HB**	EPA 300.0 Rev 2.1 1993	667029		
92578470013	**T4-1HS**	EPA 300.0 Rev 2.1 1993	667029		
92578470014	**T4-2HB**	EPA 300.0 Rev 2.1 1993	667029		
92578470015	**T4-2HS**	EPA 300.0 Rev 2.1 1993	667029		
92578470016	**T4-3HB**	EPA 300.0 Rev 2.1 1993	667029		
92578470017	**T4-3HS**	EPA 300.0 Rev 2.1 1993	667029		
92578470018	**T4-4HB**	EPA 300.0 Rev 2.1 1993	667029		
92578470019	**T4-4HS**	EPA 300.0 Rev 2.1 1993	667030		
92578470020	**T1-4LT**	EPA 300.0 Rev 2.1 1993	667030		
92578470021	**T2-4LT**	EPA 300.0 Rev 2.1 1993	667030		
92578470022	**T3-4LT**	EPA 300.0 Rev 2.1 1993	667030		
92578470023	**T4-4L**	EPA 300.0 Rev 2.1 1993	667030		
92578470024	**BG-1LT**	EPA 300.0 Rev 2.1 1993	667030		
92578470025	**BG-2HT**	EPA 300.0 Rev 2.1 1993	667030		
92578470026	**DUP-1**	EPA 300.0 Rev 2.1 1993	667030		
92578470027	**DUP-2**	EPA 300.0 Rev 2.1 1993	667030		
92578470028	**DUP-3**	EPA 300.0 Rev 2.1 1993	667030		
92578470029	**FB-1**	EPA 300.0 Rev 2.1 1993	667030		
92578470030	**EB-1**	EPA 300.0 Rev 2.1 1993	667030		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☑ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Georgia Power

Project #:

WO# : 92578470

92578470

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

Custody Seal Present? ☐ Yes ☑ No Seals Intact? ☐ Yes ☑ No

Date/Initials Person Examining Contents: 6/12/24 LT

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

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Thermometer: ☑ IR Gun ID: 93071

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp: 5.2/4.0/5.5 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 5.2/4.0/5.5

USDA Regulated Soil (☑ N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020. Page 2 of 2
	Document No.: F-CAR-CS-033-Rev.07	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# : 92578470**

PM: NMG Due Date: 12/23/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass jar. Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH < 2)	AG4U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(BG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-504S kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (5.3-5.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG8U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1																						
2		2	1			1																						
3		2	1			1																						
4		2	1			1																						
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9		2	1			1																						
10		2	1			1																						
11		2	1			1																						
12		2	1			1																						

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.

*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) DCC, LLHg

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

Project # **WO# : 92578470**

PM: NMG Due Date: 12/23/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CL-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CL-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CH)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1																						
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9		2	1			1																						
10		2	1			1																						
11		2	1			1																						
12		2	1			1																						

pH Adjustment Log for Preserved Samples

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

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

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Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8013 (water) DOC, LLHg

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

Proje **WO# : 92578470**

PM: NMG Due Date: 12/23/21

CLIENT: GA-GA Power

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1		2	1			1																						
2		2	1			1																						
3		2	1			1																						
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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 DENR 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.

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at https://info.pacelabs.com/hubfs/pas-standard-terms.pdf.

Page: 1 Of 1

Section A – Required Client Information:

Company: Georgia Power
Address: 1003 Weatherstone Parkway
Woodstock GA 30188
Email: kevin.stephenson@resolutewv.com
Phone: (678)548-8415 Fax
Requested Due Date:

Section B – Required Project Information:

Report To: Kevin Stephenson
Copy To:
Purchase Order #:
Project Name: McManus Surface Water
Project #:

Section C – Invoice Information:

Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'oleo@pacelabs.com
Pace Profile #: 10798-14

Regulatory Agency:
State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): 5010/6020	Alkalinity	TDS	Cl, F, SO4	Residual Chlorine (Y/N)
1	T1-4HT	WT		11/15/21	0750				4	3		1							X	X	X	X	
2	T1-4HTS	WT		11/15/21	0951				4	3		1							X	X	X	X	
3	T2-1HT	WT		11/15/21	0905				4	3		1							X	X	X	X	
4	T2-2HT	WT		11/15/21	0916				4	3		1							X	X	X	X	
5	T2-2HTS	WT		11/15/21	0920				4	3		1							X	X	X	X	
6	T2-3HT	WT		11/15/21	0928				4	3		1							X	X	X	X	
7	T2-3HTS	WT		11/15/21	0934				4	3		1							X	X	X	X	
8	T2-4HT	WT		11/15/21	1016				4	3		1							X	X	X	X	
9	T2-4HTS	WT		11/15/21	1025				4	3		1							X	X	X	X	
10	T3-4HT	WT		11/15/21	1036				4	3		1							X	X	X	X	
11	T3-4HTS	WT		11/15/21	1042				4	3		1							X	X	X	X	
12	T4-1HB	WT		11/15/21	0946				4	3		1							X	X	X	X	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Kevin Stephenson	11/15/21	1410	TO FedEx	11/16/21	11:00	5.2/4.0	Y	—	Y
							3.5			

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Kevin Stephenson
SIGNATURE of SAMPLER:
DATE Signed: 11/15/21

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Page : 2 Of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Georgia Power	Report To:	Kevin Stephenson	Attention:	
Address:	1003 Weatherstone Parkway	Copy To:		Company Name:	
	Woodstock, GA 30188			Address:	
Email:	kevin.stephenson@nscoutlook.com	Purchase Order #:		Pace Quote:	
Phone:	(678)545-9415 Fax	Project Name:	McManus Surface Water	Pace Project Manager:	nicole.d'oleo@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	10768-14

Regulatory Agency: —

State / Location: GA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N): 6010/6020	Alkalinity	TDS	Cl, F, SO4	Residual Chlorine (Y/N)
13	T4-1HS	WT		12/5/21	0700				4	3		1							X	X	X	X	
14	T4-2HB	WT		12/5/21	0727				4	3		1							X	X	X	X	
15	T4-2HS	WT		12/5/21	0725				4	3		1							X	X	X	X	
16	T4-3HB	WT		12/5/21	0740				4	3		1							X	X	X	X	
17	T4-3HS	WT		12/5/21	0744				4	3		1							X	X	X	X	
18	T4-4HB	WT		12/5/21	0804				4	3		1							X	X	X	X	
19	T4-4HS	WT		12/5/21	0758				4	3		1							X	X	X	X	
20	T1-4LT	WT		12/5/21	1448				4	3		1							X	X	X	X	
21	T2-4LT	WT		12/5/21	1500				4	3		1							X	X	X	X	
22	T3-4LT	WT		12/5/21	1510				4	3		1							X	X	X	X	
23	T4-4L	WT		12/5/21	1345				4	3		1							X	X	X	X	
24	BG-1LT	WT		12/5/21	1750				4	3		1							X	X	X	X	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Kevin Stephenson	12/5/21	1740	FedEx	12/6/21	1130	5.7/5.5	X	~	X

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kevin Stephenson

SIGNATURE of SAMPLER:

DATE Signed: 12/5/21

Pace Analytical®

CHAIN-OF-CUSTODY / Analytical Request Document

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Copy To:
Purchase Order #:
Project Name: McManus Surface Water
Project #:

Section C — Invoice Information:
Attention:
Company Name:
Address:
Pace Quote:
Pace Project Manager: nicole.d'oleo@pacelabs.com
Pace Profile #: 10768-14

Regulatory Agency:
State / Location: GA

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

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

Matrix Code (see valid codes to left); Sample Type (G=GRAB C=COMP)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	6010/6020	Alkalinity	TDS	Cl, F, SO4	Residual Chlorine (Y/N)
25	BG-2HT	WT		12/15/21	0931				4	3		1							x	x	x	x	
26	DUP-1	WT		12/15/21	—				4	3		1							x	x	x	x	
27	DUP-2	WT		12/15/21	—				4	3		1							x	x	x	x	
28	DUP-3	WT		12/15/21	—				4	3		1							x	x	x	x	
29	DUP-4	WT																	x	x	x	x	
30	DUP-5	WT																	x	x	x	x	
31	FB-1	WT		12/15/21	1612				4	3		1							x	x	x	x	
32	EB-1	WT		12/15/21	1620				4	3		1							x	x	x	x	
33		WT																	x	x	x	x	
34		WT																	x	x	x	x	
35		WT																	x	x	x	x	
36		WT																	x	x	x	x	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Kevin Stephenson	12/15/21	1410	TO/EDEN						
				[signature]	12/16/21	1100	3.2/4.0	Y	—	Y
							5.5			

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Kevin Stephenson
SIGNATURE of SAMPLER: [signature]
DATE Signed: 12/15/21

Resolute Environmental & Water Resources Consulting

EQUIPMENT CALIBRATION LOG

Field Technician: Robert Mull	Date: 9/22/21	Time (Calibration): 0826	Time (Mid-day Check):
AquaTroll SN: 789301	Turbidity Meter Type: LaMotte 2020t	SN: ~~789301~~ 2068-0320	
Project: McMurray Surface Water	Weather Conditions: Sunny, 85°F		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (1pt, 100% water saturated air cal)				100.71	
Specific Conductance (µS/cm)	21070193 8/22	25.96	4490	4561.5	
pH (4)	21070193 8/22	25.92	4	4.02	
pH (7)	21010066 8/22	26.28	7	7.04	
pH (10)	21080189 6/22	26.54	10	9.97	
ORP (mV)	21140141 8/22	26.63	228	230.6	

	Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU	0	0.05	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU	1	1.11	+/- 0.5 NTU	Yes	No	
Turbidity 10 NTU	10	10.08	+/- 0.5 NTU	Yes	No	

	Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check		4		+/- 0.1 SU	Yes	No	
Mid-Day pH (7) check		7		+/- 0.1 SU	Yes	No	
Mid-Day pH (10) check		10		+/- 0.1 SU	Yes	No	

Calibration Report

Instrument	Aqua TROLL 400
Serial Number	789301
Created	9/22/2021

Sensor	**RDO**
Serial Number	789986
Last Calibrated	9/22/2021

Calibration Details

Slope	0.9757509
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.29 mg/L
Temperature	26.06 °C
Barometric Pressure	1,017.5 mbar

Sensor	**Conductivity**
Serial Number	789301
Last Calibrated	9/22/2021

Calibration Details

Cell Constant	0.999
Reference Temperature	25.00 °C
TDS Conversion Factor (ppm)	0.65

Sensor	**Level**
Serial Number	787061
Last Calibrated	Factory Defaults

Sensor	**pH/ORP**
Serial Number	21177
Last Calibrated	9/22/2021

Calibration Details

Total Calibration Points	3

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	116.4 mV
Temperature	25.92 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-58.2 mV
Temperature	26.30 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-222.1 mV
Temperature	26.56 °C

Slope and Offset 1

Slope	-58.19 mV/pH
Offset	-58.2 mV

Slope and Offset 2

Slope	-54.64 mV/pH
Offset	-58.2 mV

ORP

ORP Solution	ORP Standard
Offset	65.5 mV
Temperature	26.64 °C

Resolute

EQUIPMENT CALIBRATION LOG

Field Technician: William Lasker	Date: 9/23/21	Time (Calibration): 10 19	Time (Mid-day Check):
YSI ProDSS SN: 19H301	Turbidity Meter Type: LaMotte 2020e	SN: 2068-0320	
Project: Sept 2021 Surface Water	Weather Conditions: 80°/61° Sunny		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (Ept. 100% water saturated air cal)				99.43	
Specific Conductance (µS/cm)	21070193 8/22	22.02	4490	4578.8	
pH (4)	21070193 8/22	22.04	4	4.07	
pH (7)	21010066 8/22	21.97	7	7.08	
pH (10)	21080189 6/22	21.97	10	10.17	
ORP (mV)	21140141 8/22	21.93	228	234.8	

	Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU	0	0.05	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU	1	1.11	+/-0.5 NTU	Yes	No	
Turbidity 10 NTU	10	10.08	+/-0.5 NTU	Yes	No	

	Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check		4		+/-0.1 SU	Yes	No	
Mid-Day pH (7) check		7		+/-0.1 SU	Yes	No	
Mid-Day pH (10) check		10		+/-0.1 SU	Yes	No	

Calibration Report

Instrument	Aqua TROLL 400
Serial Number	789301
Created	9/23/2021

Sensor	**RDO**
Serial Number	789986
Last Calibrated	9/23/2021

Calibration Details

Slope	0.9833372
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.90 mg/L
Temperature	22.13 °C
Barometric Pressure	1,016.8 mbar

Sensor	**Conductivity**
Serial Number	789301
Last Calibrated	9/23/2021

Calibration Details

Cell Constant	0.98
Reference Temperature	25.00 °C
TDS Conversion Factor (ppm)	0.65

Sensor	**Level**
Serial Number	787061
Last Calibrated	Factory Defaults

Sensor	**pH/ORP**
Serial Number	21177
Last Calibrated	9/23/2021

Calibration Details

Total Calibration Points	3

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	111.0 mV
Temperature	22.04 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-61.9 mV
Temperature	21.97 °C

Calibration Point 3

pH of Buffer	10.04 pH
pH mV	-228.3 mV
Temperature	21.97 °C

Slope and Offset 1

Slope	-57.24 mV/pH
Offset	-60.8 mV

Slope and Offset 2

Slope	-55.1 mV/pH
Offset	-60.8 mV

ORP

ORP Solution	ORP Standard
Offset	58.6 mV
Temperature	21.93 °C

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Environmental & Water Resource Consulting

EQUIPMENT CALIBRATION LOG

Field Technician: William Lasker	Date: 4/30/21	Time (Calibration): 6:50	Time (Mid-day Check):
AquaTroll SN: 789301	Turbidity Meter Type: LaMotte 2020t	v. 2068-0320	
Project: Sept 2021 Surface Water	Weather Conditions: 88°/65° partly ~~sunny~~ cloudy		

Calibration Log

	Standard Lot # / Date & Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (Ipt. 100% water saturated air cal)				99.28	
Specific Conductance (µS/cm)	21070193 8/22	23.78	4490	4325.9	
pH (4)	21070193 8/22	23.70	4	3.98	
pH (7)	21010066 8/22	23.35	7	6.99	
pH (10)	21080189 6/22	22.80	10	9.96	
ORP (mV)	21140141 8/22	23.84	228	222.5	

		Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU		0	0.01	+/-0.5 NTU	Yes	No	
Turbidity 1 NTU		1	1.13	+/-0.5 NTU	Yes	No	
Turbidity 10 NTU		10	9.97	+/-0.5 NTU	Yes	No	

		Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check			4		+/-0.1 SU	Yes	No	
Mid-Day pH (7) check			7		+/-0.1 SU	Yes	No	
Mid-Day pH (10) check			10		+/-0.1 SU	Yes	No	

Calibration Report

Instrument	Aqua TROLL 400
Serial Number	789301
Created	9/30/2021

Sensor	**RDO**
Serial Number	789986
Last Calibrated	9/30/2021

Calibration Details

Slope	0.9910781
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.55 mg/L
Temperature	24.05 °C
Barometric Pressure	1,020.4 mbar

Sensor	**Conductivity**
Serial Number	789301
Last Calibrated	9/30/2021

Calibration Details

Cell Constant	1.015
Reference Temperature	25.00 °C
TDS Conversion Factor (ppm)	0.65

Sensor	**Level**
Serial Number	787061
Last Calibrated	Factory Defaults

Sensor	**pH/ORP**
Serial Number	21177
Last Calibrated	9/30/2021

Calibration Details

Total Calibration Points	3

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	112.5 mV
Temperature	23.70 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-60.8 mV
Temperature	23.35 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-225.2 mV
Temperature	22.89 °C

Slope and Offset 1

Slope	-57.79 mV/pH
Offset	-60.8 mV

Slope and Offset 2

Slope	-54.8 mV/pH
Offset	-60.8 mV

ORP

ORP Solution	ORP Standard
Offset	64.0 mV
Temperature	23.84 °C

Location Properties T4-1HS
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 12:52:01
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	4.444385	65.36024	102.0149	26838.94	31.71767	23786.9	14.64469	15.46148	37.2593	1.005987	-0.1118	0.378596	7.264474	-73.9429	113.8138	1016.17	33.78	
########	4.444385	65.36024	102.0149	26838.94	31.71767	23786.9	14.64469	15.46148	37.2593	1.005987	-0.1118	0.378596	7.264474	-73.9429	113.8138	1016.17	33.78	
########	4.298727	63.17741	98.61517	26820.07	31.67583	23787.03	14.64478	15.46157	37.28551	1.006001	-0.11261	0.376737	7.247595	-72.9971	119.5897	1016.131	33.79959	
########	4.289797	63.04359	98.40675	26818.91	31.67327	23787.03	14.64479	15.46157	37.28712	1.006002	-0.11266	0.376623	7.24656	-72.9391	119.9437	1016.128	33.80079	
########	4.280868	62.90978	98.19834	26817.75	31.6707	23787.04	14.64479	15.46158	37.28873	1.006003	-0.11271	0.376509	7.245525	-72.8812	120.2978	1016.126	33.80199	
########	4.223534	62.0218	96.82749	26812.43	31.65084	23790.32	14.64701	15.46371	37.29614	1.006011	-0.10311	0.398635	7.235951	-72.3441	121.0145	1016.165	33.83354	
########	4.217433	61.92908	96.68363	26811.73	31.64894	23790.47	14.64711	15.46381	37.29711	1.006012	-0.1027	0.399582	7.235113	-72.2971	121.1866	1016.166	33.83543	
########	4.211332	61.83637	96.53978	26811.04	31.64703	23790.62	14.64721	15.4639	37.29808	1.006012	-0.10229	0.40053	7.234274	-72.2501	121.3587	1016.167	33.83732	
########	4.205232	61.74366	96.39592	26810.34	31.64513	23790.77	14.64731	15.464	37.29904	1.006013	-0.10188	0.401477	7.233436	-72.203	121.5308	1016.167	33.83921	
########	4.153194	60.96124	95.1799	26852.79	31.58724	23851.85	14.68854	15.5037	37.24009	1.006063	-0.0887	0.431875	7.223432	-71.6309	122.1258	1016.134	33.85615	
########	4.149272	60.90181	95.08768	26854.49	31.58415	23854.61	14.6904	15.5055	37.23772	1.006065	-0.08794	0.433632	7.222746	-71.5919	122.1868	1016.133	33.85757	

Location Properties T4-1HB
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 12:55:10
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	2.289848	32.98264	51.67804	27544.64	30.20447	25054.14	15.50152	16.28519	36.30471	1.007117	-0.0886	0.432114	7.074696	-63.071	109.1977	1015.941	34.32718	
########	2.28737	32.94488	51.61935	27546.05	30.20145	25056.73	15.50327	16.28688	36.30285	1.007119	-0.08821	0.433009	7.074266	-63.0467	109.184	1015.938	34.32782	
########	2.284892	32.90712	51.56067	27547.46	30.19843	25059.32	15.50503	16.28856	36.301	1.007121	-0.08782	0.433904	7.073835	-63.0224	109.1704	1015.936	34.32847	
########	2.282414	32.86937	51.50198	27548.86	30.19541	25061.91	15.50678	16.29024	36.29914	1.007124	-0.08744	0.434799	7.073405	-62.9981	109.1568	1015.934	34.32912	
########	2.258865	32.49474	50.92729	27545.85	30.0818	25108.75	15.53842	16.32069	36.30311	1.007184	-0.08978	0.429402	7.066729	-62.6067	108.9678	1015.993	34.3557	
########	2.257228	32.46886	50.88746	27546.1	30.07572	25111.63	15.54036	16.32256	36.30278	1.007187	-0.08971	0.429548	7.066306	-62.5822	108.9545	1015.995	34.35711	
########	2.255591	32.44298	50.84763	27546.35	30.06965	25114.51	15.54231	16.32443	36.30245	1.00719	-0.08965	0.429695	7.065884	-62.5576	108.9413	1015.997	34.35852	
########	2.253954	32.4171	50.8078	27546.6	30.06357	25117.39	15.54425	16.3263	36.30212	1.007194	-0.08959	0.429841	7.065461	-62.533	108.928	1015.999	34.35993	
########	2.242536	32.23869	50.53313	27566.7	30.03154	25149.76	15.56618	16.34734	36.27565	1.00722	-0.08707	0.435646	7.060338	-62.2409	108.736	1016.015	34.37639	
########	2.241566	32.22337	50.50961	27567.48	30.02773	25152.13	15.56779	16.34889	36.27463	1.007223	-0.08702	0.435764	7.059978	-62.2202	108.7238	1016.017	34.37767	
########	2.240596	32.20806	50.48608	27568.26	30.02393	25154.51	15.5694	16.35043	36.2736	1.007225	-0.08697	0.435882	7.059619	-62.1995	108.7116	1016.019	34.37894	

Location Properties T4-2HS
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 13:04:26
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	4.646955	68.23161	106.4935	26873.93	31.57677	23874.86	14.70408	15.51866	37.21078	1.006078	-0.09589	0.415288	7.164677	-68.3699	103.6756	1015.77	34.61	
########	4.646955	68.23161	106.4935	26873.93	31.57677	23874.86	14.70408	15.51866	37.21078	1.006078	-0.09589	0.415288	7.164677	-68.3699	103.6756	1015.77	34.61	
########	4.441735	65.21997	101.8021	26912.35	31.57586	23909.36	14.72736	15.54108	37.15767	1.006095	-0.09029	0.428205	7.151603	-67.6372	106.9292	1015.854	34.61936	
########	4.428623	65.02754	101.5024	26914.8	31.5758	23911.56	14.72885	15.54251	37.15428	1.006096	-0.08994	0.429031	7.150767	-67.5904	107.1371	1015.859	34.61995	
########	4.415511	64.83511	101.2026	26917.25	31.57574	23913.76	14.73034	15.54395	37.15089	1.006098	-0.08958	0.429856	7.149932	-67.5436	107.345	1015.865	34.62055	
########	4.402398	64.64268	100.9029	26919.71	31.57569	23915.97	14.73182	15.54538	37.14749	1.006099	-0.08922	0.430681	7.149096	-67.4968	107.5529	1015.87	34.62115	
########	4.317328	63.33993	98.87846	26911.13	31.55195	23917.98	14.73318	15.54669	37.15935	1.006108	-0.08273	0.445663	7.142263	-67.1107	107.9058	1015.815	34.62838	
########	4.308308	63.20517	98.66876	26911.74	31.55088	23918.96	14.73384	15.54732	37.15851	1.006108	-0.0823	0.446655	7.141626	-67.0749	108.005	1015.814	34.62893	
########	4.299288	63.07041	98.45905	26912.35	31.54982	23919.93	14.7345	15.54795	37.15767	1.006109	-0.08187	0.447646	7.14099	-67.0391	108.1042	1015.814	34.62949	
########	4.290268	62.93565	98.24935	26912.96	31.54875	23920.9	14.73516	15.54859	37.15682	1.00611	-0.08144	0.448638	7.140353	-67.0032	108.2033	1015.814	34.63005	
########	4.218062	61.85281	96.56467	26899.02	31.48916	23932.73	14.74315	15.55627	37.17608	1.006136	-0.10169	0.401925	7.133023	-66.585	108.5274	1015.802	34.64749	

Location Properties T4-2HB
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 13:07:34
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	2.413416	35.03063	54.82521	28296.35	30.76854	25488.12	15.79703	16.56728	35.3404	1.007154	-0.09757	0.411431	7.054513	-62.0272	103.8512	1015.717	34.88879	
########	2.410995	34.99006	54.76317	28303.13	30.76612	25495.28	15.8019	16.57193	35.33188	1.007158	-0.09784	0.410792	7.054222	-62.0089	103.8497	1015.715	34.88913	
########	2.408574	34.94949	54.70113	28309.91	30.76369	25502.44	15.80677	16.57659	35.32336	1.007163	-0.09812	0.410153	7.05393	-61.9907	103.8483	1015.713	34.88947	
########	2.386639	34.5809	54.14225	28338.2	30.38648	25694.89	15.93733	16.70168	35.28811	1.007382	-0.10674	0.390265	7.050556	-61.7516	103.7657	1015.712	34.89846	
########	2.385219	34.55589	54.10446	28341.61	30.36954	25705.46	15.9445	16.70855	35.28384	1.007393	-0.10726	0.38906	7.050342	-61.7366	103.7611	1015.711	34.899	
########	2.383799	34.53087	54.06666	28345.01	30.3526	25716.02	15.95167	16.71541	35.27958	1.007404	-0.10779	0.387855	7.050127	-61.7216	103.7565	1015.71	34.89953	
########	2.375076	34.34868	53.79785	28409.97	30.22662	25831.41	16.03009	16.79042	35.19895	1.007503	-0.08281	0.445464	7.047345	-61.5655	103.7091	1015.701	34.89114	
########	2.374294	34.33399	53.7759	28413.33	30.21403	25840.07	16.03597	16.79605	35.19477	1.007511	-0.08184	0.447699	7.04716	-61.5543	103.7054	1015.701	34.89093	
########	2.373512	34.3193	53.75394	28416.69	30.20143	25848.72	16.04185	16.80167	35.1906	1.007519	-0.08087	0.449934	7.046975	-61.543	103.7018	1015.7	34.89071	
########	2.37273	34.3046	53.73199	28420.06	30.18883	25857.38	16.04772	16.8073	35.18642	1.007528	-0.07991	0.452169	7.04679	-61.5318	103.6982	1015.7	34.8905	
########	2.360999	34.13511	53.4674	28424.14	30.18795	25861.54	16.05056	16.81	35.18137	1.00753	-0.09516	0.416978	7.044178	-61.3892	103.6023	1015.717	34.89029	

Location Properties T4-3HS
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 13:16:35
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	6.670783	97.10411	151.781	27081.64	30.93816	24322.96	15.00674	15.80992	36.92538	1.006512	-0.10616	0.391608	7.193274	-69.811	98.11588	1015.55	34.42	
########	6.691919	97.40909	152.2622	27123.8	30.92701	24365.49	15.03551	15.83757	36.86799	1.006537	-0.0995	0.406966	7.179985	-69.0713	100.7019	1015.55	34.42992	
########	6.693222	97.42789	152.2919	27126.4	30.92632	24368.11	15.03728	15.83927	36.86445	1.006539	-0.09909	0.407913	7.179166	-69.0257	100.8613	1015.55	34.43053	
########	6.694524	97.44669	152.3215	27129	30.92563	24370.73	15.03905	15.84097	36.86091	1.00654	-0.09868	0.408859	7.178347	-68.9801	101.0207	1015.55	34.43114	
########	6.730474	97.94141	153.1009	27113.18	30.91833	24359.57	15.0315	15.83372	36.88243	1.006537	-0.10751	0.388505	7.171573	-68.6029	101.3813	1015.55	34.42973	
########	6.732557	97.97043	153.1467	27113.54	30.91773	24360.14	15.03189	15.83409	36.88195	1.006537	-0.10772	0.388	7.170951	-68.5682	101.4608	1015.55	34.42991	
########	6.734641	97.99944	153.1924	27113.89	30.91714	24360.71	15.03227	15.83446	36.88147	1.006538	-0.10794	0.387495	7.170329	-68.5336	101.5403	1015.55	34.4301	
########	6.736724	98.02847	153.2381	27114.24	30.91655	24361.27	15.03265	15.83483	36.88098	1.006538	-0.10816	0.38699	7.169706	-68.4989	101.6199	1015.55	34.43028	
########	6.750787	98.23856	153.5644	27116.01	30.91045	24365.41	15.03545	15.83752	36.87858	1.006542	-0.11064	0.38127	7.162035	-68.077	102.0501	1015.541	34.43874	
########	6.752145	98.25804	153.5949	27115.97	30.91	24365.56	15.03555	15.83762	36.87864	1.006543	-0.11089	0.380706	7.161517	-68.0484	102.0858	1015.54	34.43913	
########	6.753502	98.27753	153.6254	27115.93	30.90955	24365.71	15.03565	15.83771	36.87869	1.006543	-0.11113	0.380143	7.160999	-68.0198	102.1215	1015.54	34.43953	

Location Properties T4-3HB
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 13:22:19
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	2.468574	35.26333	55.3159	27860.66	29.51032	25650.9	15.90588	16.67309	35.89295	1.007639	-0.10474	0.394877	7.045309	-61.3091	100.9124	1015.489	34.77914	
########	2.465341	35.19946	55.21819	27822.65	29.48943	25625.32	15.88843	16.65646	35.94198	1.007632	-0.10602	0.391927	7.042973	-61.1787	100.9371	1015.473	34.77129	
########	2.465278	35.19762	55.21545	27820.07	29.48769	25623.73	15.88734	16.65543	35.9453	1.007632	-0.10616	0.391604	7.04284	-61.1713	100.9388	1015.472	34.77109	
########	2.465215	35.19578	55.2127	27817.5	29.48595	25622.15	15.88626	16.6544	35.94862	1.007632	-0.1063	0.391282	7.042708	-61.1639	100.9406	1015.472	34.77088	
########	2.465153	35.19394	55.20996	27814.92	29.48421	25620.56	15.88518	16.65336	35.95193	1.007632	-0.10644	0.390959	7.042576	-61.1564	100.9423	1015.471	34.77067	
########	2.454856	35.04445	54.97521	27784.08	29.47948	25594.28	15.86729	16.63628	35.99185	1.00762	-0.1025	0.400041	7.040411	-61.0317	101.002	1015.47	34.77037	
########	2.45429	35.03598	54.96195	27782.04	29.47898	25592.63	15.86617	16.63521	35.99448	1.007619	-0.10233	0.400449	7.04027	-61.0236	101.0053	1015.47	34.77022	
########	2.453723	35.02752	54.94869	27780.02	29.47848	25590.99	15.86505	16.63414	35.9971	1.007618	-0.10215	0.400858	7.040128	-61.0155	101.0086	1015.47	34.77007	
########	2.453157	35.01905	54.93543	27777.99	29.47798	25589.35	15.86393	16.63308	35.99973	1.007618	-0.10197	0.401267	7.039987	-61.0074	101.0118	1015.469	34.76992	
########	2.448393	34.94046	54.81583	27811.56	29.45038	25632.73	15.89338	16.66127	35.95627	1.007648	-0.11098	0.380494	7.037624	-60.875	101.0767	1015.47	34.77	
########	2.447957	34.93373	54.80543	27812.36	29.44911	25634.03	15.89427	16.66212	35.95525	1.007649	-0.11128	0.379807	7.037476	-60.8666	101.0808	1015.47	34.77	

Location Properties T4-4HS
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 13:36:04
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	6.560426	96.96524	151.249	28451.49	31.64622	25246.61	15.63323	16.4103	35.14755	1.006744	-0.09961	0.406711	7.22538	-71.7454	98.6732	1015.37	34.75	
########	6.593752	97.38777	151.9357	28534.26	31.57929	25348.82	15.70271	16.47673	35.0456	1.006817	-0.10902	0.385011	7.204915	-70.5807	101.764	1015.37	34.75	
########	6.595748	97.41307	151.9768	28539.22	31.57528	25354.95	15.70687	16.48071	35.03949	1.006822	-0.10958	0.383711	7.203689	-70.511	101.9491	1015.37	34.75	
########	6.597744	97.43838	152.0179	28544.18	31.57128	25361.07	15.71103	16.48469	35.03339	1.006826	-0.11015	0.382412	7.202464	-70.4412	102.1342	1015.37	34.75	
########	6.648561	97.9515	152.8873	28566.61	31.47628	25422.02	15.75248	16.52431	35.00592	1.006888	-0.09765	0.411231	7.189685	-69.7192	102.7417	1015.387	34.75855	
########	6.651653	97.98471	152.9429	28569.56	31.47039	25427.17	15.75598	16.52766	35.00231	1.006893	-0.0973	0.412043	7.188627	-69.6593	102.841	1015.388	34.75895	
########	6.654745	98.01792	152.9985	28572.5	31.46451	25432.33	15.75948	16.53101	34.99869	1.006897	-0.09695	0.412855	7.18757	-69.5994	102.9404	1015.388	34.75933	
########	6.657836	98.05113	153.0541	28575.44	31.45862	25437.48	15.76298	16.53436	34.99508	1.006902	-0.0966	0.413667	7.186512	-69.5394	103.0398	1015.389	34.75972	
########	6.698403	98.5369	153.8441	28558.08	31.31229	25485.46	15.79558	16.56555	35.01637	1.006975	-0.09594	0.415187	7.174029	-68.8168	103.5102	1015.38	34.75974	
########	6.701327	98.57012	153.8988	28558	31.30363	25489.14	15.79807	16.56794	35.01646	1.006979	-0.0957	0.415747	7.173152	-68.7665	103.5531	1015.38	34.75991	
########	6.70425	98.60335	153.9535	28557.92	31.29498	25492.82	15.80057	16.57033	35.01656	1.006984	-0.09545	0.416307	7.172276	-68.7161	103.596	1015.38	34.76007	

Location Properties T4-4HB
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 13:38:42
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	3.298031	48.12013	75.23423	28520.55	30.83429	25661.02	15.91475	16.67966	35.06244	1.00722	-0.09714	0.412409	7.096114	-64.386	99.17928	1015.359	34.90942	
########	3.286356	47.9456	74.96239	28519.64	30.83229	25661.08	15.91479	16.6797	35.06356	1.007221	-0.09737	0.41189	7.095593	-64.3564	99.19048	1015.359	34.90982	
########	3.177827	46.29325	72.39676	28451.5	30.67712	25668.22	15.9195	16.68434	35.14757	1.007275	-0.1167	0.367306	7.091019	-64.0765	99.38011	1015.368	34.901	
########	3.169626	46.16908	72.20379	28448.13	30.66977	25668.44	15.91964	16.68448	35.15171	1.007277	-0.11765	0.365098	7.090678	-64.0562	99.39148	1015.369	34.90078	
########	3.161424	46.04491	72.01081	28444.77	30.66242	25668.65	15.91979	16.68463	35.15585	1.00728	-0.11861	0.36289	7.090336	-64.0358	99.40285	1015.369	34.90056	
########	3.083583	44.89988	70.22551	28502.31	30.63057	25734.71	15.96474	16.72756	35.0849	1.007323	-0.10799	0.38739	7.084518	-63.6962	99.59015	1015.369	34.90879	
########	3.077934	44.8157	70.09447	28503.59	30.62624	25737.79	15.96683	16.72956	35.08332	1.007326	-0.10788	0.387645	7.084167	-63.6754	99.60217	1015.369	34.909	
########	3.072284	44.73152	69.96342	28504.87	30.62191	25740.86	15.96891	16.73156	35.08174	1.007329	-0.10777	0.387899	7.083816	-63.6547	99.61418	1015.37	34.90921	
########	3.066635	44.64734	69.83237	28506.15	30.61759	25743.93	15.971	16.73355	35.08016	1.007332	-0.10766	0.388154	7.083465	-63.634	99.6262	1015.37	34.90942	
########	3.035427	44.08033	68.97383	28509.29	30.53587	25783.12	15.9976	16.75903	35.0763	1.007379	-0.08208	0.447155	7.077357	-63.2788	99.78486	1015.361	34.91833	
########	3.032493	44.03225	68.90002	28510.45	30.53151	25786.11	15.99963	16.76097	35.07486	1.007381	-0.08074	0.450243	7.07697	-63.2563	99.79559	1015.361	34.91888	

Location Properties T4-4L
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 18:18:02
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.710764	82.6538	128.9862	27441.58	30.25023	24940.56	15.42451	16.21136	36.44106	1.007045	-0.07423	0.465264	7.348273	-78.2451	127.2653	1012.26	35.09069	
########	5.696252	82.44466	128.6598	27446.38	30.24974	24945.13	15.4276	16.21433	36.43467	1.007047	-0.07405	0.465669	7.347235	-78.1881	127.0589	1012.259	35.08953	
########	5.681741	82.23551	128.3334	27451.18	30.24926	24949.69	15.4307	16.2173	36.42828	1.00705	-0.07388	0.466073	7.346196	-78.1311	126.8525	1012.258	35.08838	
########	5.584392	80.86086	126.1817	27445.95	30.28011	24931.59	15.41846	16.20554	36.43526	1.007031	-0.07416	0.465411	7.337295	-77.6374	124.8435	1012.286	35.08204	
########	5.574307	80.71681	125.9566	27447.57	30.28133	24932.54	15.4191	16.20615	36.43311	1.007031	-0.07411	0.465538	7.336485	-77.5927	124.6715	1012.287	35.0813	
########	5.564223	80.57278	125.7316	27449.19	30.28255	24933.48	15.41975	16.20676	36.43095	1.007031	-0.07405	0.465664	7.335675	-77.548	124.4995	1012.288	35.08055	
########	5.554139	80.42873	125.5065	27450.81	30.28378	24934.43	15.42039	16.20738	36.42878	1.007031	-0.074	0.465791	7.334864	-77.5034	124.3275	1012.288	35.07981	
########	5.524741	80.03948	124.8816	27406.28	30.32197	24877.5	15.38182	16.17038	36.488	1.00699	-0.06834	0.478842	7.326556	-77.0536	122.5415	1012.245	35.06294	
########	5.520734	79.98381	124.7939	27404.47	30.32424	24874.88	15.38005	16.16867	36.4904	1.006988	-0.06809	0.479427	7.325958	-77.0209	122.4118	1012.244	35.06201	
########	5.516727	79.92815	124.7061	27402.67	30.32651	24872.26	15.37827	16.16697	36.49281	1.006986	-0.06783	0.480013	7.325359	-76.9882	122.2822	1012.243	35.06108	
########	5.51272	79.87247	124.6183	27400.86	30.32877	24869.64	15.3765	16.16527	36.49521	1.006984	-0.06758	0.480598	7.32476	-76.9555	122.1525	1012.241	35.06014	

Location Properties T4-3L
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 19:05:35
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (I	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	5.433889	77.28403	120.942	27371.78	29.10726	25380.7	15.72121	16.49746	36.53397	1.007628	-0.06866	0.478111	7.418358	-81.818	97.11602	1012.22	31.01	
########	5.419385	77.08278	120.6263	27377.4	29.11009	25384.64	15.7239	16.50002	36.52644	1.007629	-0.06897	0.477399	7.417186	-81.7539	97.22993	1012.22	31.01	
########	5.294097	75.34816	117.9036	27374.21	29.13981	25368.32	15.71288	16.48941	36.53075	1.007612	-0.07572	0.461818	7.405624	-81.1187	97.39538	1012.254	31.01	
########	5.282727	75.19057	117.6563	27376.24	29.14227	25369.1	15.71342	16.48992	36.52803	1.007611	-0.07615	0.460828	7.404639	-81.0648	97.44717	1012.256	31.01	
########	5.271357	75.03298	117.409	27378.28	29.14473	25369.89	15.71396	16.49043	36.5253	1.007611	-0.07658	0.459837	7.403654	-81.0108	97.49898	1012.258	31.01	
########	5.259987	74.87539	117.1617	27380.32	29.14719	25370.67	15.71449	16.49094	36.52258	1.00761	-0.07701	0.458847	7.402669	-80.9569	97.55078	1012.259	31.01	
########	5.146904	73.28579	114.6599	27319.45	29.19186	25294.28	15.66271	16.44128	36.60399	1.007558	-0.07713	0.458564	7.390799	-80.3165	97.60213	1012.206	31.0012	
########	5.138569	73.16932	114.4767	27316.99	29.19459	25290.79	15.66034	16.43901	36.60727	1.007555	-0.07729	0.4582	7.389976	-80.2718	97.61409	1012.204	31.0008	
########	5.130235	73.05284	114.2936	27314.54	29.19733	25287.29	15.65797	16.43674	36.61054	1.007553	-0.07745	0.457836	7.389152	-80.2271	97.62605	1012.203	31.00041	
########	5.040935	71.81901	112.3572	27369.41	29.21992	25327.96	15.68565	16.46317	36.53717	1.007566	-0.07741	0.457921	7.378756	-79.658	97.5813	1012.202	31.00035	
########	5.034643	71.73157	112.2198	27370.74	29.22181	25328.35	15.68592	16.46343	36.53538	1.007566	-0.07742	0.4579	7.378054	-79.6198	97.58142	1012.201	31.00019	

Location Properties T4-2L
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 19:11:51
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	5.710643	81.59027	127.6033	27301.09	29.43537	25168.89	15.5781	16.35978	36.62857	1.007419	-0.00801	0.618007	7.34551	-77.8737	95.54601	1012.4	30.72	
########	5.257196	75.16092	117.5504	27499.19	29.43493	25351.72	15.70228	16.47861	36.36485	1.007511	-0.05912	0.500119	7.3308	-77.0609	96.01699	1012.418	30.72	
########	5.228316	74.75143	116.9102	27511.81	29.4349	25363.36	15.71019	16.48618	36.34805	1.007517	-0.06237	0.492611	7.329863	-77.0091	96.04698	1012.419	30.72	
########	5.199436	74.34195	116.2699	27524.42	29.43488	25375.01	15.7181	16.49375	36.33125	1.007523	-0.06563	0.485102	7.328926	-76.9573	96.07698	1012.421	30.72	
########	5.170557	73.93247	115.6296	27537.04	29.43485	25386.65	15.72601	16.50132	36.31446	1.007529	-0.06888	0.477594	7.327989	-76.9056	96.10698	1012.422	30.72	
########	5.010431	71.64133	112.0452	27533.63	29.43268	25384.47	15.72453	16.49991	36.31929	1.007528	-0.07285	0.46844	7.320364	-76.485	95.97649	1012.411	30.71139	
########	4.991792	71.37613	111.6304	27538.53	29.43258	25389.04	15.72763	16.50287	36.31278	1.007531	-0.07433	0.465031	7.319652	-76.4457	95.98272	1012.41	30.71101	
########	4.973154	71.11093	111.2157	27543.42	29.43247	25393.6	15.73073	16.50584	36.30628	1.007533	-0.07581	0.461622	7.31894	-76.4064	95.98895	1012.41	30.71063	
########	4.954515	70.84574	110.8009	27548.32	29.43236	25398.16	15.73383	16.5088	36.29977	1.007535	-0.07728	0.458214	7.318228	-76.3671	95.99518	1012.41	30.71025	
########	4.826149	69.01805	107.935	27459.21	29.46203	25302.79	15.66909	16.44681	36.4177	1.007478	-0.06703	0.481875	7.310025	-75.9245	95.80195	1012.41	30.71024	
########	4.815575	68.8674	107.6991	27456	29.4633	25299.27	15.6667	16.44452	36.42194	1.007476	-0.06686	0.482268	7.309457	-75.8936	95.79284	1012.41	30.71008	

Location Properties T4-1L
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 19:25:08
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	5.716438	81.27164	127.2183	27338.65	29.10889	25349.24	15.69984	16.47701	36.57825	1.007612	-0.03907	0.546353	7.399565	-80.777	95.28262	1012.5	30.25	
########	5.340703	75.96295	118.9008	27364.66	29.13105	25363.41	15.70952	16.48622	36.54348	1.007612	-0.05147	0.517766	7.380719	-79.7426	95.9487	1012.49	30.25	
########	5.317578	75.63622	118.3889	27366.26	29.13241	25364.29	15.71012	16.48679	36.54134	1.007612	-0.05223	0.516007	7.379559	-79.6789	95.98969	1012.489	30.25	
########	5.294453	75.30949	117.877	27367.87	29.13378	25365.16	15.71072	16.48735	36.5392	1.007612	-0.05299	0.514248	7.378399	-79.6152	96.03069	1012.489	30.25	
########	5.1472	73.23721	114.6256	27351.45	29.14709	25343.96	15.69635	16.47358	36.56114	1.007597	-0.04722	0.527566	7.369259	-79.1127	95.89009	1012.473	30.24152	
########	5.131504	73.01582	114.2786	27351.36	29.14822	25343.38	15.69595	16.47319	36.56126	1.007596	-0.04727	0.527455	7.368394	-79.0652	95.90016	1012.472	30.24114	
########	5.115809	72.79443	113.9315	27351.27	29.14935	25342.78	15.69555	16.47281	36.56138	1.007596	-0.04731	0.527345	7.367529	-79.0177	95.91024	1012.471	30.24077	
########	5.100114	72.57304	113.5844	27351.18	29.15048	25342.19	15.69516	16.47243	36.5615	1.007595	-0.04736	0.527235	7.366664	-78.9701	95.92031	1012.47	30.24039	
########	4.964965	70.66378	110.5882	27293.25	29.18643	25272.46	15.64787	16.4271	36.63912	1.007549	-0.08981	0.429321	7.356264	-78.4047	95.74393	1012.462	30.249	
########	4.954799	70.52031	110.3631	27290.45	29.18836	25268.99	15.64552	16.42484	36.64288	1.007546	-0.09165	0.425071	7.355559	-78.3663	95.7359	1012.461	30.24923	
########	4.944633	70.37683	110.138	27287.64	29.1903	25265.52	15.64317	16.42259	36.64663	1.007544	-0.0935	0.420821	7.354855	-78.3278	95.72786	1012.46	30.24946	

Location Properties T3-1HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 11:17:40
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	5.931833	75.63413	118.9382	12800.85	25.82735	12601.71	7.333736	8.191112	78.11982	1.002335	-0.08595	0.438217	7.161674	-70.631	179.4586	1017.53	22.84	
########	5.814015	74.19511	116.6636	12841.54	25.86792	12632.13	7.352934	8.210885	77.87234	1.002338	-0.05261	0.515125	7.147182	-69.8245	191.3808	1017.511	22.84	
########	5.806494	74.10325	116.5184	12844.14	25.87051	12634.07	7.35416	8.212148	77.85654	1.002338	-0.05048	0.520034	7.146257	-69.773	192.1419	1017.51	22.84	
########	5.798973	74.01138	116.3732	12846.74	25.8731	12636.01	7.355386	8.213409	77.84074	1.002339	-0.04836	0.524944	7.145331	-69.7215	192.903	1017.509	22.84	
########	5.791451	73.91952	116.228	12849.33	25.87569	12637.96	7.356611	8.214672	77.82494	1.002339	-0.04623	0.529854	7.144406	-69.6701	193.6642	1017.508	22.84	
########	5.729869	73.18272	115.0592	12868.86	25.88074	12655.95	7.367942	8.22637	77.70708	1.002346	-0.05299	0.51425	7.135231	-69.1639	192.6118	1017.484	22.84	
########	5.724079	73.11269	114.9483	12870.78	25.88201	12657.54	7.368944	8.227404	77.69543	1.002346	-0.05245	0.5155	7.134447	-69.1204	192.8676	1017.483	22.84	
########	5.718288	73.04266	114.8374	12872.7	25.88327	12659.13	7.369946	8.228437	77.68379	1.002347	-0.05191	0.516751	7.133662	-69.0769	193.1234	1017.481	22.84	
########	5.712497	72.97263	114.7265	12874.62	25.88453	12660.72	7.370949	8.229471	77.67215	1.002347	-0.05137	0.518001	7.132877	-69.0334	193.3792	1017.479	22.84	
########	5.651922	72.20242	113.5209	12834.7	25.93045	12610.59	7.339483	8.196885	77.91388	1.002311	-0.00151	0.633009	7.121686	-68.4174	192.5028	1017.56	22.8488	
########	5.647555	72.14806	113.4354	12833.5	25.93274	12608.88	7.338408	8.195771	77.92111	1.00231	0.000684	0.638061	7.120952	-68.377	192.493	1017.562	22.84918	

Location Properties T3-2HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 11:24:27
Time Offset = -04:00:00
Duration = 00:00:22
Readings = 12

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	3.7762	49.99272	78.52581	20634.52	26.41065	20093.09	12.16983	13.06051	48.46382	1.005787	-0.08717	0.435408	6.779156	-49.3774	128.1546	1017.573	23.03858	
########	3.755198	49.72105	78.09834	20649.73	26.41541	20106.15	12.17846	13.069	48.42741	1.005792	-0.08706	0.43566	6.779244	-49.3833	128.0443	1017.572	23.0393	
########	3.734195	49.44939	77.67088	20664.94	26.42017	20119.21	12.18709	13.07748	48.39101	1.005797	-0.08695	0.435913	6.779332	-49.3893	127.934	1017.57	23.04002	
########	3.571622	47.35198	74.36294	20645	26.49621	20071.41	12.15579	13.04642	48.438	1.005752	-0.07752	0.457661	6.782211	-49.556	126.3295	1017.545	23.04834	
########	3.558238	47.17879	74.09009	20648.57	26.50125	20073.01	12.15686	13.04745	48.42954	1.005751	-0.07703	0.45879	6.782373	-49.5657	126.2225	1017.543	23.04889	
########	3.544854	47.00561	73.81725	20652.14	26.50629	20074.6	12.15793	13.04849	48.42108	1.005751	-0.07655	0.459919	6.782535	-49.5755	126.1155	1017.541	23.04945	
########	3.53147	46.83242	73.5444	20655.71	26.51133	20076.2	12.159	13.04953	48.41261	1.00575	-0.07606	0.461048	6.782697	-49.5852	126.0085	1017.539	23.05	
########	3.401081	45.18248	70.94123	20698.66	26.54607	20104.96	12.17812	13.06822	48.31233	1.005754	-0.07763	0.457406	6.785412	-49.7466	124.2732	1017.567	23.05851	
########	3.391757	45.06357	70.75368	20700.59	26.54916	20105.68	12.1786	13.06869	48.30783	1.005754	-0.07752	0.457663	6.785588	-49.757	124.1639	1017.567	23.05905	
########	3.382434	44.94466	70.56613	20702.51	26.55225	20106.4	12.17909	13.06916	48.30333	1.005753	-0.07741	0.457921	6.785764	-49.7674	124.0545	1017.568	23.0596	
########	3.28894	43.76119	68.6956	20791.03	26.67689	20145.77	12.20551	13.09475	48.09787	1.005737	-0.09962	0.406697	6.78757	-49.8918	122.564	1017.526	23.05965	
########	3.282139	43.67505	68.55956	20795.91	26.68319	20148.15	12.2071	13.0963	48.08652	1.005736	-0.10064	0.404343	6.787703	-49.9005	122.4639	1017.525	23.05981	

Location Properties T3-2HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 11:31:44
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	7.423526	96.85529	151.8479	12339.84	27.27474	11826.01	6.848828	7.686909	81.03786	1.001567	-0.0813	0.448958	7.071095	-65.8722	124.7898	1017.507	23.71097	
########	7.496119	97.69604	153.188	12349.18	27.24441	11841.56	6.858536	7.697015	80.97726	1.001583	-0.06818	0.479212	7.061724	-65.3404	124.9093	1017.51	23.71824	
########	7.501833	97.76452	153.2966	12351.73	27.24174	11844.58	6.860425	7.69898	80.9604	1.001585	-0.06734	0.481163	7.060912	-65.2943	125.072	1017.51	23.71879	
########	7.507549	97.833	153.4053	12354.29	27.23907	11847.61	6.862313	7.700945	80.94355	1.001587	-0.06649	0.483113	7.060101	-65.2483	125.2347	1017.509	23.71934	
########	7.513264	97.90148	153.5139	12356.84	27.2364	11850.63	6.864202	7.70291	80.92669	1.00159	-0.06564	0.485064	7.059289	-65.2023	125.3975	1017.509	23.7199	
########	7.556967	98.39216	154.2899	12282.18	27.1653	11794.39	6.828988	7.666353	81.4191	1.001583	-0.08505	0.440292	7.048178	-64.5699	125.3819	1017.474	23.72853	
########	7.560667	98.43464	154.3573	12279.29	27.16132	11792.48	6.827789	7.665109	81.43819	1.001584	-0.08565	0.438917	7.047442	-64.528	125.4067	1017.473	23.72909	
########	7.564366	98.47713	154.4247	12276.4	27.15734	11790.56	6.82659	7.663866	81.45727	1.001584	-0.08625	0.437541	7.046706	-64.4862	125.4315	1017.471	23.72965	
########	7.604712	99.01512	155.2719	12351.19	27.15015	11863.96	6.872486	7.711577	80.96433	1.00162	-0.07506	0.463356	7.036734	-63.9245	125.1262	1017.479	23.76313	
########	7.60739	99.049	155.3253	12353.09	27.14844	11866.17	6.873862	7.713009	80.95179	1.001622	-0.07493	0.463648	7.036072	-63.8871	125.1157	1017.479	23.76477	
########	7.610069	99.08289	155.3787	12355	27.14672	11868.37	6.875238	7.71444	80.93924	1.001623	-0.0748	0.463941	7.03541	-63.8497	125.1052	1017.479	23.76642	

Location Properties T2-1HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 11:42:49
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	7.324113	97.97456	153.4478	17521.34	27.71869	16656.42	9.925191	10.82667	57.07327	1.003733	-0.07836	0.455728	6.892673	-55.956	91.47803	1017.472	25.41667	
########	7.325107	97.99038	153.4721	17521.58	27.72034	16656.15	9.925017	10.8265	57.07249	1.003732	-0.07782	0.456986	6.89249	-55.9459	91.54534	1017.471	25.41782	
########	7.326101	98.0062	153.4963	17521.82	27.72199	16655.88	9.924845	10.82632	57.07171	1.003731	-0.07727	0.458244	6.892306	-55.9357	91.61266	1017.471	25.41897	
########	7.327095	98.02203	153.5205	17522.06	27.72364	16655.61	9.924671	10.82614	57.07093	1.003731	-0.07673	0.459502	6.892122	-55.9255	91.67999	1017.471	25.42012	
########	7.348434	98.31386	153.9725	17537.51	27.72231	16670.7	9.934443	10.83596	57.02064	1.003739	-0.08762	0.434371	6.890022	-55.8058	92.33421	1017.436	25.41944	
########	7.349629	98.33064	153.9985	17538.28	27.72264	16671.32	9.934848	10.83636	57.01816	1.003739	-0.08789	0.433747	6.889873	-55.7974	92.38263	1017.434	25.41978	
########	7.350823	98.34743	154.0244	17539.04	27.72297	16671.95	9.935252	10.83677	57.01568	1.003739	-0.08816	0.433122	6.889724	-55.789	92.43105	1017.432	25.42011	
########	7.374124	98.63805	154.4875	17541.52	27.71407	16677.01	9.938515	10.84005	57.00761	1.003744	-0.09992	0.406006	6.887483	-55.6624	93.0274	1017.457	25.43691	
########	7.375587	98.65681	154.5172	17541.9	27.71367	16677.49	9.938829	10.84037	57.00636	1.003744	-0.10064	0.404332	6.887341	-55.6544	93.06734	1017.457	25.4377	
########	7.377051	98.67558	154.5468	17542.29	27.71326	16677.98	9.939144	10.84069	57.00511	1.003745	-0.10137	0.402659	6.887198	-55.6463	93.10728	1017.458	25.43848	
########	7.378514	98.69434	154.5765	17542.67	27.71286	16678.46	9.939458	10.841	57.00386	1.003745	-0.10209	0.400985	6.887055	-55.6382	93.14721	1017.458	25.43926	

Location Properties T2-2HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 11:48:12
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	3.895005	52.92105	82.96081	23862.23	27.29978	22858.17	14.01299	14.85781	41.90723	1.006905	-0.08802	0.433446	6.855854	-53.8182	103.2992	1017.47	25.79054	
########	3.790184	51.5147	80.75431	23851.03	27.32695	22836.09	13.99828	14.84346	41.92692	1.006886	-0.07907	0.454106	6.85924	-54.0087	103.1955	1017.505	25.81608	
########	3.782301	51.40891	80.5883	23852.22	27.32908	22836.34	13.99846	14.84362	41.92482	1.006885	-0.07877	0.454791	6.859461	-54.0213	103.1906	1017.506	25.817	
########	3.774419	51.30313	80.4223	23853.41	27.33122	22836.58	13.99863	14.84378	41.92272	1.006885	-0.07847	0.455476	6.859683	-54.0339	103.1858	1017.507	25.81792	
########	3.693991	50.21174	78.70658	23825.61	27.3359	22808.01	13.9795	14.82521	41.97166	1.006869	-0.06159	0.494411	6.863397	-54.2423	103.0876	1017.457	25.81885	
########	3.688288	50.13466	78.58548	23824.2	27.33662	22806.37	13.97839	14.82414	41.97413	1.006868	-0.06066	0.496569	6.863631	-54.2554	103.0813	1017.455	25.81931	
########	3.682585	50.05758	78.46439	23822.8	27.33734	22804.72	13.97729	14.82307	41.97661	1.006867	-0.05972	0.498727	6.863865	-54.2685	103.075	1017.453	25.81978	
########	3.676882	49.9805	78.34328	23821.39	27.33806	22803.07	13.97619	14.822	41.97908	1.006866	-0.05879	0.500885	6.864099	-54.2817	103.0686	1017.451	25.82025	
########	3.617677	49.20719	77.12933	23922.41	27.35718	22891.77	14.03572	14.87965	41.80193	1.006905	-0.08157	0.448319	6.867244	-54.4635	102.9554	1017.468	25.82	
########	3.613437	49.15097	77.04102	23926.29	27.35811	22895.09	14.03796	14.88181	41.79512	1.006906	-0.08223	0.446801	6.867457	-54.4757	102.9484	1017.468	25.82	
########	3.609197	49.09476	76.95273	23930.17	27.35905	22898.41	14.04019	14.88397	41.78832	1.006907	-0.08289	0.445283	6.867671	-54.4879	102.9415	1017.468	25.82	

Location Properties T2-2HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 11:54:57
Time Offset = -04:00:00
Duration = 00:00:22
Readings = 12

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	5.855206	78.07014	122.2692	16526.15	27.72746	15708.03	9.330382	10.21022	268.084	1.003286	-0.1017	0.401899	7.090173	-67.0574	96.3744	1017.478	26.10978	
########	5.816904	77.63265	121.584	16769.32	27.7314	15937.9	9.467083	10.35964	130.8317	1.003387	-0.10187	0.401512	7.089164	-67.0014	96.40661	1017.479	26.10992	
########	5.489761	73.33749	114.8479	16906.04	27.74616	16063.48	9.542063	10.44127	59.15047	1.003439	-0.0908	0.427049	7.074453	-66.1781	96.63353	1017.453	26.11867	
########	5.464664	73.00477	114.3262	16906.92	27.74959	16063.32	9.541964	10.44116	59.14737	1.003438	-0.09039	0.427978	7.073509	-66.1252	96.64931	1017.452	26.11909	
########	5.439565	72.67204	113.8045	16907.81	27.75302	16063.16	9.541864	10.44106	59.14427	1.003437	-0.08999	0.428908	7.072564	-66.0723	96.66511	1017.451	26.1195	
########	5.414467	72.33932	113.2828	16908.69	27.75645	16063	9.541765	10.44095	59.14117	1.003436	-0.08959	0.429837	7.071619	-66.0194	96.68089	1017.45	26.11992	
########	5.251748	70.14572	109.8539	16903.31	27.75423	16058.54	9.538879	10.43805	59.16002	1.003434	-0.08458	0.441396	7.060447	-65.3843	96.7589	1017.476	26.1284	
########	5.237828	69.95968	109.5626	16903.29	27.75447	16058.45	9.538823	10.43799	59.16008	1.003434	-0.08412	0.44244	7.059649	-65.3393	96.76693	1017.477	26.12895	
########	5.223907	69.77364	109.2713	16903.27	27.75472	16058.36	9.538767	10.43793	59.16014	1.003434	-0.08367	0.443485	7.058852	-65.2942	96.77496	1017.477	26.12951	
########	5.111368	68.25274	106.8928	16925.44	27.73369	16085.56	9.556287	10.45561	59.08268	1.003453	-0.09624	0.414485	7.047908	-64.6749	96.88902	1017.462	26.12961	
########	5.102827	68.13752	106.7126	16926.4	27.73272	16086.75	9.557055	10.45639	59.07933	1.003454	-0.09673	0.413354	7.047184	-64.6339	96.896	1017.461	26.12978	
########	5.094285	68.0223	106.5325	16927.35	27.73175	16087.94	9.557821	10.45716	59.076	1.003455	-0.09722	0.412224	7.04646	-64.5929	96.90297	1017.461	26.12994	

Location Properties T1-1HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:09:03
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	5.838647	79.78851	124.654	18812.6	28.72744	17561.6	10.51012	11.41504	0	1.003867	-0.06694	0.482077	7.068193	-66.0436	97.53876	1017.35	27.96008	
########	5.670804	77.49244	121.0667	18756.14	28.77173	17495.74	10.47127	11.37223	53.3159	1.003825	-0.10166	0.401978	7.061475	-65.6698	97.27528	1017.385	27.97758	
########	5.655813	77.28931	120.7493	18757.82	28.7735	17496.76	10.47193	11.37289	53.31111	1.003825	-0.10277	0.399438	7.061017	-65.6443	97.25468	1017.387	27.97855	
########	5.640821	77.08617	120.4318	18759.5	28.77528	17497.77	10.47259	11.37355	53.30632	1.003825	-0.10387	0.396899	7.060558	-65.6188	97.23407	1017.389	27.97952	
########	5.561273	76.01006	118.7445	18758.87	28.78295	17494.8	10.47066	11.37162	53.30811	1.003821	-0.10922	0.384555	7.054611	-65.2844	97.06839	1017.354	27.9963	
########	5.554057	75.91237	118.5916	18759.36	28.78409	17494.9	10.47073	11.37168	53.30673	1.003821	-0.11009	0.382551	7.054211	-65.262	97.05552	1017.354	27.99738	
########	5.546842	75.81467	118.4387	18759.84	28.78522	17495	10.47079	11.37175	53.30535	1.00382	-0.11095	0.380548	7.053812	-65.2396	97.04264	1017.353	27.99846	
########	5.539626	75.71699	118.2859	18760.33	28.78635	17495.1	10.47086	11.37181	53.30396	1.00382	-0.11182	0.378544	7.053412	-65.2172	97.02977	1017.352	27.99954	
########	5.486488	74.99167	117.1541	18775.24	28.79004	17507.85	10.47917	11.3801	53.26164	1.003825	-0.11108	0.380261	7.048205	-64.9223	96.89188	1017.36	28.0167	
########	5.482383	74.93583	117.0668	18775.92	28.79037	17508.38	10.47951	11.38045	53.2597	1.003825	-0.11117	0.38006	7.047856	-64.9026	96.88232	1017.359	28.01779	
########	5.478277	74.88	116.9795	18776.61	28.79071	17508.91	10.47986	11.38079	53.25776	1.003825	-0.11125	0.37986	7.047507	-64.8829	96.87278	1017.359	28.01888	

Location Properties T1-2HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:12:21
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	3.994991	55.49566	86.82417	26538.1	28.09427	25057.2	15.4986	16.28718	37.68178	1.007774	-0.1244	0.349525	6.96341	-60.0062	98.56883	1017.242	28.16	
########	3.982878	55.33055	86.56527	26544.19	28.09669	25061.86	15.50177	16.29021	37.67308	1.007776	-0.12511	0.347887	6.96355	-60.0144	98.57111	1017.241	28.16	
########	3.970766	55.16544	86.30637	26550.28	28.0991	25066.53	15.50494	16.29324	37.66439	1.007778	-0.12582	0.346248	6.96369	-60.0226	98.57337	1017.239	28.16	
########	3.866437	53.73497	84.07175	26575.09	28.1043	25087.59	15.51925	16.30694	37.62926	1.007787	-0.10292	0.399074	6.965407	-60.1221	98.471	1017.325	28.17708	
########	3.85867	53.62865	83.90546	26578.08	28.10494	25090.13	15.52096	16.30858	37.62502	1.007788	-0.10209	0.400992	6.965524	-60.1288	98.46662	1017.329	28.17784	
########	3.850902	53.52232	83.73917	26581.06	28.10558	25092.65	15.52268	16.31022	37.62077	1.007789	-0.10126	0.40291	6.965641	-60.1355	98.46223	1017.333	28.1786	
########	3.843134	53.416	83.57288	26584.05	28.10622	25095.18	15.5244	16.31187	37.61652	1.00779	-0.10043	0.404829	6.965757	-60.1423	98.45786	1017.336	28.17936	
########	3.766789	52.36255	81.91947	26612.03	28.12328	25113.87	15.53714	16.32402	37.577	1.007794	-0.11887	0.362299	6.967349	-60.2318	98.27569	1017.276	28.17943	
########	3.761304	52.28707	81.8012	26613.8	28.12416	25115.14	15.538	16.32484	37.57449	1.007795	-0.11925	0.361404	6.967453	-60.2377	98.2658	1017.275	28.17975	
########	3.755819	52.21158	81.68292	26615.57	28.12505	25116.42	15.53887	16.32567	37.57199	1.007795	-0.11964	0.36051	6.967556	-60.2436	98.25591	1017.274	28.18008	
########	3.709024	51.56861	80.67712	26661.77	28.12422	25160.39	15.56869	16.35425	37.50692	1.007818	-0.10669	0.390393	6.969787	-60.3682	98.0331	1017.272	28.18	

Location Properties T1-2HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:18:05
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (I	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.796251	79.49783	124.1036	18604.97	29.02141	17277.88	10.32969	11.23062	53.74908	1.003643	-0.09539	0.416441	7.168039	-71.7414	92.67604	1017.202	28.25	
########	5.793082	79.4575	124.0398	18605.46	29.02488	17277.27	10.32929	11.23023	53.74766	1.003642	-0.09531	0.416632	7.167372	-71.7045	92.69043	1017.201	28.25	
########	5.789914	79.41718	123.9761	18605.95	29.02836	17276.66	10.32889	11.22983	53.74624	1.003641	-0.09523	0.416822	7.166705	-71.6676	92.70482	1017.201	28.25	
########	5.786745	79.37685	123.9124	18606.44	29.03184	17276.05	10.3285	11.22943	53.74482	1.003639	-0.09515	0.417013	7.166039	-71.6307	92.71922	1017.2	28.25	
########	5.733936	78.73655	122.8986	18621	29.05622	17282.09	10.33244	11.23336	53.7028	1.003635	-0.09685	0.413076	7.156839	-71.1205	92.85203	1017.234	28.25	
########	5.730779	78.69762	122.8371	18621.58	29.05779	17282.15	10.33248	11.2334	53.70114	1.003634	-0.09684	0.413117	7.156229	-71.0866	92.86184	1017.236	28.25	
########	5.727622	78.65869	122.7755	18622.15	29.05936	17282.2	10.33251	11.23343	53.69948	1.003634	-0.09682	0.413158	7.155621	-71.0528	92.87166	1017.237	28.25	
########	5.724465	78.61976	122.7139	18622.73	29.06093	17282.25	10.33255	11.23347	53.69782	1.003633	-0.0968	0.413199	7.155012	-71.0189	92.88147	1017.239	28.25	
########	5.693918	78.25729	122.137	18672.01	29.13831	17304.25	10.3469	11.24776	53.55616	1.00362	-0.1	0.405818	7.146275	-70.5433	93.0041	1017.239	28.26745	
########	5.691488	78.22816	122.0908	18674.5	29.14228	17305.35	10.34761	11.24847	53.54899	1.00362	-0.10018	0.405408	7.1457	-70.5117	93.01231	1017.239	28.26823	
########	5.689057	78.19904	122.0445	18677	29.14624	17306.44	10.34833	11.24919	53.54182	1.003619	-0.10035	0.404999	7.145123	-70.4802	93.02051	1017.24	28.26901	

Location Properties T1-3HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:24:04
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	5.291531	72.67603	113.5021	19838.54	28.85249	18478.82	11.11332	12.01123	50.40694	1.004278	-0.09268	0.422708	7.102408	-67.9877	93.70167	1017.22	28.11	
########	5.291531	72.67603	113.5021	19838.54	28.85249	18478.82	11.11332	12.01123	50.40694	1.004278	-0.09268	0.422708	7.102408	-67.9877	93.70167	1017.22	28.11	
########	5.218292	71.63276	111.8797	19792.3	28.83006	18443.11	11.08991	11.98802	50.52472	1.004267	-0.09304	0.42187	7.092558	-67.43	96.03951	1017.229	28.10086	
########	5.213605	71.566	111.7759	19789.34	28.82862	18440.82	11.08841	11.98654	50.53226	1.004267	-0.09306	0.421817	7.091928	-67.3943	96.18911	1017.229	28.10028	
########	5.208919	71.49924	111.6721	19786.38	28.82719	18438.54	11.08691	11.98505	50.53979	1.004266	-0.09309	0.421763	7.091298	-67.3586	96.33871	1017.23	28.09969	
########	5.204233	71.43249	111.5683	19783.43	28.82576	18436.25	11.08542	11.98357	50.54733	1.004265	-0.09311	0.421709	7.090668	-67.3229	96.4883	1017.231	28.09911	
########	5.17398	70.97128	110.8612	19800.06	28.81855	18454.13	11.09711	11.99518	50.50489	1.004276	-0.10234	0.400425	7.084993	-66.9959	96.89986	1017.255	28.10028	
########	5.170763	70.92406	110.7882	19799.67	28.81766	18454.05	11.09706	11.99513	50.50591	1.004276	-0.10277	0.399431	7.084487	-66.967	96.97726	1017.257	28.10011	
########	5.167544	70.87683	110.7152	19799.27	28.81677	18453.97	11.09701	11.99508	50.50692	1.004277	-0.1032	0.398437	7.083981	-66.9381	97.05466	1017.258	28.09993	
########	5.164327	70.82961	110.6423	19798.87	28.81588	18453.89	11.09696	11.99503	50.50793	1.004277	-0.10363	0.397443	7.083475	-66.9092	97.13205	1017.259	28.09976	
########	5.174507	70.96078	110.8527	19866.8	28.757	18536.65	11.15111	12.04883	50.33531	1.004335	-0.10241	0.400257	7.077138	-66.5428	97.45112	1017.25	28.1	

Location Properties T1-3HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:27:40
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	4.265737	59.28408	92.68353	25275.54	28.41235	23728.98	14.60178	15.42384	39.56398	1.007009	-0.0861	0.437873	6.99484	-61.838	99.60942	1017.239	28.03	
########	4.246345	59.01635	92.2647	25278.98	28.41319	23731.85	14.60371	15.4257	39.55859	1.00701	-0.08596	0.438201	6.994718	-61.8312	99.66918	1017.239	28.03	
########	4.226953	58.74862	91.84588	25282.41	28.41403	23734.71	14.60564	15.42757	39.55319	1.007012	-0.08582	0.438529	6.994596	-61.8244	99.72895	1017.239	28.03	
########	4.207561	58.48088	91.42706	25285.84	28.41487	23737.58	14.60758	15.42943	39.54779	1.007013	-0.08568	0.438856	6.994474	-61.8176	99.78872	1017.238	28.03	
########	4.027894	56.0001	87.5499	25279.55	28.44224	23720.04	14.59583	15.41803	39.55766	1.006996	-0.08621	0.437636	6.994959	-61.8509	99.898	1017.31	28.03	
########	4.014437	55.81416	87.25922	25279.97	28.44365	23719.82	14.59569	15.41789	39.55701	1.006995	-0.08611	0.437848	6.994949	-61.8506	99.91349	1017.313	28.03	
########	4.000979	55.62822	86.96855	25280.38	28.44506	23719.61	14.59555	15.41775	39.55637	1.006995	-0.08602	0.43806	6.994939	-61.8503	99.92899	1017.316	28.03	
########	3.893501	54.14851	84.65174	25334.63	28.44823	23769.16	14.62895	15.44996	39.4717	1.007018	-0.10024	0.405255	6.99428	-61.8091	100.0138	1017.283	28.02154	
########	3.884996	54.03129	84.46833	25337.02	28.4489	23771.12	14.63027	15.45123	39.46797	1.007019	-0.1009	0.40374	6.994258	-61.8078	100.0208	1017.283	28.02116	
########	3.876491	53.91406	84.28492	25339.41	28.44958	23773.08	14.63159	15.4525	39.46424	1.00702	-0.10156	0.402225	6.994236	-61.8065	100.0279	1017.283	28.02078	
########	3.867986	53.79683	84.10151	25341.8	28.45025	23775.03	14.63291	15.45377	39.4605	1.007021	-0.10221	0.40071	6.994214	-61.8052	100.0349	1017.283	28.02039	

Location Properties T2-3HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:45:04
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	7.187123	98.40781	153.487	16518.38	29.33989	15253.95	9.022161	9.915067	60.53863	1.002573	-0.11487	0.371515	7.240378	-75.8957	105.6453	1017.07	28.24	
########	7.19746	98.54955	153.7079	16516.92	29.34033	15252.49	9.021221	9.914116	60.54397	1.002573	-0.11514	0.3709	7.219871	-74.7369	110.4534	1017.07	28.24931	
########	7.198118	98.55856	153.722	16516.83	29.34036	15252.39	9.021162	9.914056	60.54431	1.002573	-0.11515	0.370861	7.218566	-74.6632	110.7593	1017.07	28.2499	
########	7.198775	98.56758	153.736	16516.74	29.34039	15252.3	9.021102	9.913995	60.54465	1.002573	-0.11517	0.370822	7.217261	-74.5894	111.0653	1017.07	28.25049	
########	7.199433	98.5766	153.7501	16516.64	29.34041	15252.21	9.021042	9.913935	60.54499	1.002572	-0.11519	0.370783	7.215956	-74.5157	111.3712	1017.07	28.25108	
########	7.215475	98.76149	154.0392	16517.58	29.33852	15253.58	9.021923	9.914826	60.54156	1.002574	-0.08405	0.442618	7.202657	-73.7592	111.7347	1017.018	28.24976	
########	7.216454	98.77334	154.0577	16517.58	29.33845	15253.6	9.021938	9.914842	60.54155	1.002574	-0.08266	0.445806	7.201542	-73.696	111.8732	1017.016	28.24994	
########	7.217432	98.78519	154.0762	16517.59	29.33838	15253.63	9.021954	9.914857	60.54153	1.002574	-0.08128	0.448994	7.200427	-73.6328	112.0118	1017.013	28.25011	
########	7.21841	98.79705	154.0948	16517.59	29.3383	15253.65	9.021969	9.914873	60.54151	1.002574	-0.0799	0.452183	7.199312	-73.5696	112.1504	1017.011	28.25029	
########	7.231945	98.95422	154.3459	16503.17	29.2998	15250.69	9.020066	9.912949	60.59442	1.002584	-0.0315	0.563831	7.185744	-72.7906	112.2421	1017.011	28.25876	
########	7.232888	98.96524	154.3633	16502.55	29.29809	15250.58	9.019997	9.912878	60.59668	1.002585	-0.02878	0.570091	7.18481	-72.7372	112.273	1017.01	28.25915	

Location Properties T2-3HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 12:51:42
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	3.348327	46.47563	72.63766	24867.96	28.40424	23349.74	14.34647	15.17733	40.21238	1.006821	-0.142	0.308941	6.953232	-59.4835	100.8967	1016.93	28.19	
########	3.353142	46.51165	72.70465	24897.54	28.35744	23397.15	14.37823	15.20815	40.16461	1.006859	-0.03001	0.567259	6.953897	-59.5169	104.773	1016.969	28.18024	
########	3.353435	46.51384	72.70872	24899.34	28.3546	23400.03	14.38016	15.21002	40.16171	1.006862	-0.02321	0.582939	6.953937	-59.5189	105.0083	1016.971	28.17965	
########	3.353727	46.51603	72.71278	24901.13	28.35176	23402.9	14.38209	15.21189	40.15881	1.006864	-0.01641	0.59862	6.953977	-59.5209	105.2436	1016.973	28.17906	
########	3.351501	46.48018	72.65611	24856.08	28.34002	23365.49	14.3569	15.18757	40.23162	1.006849	-0.11393	0.373691	6.955357	-59.6017	105.655	1016.968	28.18882	
########	3.351516	46.47943	72.65517	24854.77	28.33837	23364.95	14.35652	15.18722	40.23375	1.006849	-0.11563	0.369772	6.955434	-59.6061	105.766	1016.969	28.18902	
########	3.351531	46.47868	72.65424	24853.45	28.33673	23364.4	14.35615	15.18686	40.23587	1.006849	-0.11733	0.365853	6.955512	-59.6106	105.877	1016.97	28.18923	
########	3.351546	46.47794	72.65329	24852.14	28.33508	23363.86	14.35578	15.18651	40.238	1.006849	-0.11902	0.361934	6.95559	-59.615	105.988	1016.971	28.18943	
########	3.351846	46.44824	72.61208	24820.57	28.30908	23345.08	14.34308	15.1743	40.28918	1.006848	-0.10829	0.386686	6.957056	-59.6872	106.3612	1016.952	28.19854	
########	3.351834	46.44634	72.60938	24818.38	28.30751	23343.68	14.34214	15.17339	40.29272	1.006848	-0.10925	0.384474	6.95715	-59.6921	106.3996	1016.951	28.19911	
########	3.351823	46.44444	72.60667	24816.2	28.30594	23342.29	14.3412	15.17249	40.29626	1.006848	-0.11021	0.382261	6.957246	-59.697	106.438	1016.951	28.19967	

Location Properties T3-3HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 13:07:28
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	6.856956	92.16605	143.8281	12206.13	29.04962	11329.79	6.539394	7.364366	81.92593	1.000815	-0.08054	0.450701	7.311881	-79.8472	107.1915	1016.909	28.90057	
########	6.86134	92.22894	143.9256	12211.63	29.05115	11334.59	6.542384	7.367486	81.88873	1.000817	-0.08499	0.440441	7.309908	-79.7353	107.443	1016.909	28.90177	
########	6.951144	93.31645	145.6471	12216.68	29.01734	11346.08	6.549553	7.374954	81.85551	1.000832	-0.09606	0.414897	7.291573	-78.6907	107.4827	1016.893	28.89938	
########	6.956911	93.39011	145.763	12219.05	29.01641	11348.48	6.551044	7.37651	81.83949	1.000834	-0.0983	0.409738	7.289974	-78.5999	107.5827	1016.892	28.89973	
########	6.962677	93.46377	145.8788	12221.43	29.01548	11350.87	6.552535	7.378065	81.82346	1.000835	-0.10054	0.404579	7.288376	-78.509	107.6828	1016.891	28.90009	
########	6.968444	93.53743	145.9946	12223.81	29.01455	11353.26	6.554025	7.379621	81.80744	1.000836	-0.10277	0.39942	7.286778	-78.4182	107.7828	1016.89	28.90045	
########	7.062456	94.6593	147.7809	12141.82	28.89923	11300.22	6.521003	7.34514	82.36047	1.000846	-0.09492	0.417545	7.265038	-77.1617	107.7113	1016.96	28.92618	
########	7.068686	94.73454	147.9004	12138.47	28.8934	11298.27	6.519794	7.343877	82.38307	1.000847	-0.09501	0.417328	7.263591	-77.0785	107.7226	1016.963	28.92738	
########	7.074917	94.80976	148.0199	12135.12	28.88758	11296.33	6.518584	7.342613	82.40567	1.000848	-0.0951	0.41711	7.262143	-76.9952	107.7339	1016.966	28.92857	
########	7.081148	94.88499	148.1393	12131.77	28.88176	11294.38	6.517374	7.34135	82.42828	1.000849	-0.0952	0.416893	7.260695	-76.9119	107.7453	1016.969	28.92977	
########	7.151625	95.78435	149.5542	12210.76	28.83576	11377.24	6.569005	7.395208	81.89542	1.000901	-0.09043	0.427896	7.241765	-75.8344	107.4554	1016.933	28.92931	

Location Properties T3-3HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 13:12:50
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (I	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	2.965115	40.63742	63.58846	23533.62	27.89412	22300.88	13.64172	14.49557	42.49235	1.006451	-0.09095	0.426688	6.919739	-57.5067	102.3763	1016.959	29.36956	
########	2.948996	40.39551	63.21395	23452.37	27.88131	22229.04	13.59366	14.44888	42.6397	1.006419	-0.08479	0.440912	6.919915	-57.5162	102.1043	1016.994	29.378	
########	2.947748	40.37797	63.1867	23452.2	27.88046	22229.22	13.59377	14.44899	42.63998	1.006419	-0.08469	0.44114	6.919895	-57.5151	102.0881	1016.996	29.37871	
########	2.9465	40.36044	63.15944	23452.03	27.87961	22229.4	13.59389	14.44911	42.64027	1.006419	-0.08459	0.441367	6.919875	-57.5139	102.0719	1016.997	29.37942	
########	2.945252	40.3429	63.13218	23451.86	27.87876	22229.58	13.594	14.44922	42.64056	1.00642	-0.08449	0.441594	6.919855	-57.5127	102.0557	1016.999	29.38013	
########	2.926247	40.08321	62.72472	23486.35	27.8768	22263.06	13.61639	14.47099	42.57794	1.006437	-0.08981	0.429322	6.920191	-57.5304	101.8265	1016.963	29.38857	
########	2.92507	40.06675	62.69898	23486.6	27.87646	22263.44	13.61664	14.47124	42.57748	1.006437	-0.08994	0.429032	6.920207	-57.5313	101.811	1016.963	29.38912	
########	2.923892	40.05028	62.67324	23486.86	27.87611	22263.82	13.61689	14.47148	42.57701	1.006438	-0.09006	0.428742	6.920223	-57.5321	101.7954	1016.962	29.38968	
########	2.914926	39.91953	62.4716	23509.16	27.85248	22294.5	13.63734	14.49143	42.53663	1.00646	-0.09078	0.42709	6.920869	-57.5659	101.5828	1016.969	29.39821	
########	2.91415	39.90855	62.45454	23510.86	27.85137	22296.56	13.63871	14.49277	42.53355	1.006461	-0.09091	0.426781	6.920904	-57.5678	101.5688	1016.969	29.39876	
########	2.913373	39.89758	62.43748	23512.56	27.85026	22298.62	13.64009	14.49411	42.53046	1.006463	-0.09105	0.426471	6.920939	-57.5696	101.5548	1016.969	29.39931	

Location Properties T3-4HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 13:25:11
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	5.178733	70.59386	110.1473	16239.75	29.10959	15057.82	8.896345	9.787581	61.5773	1.00255	-0.09101	0.426542	7.134466	-69.8649	100.8159	1016.902	30.2098	
########	5.172832	70.51466	110.0235	16240.68	29.11102	15058.3	8.896652	9.787892	61.57379	1.00255	-0.09007	0.428714	7.133276	-69.7981	100.8191	1016.902	30.20997	
########	5.166932	70.43546	109.8997	16241.61	29.11246	15058.77	8.896958	9.788202	61.57027	1.00255	-0.08913	0.430885	7.132085	-69.7313	100.8223	1016.902	30.21014	
########	5.085879	69.37122	108.2258	16255.22	29.12965	15066.8	8.902107	9.793424	61.51873	1.002549	-0.10975	0.383328	7.115817	-68.8157	100.6877	1016.85	30.227	
########	5.080669	69.30228	108.1175	16256.27	29.13054	15067.54	8.902578	9.793901	61.51474	1.002549	-0.11011	0.382506	7.114758	-68.7561	100.6814	1016.847	30.22776	
########	5.075459	69.23332	108.0093	16257.32	29.13144	15068.28	8.90305	9.794379	61.51076	1.002549	-0.11046	0.381685	7.113698	-68.6965	100.6751	1016.844	30.22852	
########	5.07025	69.16438	107.901	16258.37	29.13233	15069.01	8.903522	9.794857	61.50678	1.002549	-0.11082	0.380863	7.112638	-68.6369	100.6688	1016.842	30.22928	
########	5.001972	68.22436	106.4394	16240.01	29.14381	15048.93	8.890656	9.781807	61.57633	1.002536	-0.08414	0.442394	7.097838	-67.8029	100.5034	1016.885	30.25543	
########	4.997354	68.16177	106.3417	16239.44	29.14467	15048.18	8.890175	9.781319	61.57847	1.002535	-0.08335	0.444231	7.096862	-67.7479	100.4936	1016.886	30.25692	
########	4.992735	68.09917	106.244	16238.88	29.14553	15047.43	8.889693	9.78083	61.58061	1.002534	-0.08255	0.446068	7.095887	-67.693	100.4837	1016.887	30.25841	
########	4.988117	68.03658	106.1463	16238.32	29.14639	15046.68	8.889212	9.780342	61.58274	1.002534	-0.08175	0.447905	7.094912	-67.638	100.4738	1016.888	30.25989	

Location Properties T3-4HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 13:28:37
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	3.374007	46.52682	72.71429	23062.36	28.38609	21661.42	13.21597	14.07992	43.36071	1.005985	-0.08747	0.434726	6.940132	-58.7542	101.1238	1016.837	30.58565	
########	3.37244	46.50464	72.67982	23062.65	28.38462	21662.27	13.21653	14.08048	43.36015	1.005986	-0.08805	0.43339	6.940251	-58.761	101.1354	1016.838	30.58698	
########	3.370873	46.48247	72.64536	23062.95	28.38314	21663.13	13.2171	14.08103	43.35958	1.005987	-0.08863	0.432053	6.94037	-58.7678	101.1471	1016.839	30.5883	
########	3.369307	46.4603	72.6109	23063.25	28.38167	21663.98	13.21766	14.08159	43.35902	1.005988	-0.08921	0.430717	6.940489	-58.7746	101.1588	1016.839	30.58963	
########	3.355607	46.26004	72.29243	22902.48	28.39907	21506.25	13.1126	13.97906	43.66372	1.005904	-0.09988	0.4061	6.942059	-58.8553	101.151	1016.804	30.59796	
########	3.354529	46.24468	72.2682	22895.29	28.3994	21499.38	13.10802	13.97459	43.67734	1.005901	-0.10098	0.403559	6.942163	-58.8609	101.1525	1016.803	30.59883	
########	3.353451	46.22932	72.24399	22888.11	28.39973	21492.5	13.10344	13.97012	43.69096	1.005897	-0.10208	0.401019	6.942268	-58.8665	101.1541	1016.802	30.5997	
########	3.354994	46.17242	72.17078	22823.6	28.36097	21446.83	13.07294	13.94044	43.81452	1.005886	-0.11124	0.379902	6.941137	-58.7931	101.1563	1016.818	30.60816	
########	3.354801	46.16599	72.16135	22817.86	28.35948	21442	13.06973	13.9373	43.82547	1.005884	-0.11184	0.378507	6.941115	-58.7913	101.1565	1016.818	30.60871	
########	3.354608	46.15955	72.15192	22812.11	28.35799	21437.18	13.06651	13.93417	43.83641	1.005882	-0.11244	0.377112	6.941092	-58.7894	101.1566	1016.818	30.60926	
########	3.354415	46.15312	72.14249	22806.37	28.35651	21432.35	13.06329	13.93103	43.84736	1.00588	-0.11305	0.375717	6.94107	-58.7876	101.1568	1016.819	30.60981	

Location Properties T2-4HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 13:41:34
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.324621	75.11339	116.707	18654.4	30.76559	16803.91	10.02189	10.92254	53.60666	1.00287	-0.09071	0.427244	7.141996	-70.68	100.5156	1016.82	31.84	
########	5.092172	71.88145	111.6711	18663.61	30.80385	16801.15	10.02008	10.92075	53.5802	1.002856	-0.09152	0.425368	7.122987	-69.5958	104.4675	1016.792	31.84	
########	5.077387	71.67587	111.3508	18664.2	30.80628	16800.97	10.01996	10.92063	53.57851	1.002855	-0.09158	0.425249	7.121778	-69.5268	104.7189	1016.79	31.84	
########	5.062602	71.4703	111.0305	18664.79	30.80871	16800.8	10.01985	10.92052	53.57683	1.002854	-0.09163	0.425129	7.120569	-69.4578	104.9703	1016.788	31.84	
########	5.047816	71.26472	110.7102	18665.37	30.81115	16800.62	10.01973	10.9204	53.57515	1.002853	-0.09168	0.42501	7.119359	-69.3889	105.2216	1016.786	31.84	
########	4.960103	69.96722	108.7092	18686.72	30.78385	16827.73	10.03733	10.93803	53.51397	1.002875	-0.09801	0.410413	7.107656	-68.7188	105.3967	1016.773	31.84861	
########	4.95031	69.82761	108.4925	18687.89	30.78362	16828.86	10.03807	10.93876	53.51059	1.002876	-0.09831	0.409719	7.106655	-68.6616	105.505	1016.772	31.84899	
########	4.940517	69.688	108.2759	18689.07	30.78338	16829.99	10.0388	10.93949	53.50721	1.002877	-0.09861	0.409026	7.105654	-68.6044	105.6133	1016.771	31.84937	
########	4.930724	69.54839	108.0593	18690.25	30.78315	16831.12	10.03953	10.94023	53.50383	1.002877	-0.09891	0.408332	7.104653	-68.5472	105.7215	1016.769	31.84975	
########	4.854417	68.45404	106.3661	18751.8	30.72033	16904.82	10.08739	10.98814	53.32829	1.002933	-0.09202	0.42423	7.091814	-67.8028	105.7757	1016.753	31.84976	
########	4.848412	68.36758	106.2323	18754.99	30.71717	16908.61	10.08984	10.9906	53.31921	1.002936	-0.09183	0.424654	7.090943	-67.7526	105.7975	1016.751	31.84993	

Location Properties T2-4HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 13:46:08
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	3.513196	48.85102	76.20287	21847.91	29.17868	20233.04	12.26853	13.15148	45.77109	1.005037	-0.06964	0.475855	6.963655	-60.2201	99.09628	1016.816	31.95898	
########	3.511131	48.81941	76.15433	21845.61	29.17429	20232.48	12.26816	13.15112	45.77587	1.005038	-0.0693	0.476629	6.963409	-60.2054	99.09802	1016.818	31.95969	
########	3.499028	48.54799	75.75044	21864.47	29.11456	20271.39	12.29383	13.1764	45.73634	1.005076	-0.08891	0.431388	6.961026	-60.0556	99.07262	1016.75	31.95112	
########	3.497986	48.5276	75.7198	21863.52	29.11066	20271.9	12.29416	13.17674	45.73832	1.005077	-0.0896	0.429808	6.960842	-60.0442	99.07188	1016.748	31.9509	
########	3.496943	48.50723	75.68916	21862.56	29.10676	20272.41	12.2945	13.17707	45.74031	1.005079	-0.09028	0.428229	6.960657	-60.0329	99.07113	1016.745	31.95067	
########	3.495901	48.48685	75.65852	21861.6	29.10286	20272.93	12.29484	13.1774	45.74229	1.00508	-0.09097	0.42665	6.960473	-60.0216	99.07037	1016.743	31.95045	
########	3.49218	48.42082	75.56688	21951.46	28.98331	20399.5	12.37849	13.25967	45.55518	1.005179	-0.08435	0.441923	6.95807	-59.8654	99.05208	1016.794	31.96764	
########	3.491765	48.41244	75.55468	21955.84	28.9768	20405.91	12.38272	13.26384	45.54607	1.005184	-0.08443	0.441743	6.957915	-59.8555	99.0508	1016.795	31.96825	
########	3.491351	48.40405	75.54248	21960.21	28.97028	20412.32	12.38696	13.26801	45.53695	1.005189	-0.0845	0.441562	6.95776	-59.8456	99.04951	1016.796	31.96885	
########	3.494457	48.38867	75.52811	21880.09	28.90767	20360.46	12.35254	13.2343	45.70375	1.005183	-0.1011	0.403283	6.955229	-59.691	99.00802	1016.781	31.96922	
########	3.494523	48.38662	75.52557	21878.05	28.90261	20360.39	12.35248	13.23425	45.70799	1.005184	-0.10173	0.401816	6.955068	-59.681	99.00579	1016.781	31.96955	

Location Properties T1-4HTS
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 14:02:55
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.538544	77.51719	120.7158	20714.13	29.83006	18964.57	11.43259	12.32697	48.27622	1.004213	-0.08554	0.439167	7.192565	-73.3202	103.6207	1016.72	31.9	
########	5.207351	72.9052	113.5238	20678.95	29.85666	18923.56	11.40566	12.30031	48.35835	1.004185	-0.09215	0.423917	7.169672	-72.0255	108.4054	1016.7	31.9	
########	5.187133	72.62366	113.0848	20676.8	29.85829	18921.06	11.40401	12.29869	48.36337	1.004183	-0.09256	0.422986	7.168274	-71.9465	108.6974	1016.699	31.9	
########	5.166915	72.34212	112.6458	20674.66	29.85991	18918.55	11.40237	12.29706	48.36838	1.004181	-0.09296	0.422056	7.166876	-71.8674	108.9895	1016.698	31.9	
########	5.061043	70.86195	110.3398	20686.56	29.85825	18930	11.40989	12.3045	48.34057	1.004187	-0.08121	0.449151	7.154853	-71.1872	109.225	1016.683	31.90847	
########	5.048366	70.68517	110.0642	20686.22	29.85882	18929.5	11.40956	12.30417	48.34136	1.004187	-0.08086	0.449962	7.153772	-71.126	109.3517	1016.682	31.90884	
########	5.035689	70.50838	109.7887	20685.88	29.85939	18929	11.40923	12.30385	48.34214	1.004186	-0.08051	0.450773	7.15269	-71.0649	109.4784	1016.681	31.90921	
########	5.023013	70.3316	109.5131	20685.55	29.85997	18928.5	11.40891	12.30353	48.34293	1.004186	-0.08016	0.451584	7.151609	-71.0037	109.605	1016.68	31.90958	
########	4.928477	69.01772	107.4684	20763.34	29.85269	19002.11	11.45727	12.35137	48.16191	1.004224	-0.09197	0.424337	7.138858	-70.2726	109.6958	1016.672	31.91841	
########	4.921112	68.91517	107.3087	20766.9	29.85243	19005.45	11.45947	12.35354	48.15361	1.004226	-0.09231	0.423552	7.137986	-70.2228	109.7218	1016.671	31.91895	
########	4.913747	68.81261	107.149	20770.47	29.85217	19008.8	11.46167	12.35572	48.14532	1.004228	-0.09265	0.422767	7.137114	-70.173	109.7478	1016.67	31.9195	

Location Properties T1-4HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-23 14:08:20
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	3.472642	47.87261	74.78374	22524.41	28.4672	21125.35	12.85934	13.73148	44.40028	1.005695	-0.07806	0.456422	6.987962	-61.4592	100.8495	1016.582	32.23849	
########	3.473874	47.884	74.80183	22499.09	28.46511	21102.41	12.84407	13.71657	44.44901	1.005684	-0.07757	0.457546	6.987785	-61.4489	100.8318	1016.582	32.23888	
########	3.475106	47.89539	74.81993	22473.77	28.46302	21079.48	12.8288	13.70166	44.49773	1.005673	-0.07709	0.458671	6.987607	-61.4385	100.8141	1016.581	32.23927	
########	3.476337	47.90678	74.83803	22448.46	28.46094	21056.54	12.81353	13.68675	44.54646	1.005662	-0.0766	0.459795	6.98743	-61.4282	100.7965	1016.581	32.23965	
########	3.496489	48.10932	75.16166	22054.34	28.45312	20689.73	12.57008	13.44832	45.3466	1.005484	-0.07992	0.452127	6.982853	-61.169	100.6467	1016.658	32.25686	
########	3.497801	48.12236	75.18243	22028.87	28.45212	20666.21	12.55446	13.43304	45.39762	1.005472	-0.07992	0.452136	6.982586	-61.1537	100.6356	1016.661	32.25778	
########	3.499113	48.13541	75.20319	22003.39	28.45112	20642.69	12.53884	13.41775	45.44864	1.005461	-0.07992	0.452145	6.98232	-61.1385	100.6245	1016.664	32.25871	
########	3.500426	48.14845	75.22396	21977.91	28.45013	20619.17	12.52322	13.40246	45.49966	1.00545	-0.07991	0.452154	6.982053	-61.1233	100.6135	1016.667	32.25963	
########	3.505829	48.19582	75.2984	21891.97	28.44345	20540.99	12.47141	13.35164	45.67965	1.005413	-0.08496	0.440513	6.978232	-60.906	100.4507	1016.632	32.25949	
########	3.506472	48.20196	75.30816	21880.24	28.44296	20530.17	12.46423	13.34461	45.70366	1.005408	-0.08524	0.439871	6.977972	-60.8913	100.4403	1016.632	32.25982	
########	3.507116	48.2081	75.31792	21868.52	28.44248	20519.34	12.45705	13.33757	45.72766	1.005403	-0.08552	0.439229	6.977712	-60.8765	100.4299	1016.632	32.26015	

Location Properties BG-1LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 10:25:40
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	3.407098	45.67834	71.40068	21714.51	27.2494	20820	12.65359	13.533	46.05217	1.005905	-0.10351	0.397725	6.890922	-55.5836	128.7168	1022.24	29.46	
########	3.407098	45.67834	71.40068	21714.51	27.2494	20820	12.65359	13.533	46.05217	1.005905	-0.10351	0.397725	6.890922	-55.5836	128.7168	1022.24	29.46	
########	3.31658	44.46582	69.50278	21714.88	27.24828	20820.8	12.65412	13.53352	46.05136	1.005906	-0.10378	0.397095	6.893027	-55.7007	142.0105	1022.2	29.46	
########	3.311051	44.39175	69.38685	21714.91	27.24821	20820.85	12.65415	13.53355	46.05131	1.005906	-0.1038	0.397057	6.893156	-55.7078	142.8225	1022.198	29.46	
########	3.305521	44.31768	69.27091	21714.93	27.24814	20820.9	12.65418	13.53358	46.05126	1.005906	-0.10381	0.397018	6.893285	-55.715	143.6346	1022.196	29.46	
########	3.258607	43.69351	68.29523	21733.56	27.24907	20838.4	12.6658	13.54496	46.01179	1.005914	-0.09663	0.413586	6.895086	-55.8153	145.3801	1022.201	29.4685	
########	3.254337	43.6365	68.20605	21734.4	27.24908	20839.2	12.66633	13.54548	46.01002	1.005915	-0.09632	0.414306	6.895216	-55.8226	145.7789	1022.2	29.46888	
########	3.250067	43.57949	68.11688	21735.23	27.2491	20840	12.66685	13.546	46.00825	1.005915	-0.09601	0.415026	6.895347	-55.8299	146.1777	1022.199	29.46925	
########	3.245798	43.52249	68.02771	21736.07	27.24911	20840.79	12.66738	13.54652	46.00647	1.005916	-0.0957	0.415746	6.895478	-55.8372	146.5764	1022.199	29.46963	
########	3.207192	42.99927	67.21184	21695.14	27.25456	20799.47	12.63999	13.51966	46.09329	1.005893	-0.08321	0.44455	6.897486	-55.9508	147.863	1022.234	29.48713	
########	3.204265	42.95986	67.15031	21693.66	27.25482	20797.95	12.63898	13.51867	46.09644	1.005893	-0.08252	0.446145	6.897616	-55.9582	148.001	1022.236	29.48807	

Location Properties T1-4LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 10:54:01
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	7.141962	96.04711	149.5859	15019.42	28.85538	13989.28	8.214035	9.093033	66.58051	1.00212	-0.08099	0.449656	7.138058	-69.6695	138.3076	1022.191	32.05769	
########	7.151413	96.17335	149.7825	15018.29	28.855	13988.32	8.213421	9.092406	66.58553	1.002119	-0.08066	0.450434	7.136895	-69.6042	138.1396	1022.19	32.05866	
########	7.160865	96.29958	149.9791	15017.15	28.85463	13987.35	8.212808	9.091779	66.59056	1.002119	-0.08032	0.451212	7.135732	-69.5389	137.9716	1022.189	32.05962	
########	7.226924	97.15903	151.3305	15059.33	28.8296	14032.89	8.241774	9.121377	66.40411	1.002148	-0.08051	0.450768	7.121087	-68.7128	136.2518	1022.215	32.07633	
########	7.232374	97.23045	151.4424	15060.46	28.82825	14034.28	8.242661	9.122283	66.3991	1.002149	-0.08056	0.450663	7.120093	-68.6568	136.1283	1022.216	32.0774	
########	7.237823	97.30187	151.5542	15061.59	28.8269	14035.68	8.243546	9.123189	66.39409	1.00215	-0.0806	0.450558	7.119099	-68.6008	136.0049	1022.217	32.07847	
########	7.243273	97.3733	151.6661	15062.73	28.82555	14037.07	8.244433	9.124095	66.38908	1.002151	-0.08065	0.450453	7.118106	-68.5448	135.8815	1022.218	32.07954	
########	7.31874	98.28226	153.1047	15076.75	28.78596	14060.05	8.259047	9.13903	66.32733	1.002174	-0.08793	0.433657	7.103264	-67.7104	134.3561	1022.21	32.08818	
########	7.323531	98.34138	153.1981	15078.12	28.78372	14061.88	8.260212	9.140222	66.32131	1.002176	-0.08825	0.432917	7.102309	-67.6566	134.253	1022.21	32.08889	
########	7.328321	98.40051	153.2914	15079.48	28.78149	14063.71	8.261376	9.141412	66.31528	1.002177	-0.08857	0.432177	7.101354	-67.6029	134.1498	1022.21	32.0896	
########	7.367832	98.88641	154.0549	15040.91	28.73316	14039.82	8.246167	9.125886	66.4854	1.00218	-0.10144	0.402498	7.089324	-66.9195	132.8363	1022.202	32.10642	

Location Properties T2-4LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 11:10:22
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (|	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	4.688448	62.17469	96.90263	12517.81	28.49298	11734.9	6.792253	7.63353	79.88802	1.001187	-0.08689	0.436052	7.004452	-62.1342	111.1738	1022.15	33.45	
########	4.688448	62.17469	96.90263	12517.81	28.49298	11734.9	6.792253	7.63353	79.88802	1.001187	-0.08689	0.436052	7.004452	-62.1342	111.1738	1022.15	33.45	
########	4.688448	62.17469	96.90263	12517.81	28.49298	11734.9	6.792253	7.63353	79.88802	1.001187	-0.08689	0.436052	7.004452	-62.1342	111.1738	1022.15	33.45	
########	4.62878	61.30049	95.5584	12519.12	28.41366	11752.82	6.803452	7.639524	79.87791	1.001202	-0.08095	0.449751	6.993217	-61.4954	110.9194	1022.092	33.45	
########	4.624629	61.23967	95.46489	12519.21	28.40814	11754.07	6.804231	7.639942	79.8772	1.001203	-0.08054	0.450704	6.992435	-61.4509	110.9017	1022.088	33.45	
########	4.620479	61.17886	95.37138	12519.3	28.40262	11755.32	6.80501	7.640358	79.8765	1.001204	-0.08013	0.451657	6.991653	-61.4065	110.884	1022.084	33.45	
########	4.616328	61.11805	95.27787	12519.39	28.3971	11756.56	6.805789	7.640776	79.87579	1.001205	-0.07971	0.45261	6.990872	-61.3621	110.8662	1022.08	33.45	
########	4.587892	60.6198	94.50685	12516.31	28.38919	11755.34	6.805025	7.641027	79.89578	1.00121	-0.09516	0.416988	6.981519	-60.8381	110.815	1022.134	33.46762	
########	4.584845	60.57143	94.43224	12516.21	28.38651	11755.81	6.805318	7.641214	79.8964	1.001211	-0.09569	0.415763	6.980763	-60.7955	110.8052	1022.135	33.46842	
########	4.581797	60.52305	94.35764	12516.1	28.38382	11756.28	6.805612	7.641401	79.89702	1.001211	-0.09622	0.414537	6.980006	-60.7528	110.7954	1022.136	33.46923	
########	4.550121	60.18985	93.84149	12521.58	28.36268	11765.9	6.81162	7.647833	79.86209	1.001223	-0.11622	0.368403	6.971376	-60.2719	110.6086	1022.121	33.47767	

Location Properties T3-4LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 11:26:20
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.682456	77.14165	119.9068	14115.27	29.67681	12965.98	7.582951	8.427887	517.4885	1.001399	-0.09542	0.416386	6.923414	-57.8163	110.5689	1022.077	35.40694	
########	5.63814	76.54024	118.9858	14321.72	29.63763	13160.74	7.697341	8.554482	292.7635	1.001497	-0.0955	0.41619	6.924951	-57.8993	110.0767	1022.078	35.40791	
########	5.175958	70.14607	109.0852	14535.37	29.41085	13406.33	7.84399	8.714111	68.79794	1.001676	-0.09016	0.428509	6.917401	-57.4387	108.5945	1022.053	35.41784	
########	5.142302	69.66149	108.3385	14537.61	29.38699	13413.9	7.848795	8.719038	68.78728	1.001686	-0.09014	0.428571	6.916795	-57.4027	108.518	1022.052	35.41857	
########	5.108645	69.1769	107.5918	14539.84	29.36312	13421.48	7.8536	8.723964	68.77663	1.001697	-0.09011	0.428633	6.916189	-57.3668	108.4415	1022.051	35.4193	
########	5.074988	68.69232	106.8451	14542.07	29.33926	13429.06	7.858405	8.728889	68.76597	1.001708	-0.09008	0.428696	6.915582	-57.3309	108.365	1022.05	35.42003	
########	4.868656	65.81896	102.3957	14555.85	29.26233	13460.08	7.878071	8.749054	68.7009	1.001746	-0.07139	0.471808	6.907448	-56.8646	107.7519	1022.059	35.42828	
########	4.850456	65.56642	102.0043	14556.6	29.25499	13462.51	7.879608	8.750629	68.69737	1.00175	-0.07045	0.47397	6.906892	-56.8322	107.7033	1022.059	35.42883	
########	4.832256	65.31387	101.613	14557.34	29.24765	13464.93	7.881145	8.752206	68.69386	1.001753	-0.06952	0.476132	6.906336	-56.7998	107.6547	1022.059	35.42939	
########	4.814056	65.06133	101.2216	14558.09	29.24031	13467.36	7.882683	8.753781	68.69034	1.001757	-0.06858	0.478294	6.905781	-56.7674	107.6061	1022.058	35.42995	
########	4.705593	63.43214	98.72245	14563.47	29.17618	13487.64	7.895544	8.766967	68.66494	1.001786	-0.08558	0.439079	6.897846	-56.3086	107.1564	1022.051	35.43848	

Location Properties T3-3LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 12:20:01
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	4.798573	70.30615	107.9664	16162.89	34.02525	13786.36	8.079852	8.961135	61.87014	1.000352	-0.08516	0.440058	6.895512	-57.0438	94.84888	1022.01	39.13	
########	4.700458	68.56713	105.3868	16180.51	33.73791	13866.31	8.131212	9.013101	61.80276	1.000488	-0.08378	0.443228	6.891493	-56.7697	97.31843	1022	39.14966	
########	4.694384	68.45948	105.2271	16181.6	33.72012	13871.26	8.134392	9.016318	61.79859	1.000496	-0.0837	0.443425	6.891245	-56.7527	97.4713	1021.999	39.15088	
########	4.68831	68.35184	105.0674	16182.69	33.70234	13876.21	8.137571	9.019535	61.79442	1.000505	-0.08361	0.443621	6.890996	-56.7358	97.62417	1021.999	39.1521	
########	4.693197	68.10805	104.7845	16213.5	33.52744	13942.69	8.18017	9.062749	61.67706	1.000596	-0.07651	0.459994	6.889181	-56.6164	97.733	1021.992	39.15785	
########	4.691001	68.05463	104.7087	16215.28	33.5127	13947.57	8.183302	9.065923	61.67025	1.000603	-0.07617	0.460791	6.889002	-56.6044	97.79843	1021.991	39.15858	
########	4.688807	68.00122	104.6329	16217.07	33.49797	13952.46	8.186434	9.069097	61.66345	1.00061	-0.07582	0.461588	6.888824	-56.5924	97.86386	1021.99	39.15932	
########	4.686611	67.94781	104.5571	16218.86	33.48323	13957.34	8.189566	9.07227	61.65664	1.000618	-0.07548	0.462385	6.888646	-56.5804	97.92929	1021.99	39.16005	
########	4.673241	67.61037	104.0784	16189.89	33.21749	13993.6	8.213098	9.095837	61.76697	1.000725	-0.07494	0.463622	6.886838	-56.4355	98.16616	1021.972	39.17726	
########	4.672356	67.58412	104.0419	16189.17	33.20107	13996.75	8.215133	9.097887	61.76969	1.000732	-0.07478	0.463984	6.886708	-56.4257	98.188	1021.971	39.17823	
########	4.671471	67.55788	104.0054	16188.46	33.18465	13999.9	8.217169	9.099937	61.77242	1.000739	-0.07463	0.464347	6.886577	-56.4159	98.20985	1021.97	39.17919	

Location Properties T3-2LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 12:55:02
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.873027	85.63022	131.6928	17452.8	33.4481	15027.93	8.873325	9.768153	57.29741	1.001135	-0.07905	0.454148	7.136284	-70.6198	97.90482	1021.75	38.86839	
########	5.869266	85.56454	131.5951	17454.85	33.43959	15031.79	8.875816	9.770663	57.29066	1.00114	-0.07861	0.455166	7.13588	-70.5961	98.06066	1021.75	38.86958	
########	5.865504	85.49887	131.4975	17456.9	33.43107	15035.65	8.878307	9.773174	57.28392	1.001145	-0.07817	0.456183	7.135474	-70.5724	98.21651	1021.75	38.87077	
########	5.861743	85.43319	131.3999	17458.96	33.42256	15039.51	8.880798	9.775684	57.27718	1.001149	-0.07772	0.4572	7.135069	-70.5486	98.37237	1021.75	38.87196	
########	5.851213	85.12274	130.9677	17459.01	33.39148	15047.28	8.885834	9.780733	57.27703	1.001163	-0.07633	0.460424	7.131821	-70.3471	98.48208	1021.758	38.87809	
########	5.849247	85.08265	130.9094	17459.82	33.3867	15049.16	8.887048	9.781956	57.27435	1.001166	-0.07609	0.460973	7.131513	-70.3286	98.54868	1021.759	38.87884	
########	5.847281	85.04255	130.8512	17460.63	33.38192	15051.04	8.888261	9.783178	57.27168	1.001168	-0.07585	0.461522	7.131205	-70.31	98.6153	1021.759	38.87959	
########	5.845314	85.00246	130.7929	17461.45	33.37714	15052.92	8.889475	9.7844	57.26901	1.001171	-0.07561	0.462071	7.130897	-70.2915	98.6819	1021.76	38.88034	
########	5.839057	84.80733	130.5262	17452.96	33.21049	15087.03	8.911634	9.806567	57.29688	1.001244	-0.08156	0.448359	7.127133	-70.0485	98.82771	1021.777	38.89735	
########	5.83834	84.78848	130.4998	17452.71	33.2019	15088.94	8.912877	9.807811	57.2977	1.001248	-0.08177	0.447872	7.126876	-70.0322	98.84597	1021.778	38.89831	
########	5.837622	84.76962	130.4733	17452.46	33.19332	15090.85	8.914119	9.809055	57.29853	1.001251	-0.08198	0.447385	7.126619	-70.0159	98.86423	1021.779	38.89926	

Location Properties T2-3LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 13:34:29
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.70093	81.5027	125.8261	18750.33	32.63993	16361.56	9.805519	10.63501	643.8376	1.002095	-0.08775	0.434063	7.193872	-73.5339	103.8798	1021.31	39.42816	
########	5.660858	81.08542	125.1973	19578.54	32.63358	17084.24	10.23936	11.10476	303.1438	1.002419	-0.08699	0.43582	7.193173	-73.4883	103.7592	1021.31	39.42913	
########	5.620785	80.66814	124.5685	20406.75	32.62724	17806.93	10.6732	11.5745	0	1.002743	-0.08623	0.437576	7.192474	-73.4427	103.6386	1021.31	39.4301	
########	5.138184	73.72113	113.8367	20097.34	31.95417	17743.17	10.65093	11.53306	157.8369	1.002949	-0.07706	0.458723	7.17623	-72.5066	103.5812	1021.301	39.43827	
########	5.102993	73.29848	113.1867	20455.41	31.93199	18064.39	10.84452	11.74185	64.30594	1.003101	-0.07643	0.460189	7.175185	-72.4434	103.5611	1021.301	39.439	
########	5.067801	72.87582	112.5367	20813.47	31.9098	18385.61	11.03812	11.95065	0	1.003251	-0.07579	0.461655	7.174139	-72.3803	103.541	1021.3	39.43972	
########	4.855428	69.66741	107.6028	20464.38	31.81627	18107.18	10.86987	11.76966	48.86546	1.003157	-0.08397	0.4428	7.16046	-71.5912	103.5058	1021.308	39.45641	
########	4.83677	69.39632	107.1853	20463.56	31.80054	18111.21	10.87252	11.77228	48.86739	1.003165	-0.08415	0.44237	7.159554	-71.5388	103.5014	1021.309	39.45731	
########	4.81811	69.12523	106.7677	20462.75	31.7848	18115.24	10.87518	11.77491	48.86933	1.003172	-0.08434	0.44194	7.158649	-71.4865	103.4969	1021.309	39.45821	
########	4.799452	68.85413	106.3502	20461.94	31.76907	18119.27	10.87783	11.77753	48.87126	1.003179	-0.08453	0.44151	7.157744	-71.4341	103.4924	1021.309	39.45912	
########	4.685668	67.0183	103.5647	20464.84	31.68394	18148.02	10.89671	11.79621	48.8643	1.003221	-0.08648	0.437006	7.145723	-70.7332	103.4422	1021.275	39.46801	

Location Properties T2-2LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 13:46:17
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	4.911281	69.58338	107.6266	19234.29	31.21136	17194.4	10.27519	11.17636	51.99048	1.002914	-0.07863	0.455121	7.198843	-73.6342	99.56694	1021.192	39.93111	
########	4.828892	68.3793	105.7757	19245.46	31.19808	17208.29	10.28423	11.18539	51.9603	1.002925	-0.08949	0.430053	7.186415	-72.9306	99.6791	1021.21	39.9298	
########	4.819013	68.23777	105.5572	19246.22	31.19742	17209.16	10.2848	11.18596	51.95825	1.002926	-0.08968	0.429624	7.185386	-72.8724	99.74517	1021.209	39.92998	
########	4.809134	68.09624	105.3386	19246.98	31.19675	17210.04	10.28537	11.18652	51.9562	1.002926	-0.08987	0.429194	7.184356	-72.8142	99.81123	1021.208	39.93015	
########	4.799255	67.95471	105.1201	19247.74	31.19609	17210.91	10.28593	11.18709	51.95415	1.002927	-0.09005	0.428765	7.183327	-72.756	99.8773	1021.207	39.93033	
########	4.745484	67.12786	103.8593	19258.32	31.10847	17246.19	10.30894	11.21002	51.9256	1.002972	-0.10573	0.39261	7.171181	-72.0474	99.96848	1021.209	39.93882	
########	4.740409	67.05244	103.7436	19259.05	31.10442	17248.03	10.31014	11.21122	51.92364	1.002975	-0.10657	0.390665	7.170323	-71.9979	99.98531	1021.21	39.9392	
########	4.735335	66.97701	103.6279	19259.78	31.10038	17249.88	10.31134	11.21242	51.92167	1.002977	-0.10741	0.388719	7.169464	-71.9484	100.0021	1021.21	39.93958	
########	4.686952	66.24962	102.5149	19253.71	31.0602	17256.3	10.31555	11.21659	51.93805	1.002993	-0.06735	0.481135	7.159234	-71.3661	100.0481	1021.227	39.95645	
########	4.683602	66.19914	102.4377	19253.66	31.05688	17257.24	10.31616	11.21721	51.93817	1.002994	-0.06592	0.484421	7.158545	-71.3266	100.0538	1021.227	39.95733	
########	4.680252	66.14866	102.3604	19253.62	31.05355	17258.18	10.31677	11.21782	51.93829	1.002996	-0.0645	0.487707	7.157856	-71.2871	100.0596	1021.228	39.95821	

Location Properties T1-3LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 14:01:10
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	5.172728	73.95926	114.2345	19801.84	31.67278	17563.38	10.515	11.4162	50.50036	1.002942	-0.08795	0.433613	7.184824	-72.9481	96.27061	1021.03	39.91	
########	4.93352	70.4888	108.8921	19817.03	31.62593	17590.82	10.53293	11.43403	50.46166	1.00297	-0.09238	0.423383	7.168053	-71.9935	98.48795	1021.067	39.90062	
########	4.918347	70.26868	108.5533	19817.99	31.62295	17592.56	10.53406	11.43516	50.45921	1.002972	-0.09267	0.422734	7.16699	-71.9329	98.62859	1021.07	39.90003	
########	4.903175	70.04856	108.2144	19818.95	31.61998	17594.3	10.5352	11.43629	50.45675	1.002974	-0.09295	0.422085	7.165926	-71.8723	98.76922	1021.072	39.89943	
########	4.888003	69.82845	107.8755	19819.92	31.61701	17596.04	10.53634	11.43743	50.4543	1.002976	-0.09323	0.421437	7.164862	-71.8118	98.90986	1021.074	39.89884	
########	4.809348	68.57379	105.964	19792.9	31.58411	17581.87	10.52713	11.42822	50.52317	1.00298	-0.1195	0.360833	7.154457	-71.2077	99.00108	1021.016	39.90897	
########	4.799672	68.42829	105.7409	19792.07	31.58142	17581.93	10.52717	11.42826	50.52529	1.002981	-0.1208	0.357836	7.153558	-71.156	99.06198	1021.015	39.90918	
########	4.789996	68.28279	105.5179	19791.24	31.57874	17581.99	10.52722	11.4283	50.52741	1.002982	-0.1221	0.354839	7.152658	-71.1043	99.12289	1021.013	39.9094	
########	4.713038	67.10975	103.7315	19821.67	31.41616	17657.79	10.57677	11.47756	50.44984	1.003071	-0.06268	0.491894	7.142463	-70.4932	99.26088	1021.045	39.91804	
########	4.707268	67.02135	103.5967	19822.58	31.40809	17661	10.57887	11.47965	50.44754	1.003075	-0.06054	0.496846	7.141751	-70.4511	99.27653	1021.046	39.91859	
########	4.701499	66.93297	103.4618	19823.48	31.40003	17664.22	10.58098	11.48175	50.44524	1.00308	-0.05839	0.501798	7.141039	-70.4089	99.29217	1021.046	39.91913	

Location Properties T1-2LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 14:08:47
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	4.847707	68.26707	105.8037	21511.77	30.3333	19523.03	11.80025	12.68997	46.48619	1.004327	-0.09067	0.427348	7.014511	-63.0729	101.375	1020.94	39.92	
########	4.847707	68.26707	105.8037	21511.77	30.3333	19523.03	11.80025	12.68997	46.48619	1.004327	-0.09067	0.427348	7.014511	-63.0729	101.375	1020.94	39.92	
########	4.591126	64.56591	100.083	21385.86	30.27186	19429.45	11.73856	12.62914	46.75999	1.004301	-0.09263	0.422822	7.008328	-62.7133	103.9418	1020.94	39.92	
########	4.574709	64.32909	99.71692	21377.8	30.26793	19423.46	11.73462	12.62525	46.77751	1.004299	-0.09275	0.422533	7.007933	-62.6903	104.106	1020.94	39.92	
########	4.558291	64.09227	99.35087	21369.74	30.264	19417.47	11.73067	12.62136	46.79503	1.004297	-0.09288	0.422243	7.007537	-62.6673	104.2703	1020.94	39.92	
########	4.541874	63.85545	98.98483	21361.69	30.26007	19411.48	11.72672	12.61746	46.81255	1.004296	-0.093	0.421954	7.007142	-62.6443	104.4345	1020.94	39.92	
########	4.443325	62.35197	96.68066	21353.82	30.21061	19420.98	11.73298	12.62364	46.8301	1.004316	-0.06726	0.481343	7.003967	-62.4542	104.2294	1020.922	39.92871	
########	4.432272	62.18884	96.42938	21350.22	30.20679	19419.01	11.73167	12.62235	46.83794	1.004316	-0.06614	0.483909	7.003665	-62.4364	104.2862	1020.921	39.92911	
########	4.421219	62.02569	96.17812	21346.63	30.20298	19417.03	11.73037	12.62107	46.84577	1.004316	-0.06503	0.486476	7.003362	-62.4185	104.3429	1020.921	39.9295	
########	4.410166	61.86255	95.92684	21343.03	30.19916	19415.05	11.72906	12.61978	46.85361	1.004317	-0.06392	0.489043	7.00306	-62.4007	104.3997	1020.92	39.9299	
########	4.327993	60.65734	94.07576	21440.14	30.04588	19555.51	11.8216	12.71108	46.64158	1.004434	-0.08647	0.437034	6.999901	-62.1933	104.2993	1020.902	39.9298	

Location Properties T1-1LT
Location Name = Device Location

Report Properties
Start Time = 2021-09-30 14:11:37
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	4.618147	63.83192	99.21838	21451.02	29.15134	19875.11	12.03191	12.91882	46.61783	1.004869	-0.06412	0.488588	7.001626	-62.1213	99.94706	1020.95	39.98	
########	4.618147	63.83192	99.21838	21451.02	29.15134	19875.11	12.03191	12.91882	46.61783	1.004869	-0.06412	0.488588	7.001626	-62.1213	99.94706	1020.95	39.98	
########	4.395014	60.74245	94.4132	21411.07	29.15246	19837.71	12.00721	12.89451	46.70481	1.004851	-0.07866	0.455043	6.997941	-61.9152	101.9742	1020.921	39.98	
########	4.380414	60.54029	94.09879	21408.46	29.15253	19835.26	12.00559	12.89292	46.7105	1.004849	-0.07961	0.452848	6.9977	-61.9017	102.1069	1020.919	39.98	
########	4.365814	60.33815	93.78438	21405.85	29.15261	19832.81	12.00398	12.89133	46.71619	1.004848	-0.08056	0.450653	6.997459	-61.8882	102.2395	1020.918	39.98	
########	4.351214	60.136	93.46997	21403.23	29.15268	19830.37	12.00236	12.88974	46.72189	1.004847	-0.08151	0.448458	6.997218	-61.8747	102.3721	1020.916	39.98	
########	4.259874	58.86754	91.50182	21394.19	29.15169	19822.33	11.99706	12.88452	46.74168	1.004843	-0.09546	0.416298	6.995835	-61.7972	102.2364	1020.946	39.99725	
########	4.249901	58.72929	91.287	21392.72	29.15167	19820.98	11.99617	12.88364	46.74487	1.004843	-0.09646	0.413985	6.995676	-61.7883	102.2844	1020.947	39.99801	
########	4.239928	58.59105	91.07219	21391.26	29.15166	19819.63	11.99528	12.88276	46.74805	1.004842	-0.09746	0.411672	6.995517	-61.7794	102.3323	1020.947	39.99877	
########	4.229955	58.45279	90.85738	21389.8	29.15164	19818.28	11.99439	12.88188	46.75124	1.004841	-0.09846	0.409358	6.995358	-61.7704	102.3802	1020.948	39.99953	
########	4.15623	57.42876	89.27219	21488.33	29.12331	19919.57	12.06124	12.94772	46.537	1.0049	-0.0951	0.417118	6.993349	-61.6501	102.3487	1020.958	39.99954	

Location Properties BG-2HT
Location Name = Device Location

Report Properties
Start Time = 2021-09-22 10:20:16
Time Offset = -04:00:00
Duration = 00:00:20
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789301

Instrument Properties
Device Model = PowerPack
Device SN = 793927

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatı	Marked
########	3.731902	54.55735	85.82183	36277.93	29.19809	33584.97	21.40185	21.83023	27.56499	1.01183	-0.09673	0.413362	7.133463	-66.1144	95.77642	1017.499	29.50966	
########	3.730672	54.54322	85.79946	36292.02	29.19957	33597.14	21.41043	21.83814	27.55422	1.011836	-0.09518	0.416934	7.133426	-66.1123	95.9445	1017.501	29.51086	
########	3.729441	54.52909	85.77708	36306.11	29.20105	33609.3	21.41901	21.84605	27.54345	1.011842	-0.09363	0.420505	7.133389	-66.1102	96.11259	1017.503	29.51206	
########	3.725478	54.48133	85.69855	36300.68	29.19704	33606.66	21.41713	21.84433	27.54773	1.011842	-0.1014	0.402585	7.133374	-66.1128	97.17669	1017.49	29.51801	
########	3.724812	54.47359	85.68616	36306.03	29.19745	33611.37	21.42045	21.84739	27.54365	1.011845	-0.10113	0.403201	7.133359	-66.1121	97.29099	1017.49	29.51875	
########	3.724147	54.46585	85.67377	36311.38	29.19786	33616.08	21.42378	21.85045	27.53956	1.011847	-0.10087	0.403818	7.133343	-66.1114	97.40528	1017.491	29.51949	
########	3.723481	54.4581	85.66138	36316.73	29.19827	33620.79	21.4271	21.85351	27.53548	1.011849	-0.1006	0.404434	7.133328	-66.1107	97.51958	1017.491	29.52024	
########	3.727218	54.52085	85.75478	36279.17	29.23553	33563.9	21.38721	21.81654	27.56403	1.011807	-0.08594	0.438242	7.133457	-66.1236	98.8939	1017.481	29.53731	
########	3.727236	54.5219	85.75612	36278.24	29.23722	33562.04	21.3859	21.81532	27.56474	1.011806	-0.08534	0.439643	7.13346	-66.1242	98.98621	1017.481	29.53826	
########	3.727253	54.52296	85.75747	36277.31	29.23891	33560.17	21.38459	21.81411	27.56544	1.011804	-0.08473	0.441044	7.133463	-66.1247	99.07852	1017.48	29.53922	
########	3.729106	54.56068	85.81589	36313.59	29.24355	33590.98	21.40633	21.83414	27.53791	1.011819	-0.07806	0.456422	7.134017	-66.1555	100.3591	1017.48	29.5477	

Resolute

EQUIPMENT CALIBRATION LOG

Field Technician: CALVIN LAYMAN	Date: 12/15/21	Time (Calibration): 6:01	Time (Mid-day Check): 16:35
AquaTroll SN: 789310	Turbidity Meter Type: LAMotte	SN: 9429-4417	
Project: MCMANUS SURFACE WATER DEC 2021	Weather Conditions: 72°/56°		

Calibration Log

	Standard Lot # / Date of Expiration	Temp of Standard (°C)	Value of Standard	Instrument Reading at Calibration	Comments
DO (%) (1pt. 100% water saturated air cal)				101.33	
Specific Conductance (µS/cm)	20440203 2/22	13.84	4490	4381.4	
pH (4)	20440203 2/22	13.93	4	3.96	
pH (7)	19450117 2/22	14.16	7	7.02	
pH (10)	21010067 2/22	14.38	10	10.09	
ORP (mV)	19460167 2/22	14.45	228	242.8	

	Value of Standard	Instrument Reading	Acceptable Range	Pass?		Comments
Turbidity 0 NTU	0	0.00	+/- 0.5 NTU	Yes	No	
Turbidity 1 NTU	1	1.38	+/- 0.5 NTU	Yes	No	
Turbidity 10 NTU	10	9.71	+/- 0.5 NTU	Yes	No	

	Temp of Standard (°C)	Value of Standard	Post Calibration Reading	Acceptable Range	Pass?		Comments
Mid-Day pH (4) check	21.15	4	4.22	+/- 0.1 SU	Yes	No	
Mid-Day pH (7) check	20.42	7	7.32	+/- 0.1 SU	Yes	No	
Mid-Day pH (10) check	21.73	10	10.27	+/- 0.1 SU	Yes	No	

Calibration Report

Instrument	Aqua TROLL 400
Serial Number	789310
Created	12/15/2021

Sensor	**RDO**
Serial Number	878616
Last Calibrated	12/15/2021

Calibration Details

Slope	1.024078
Offset	0.00 mg/L

Calibration point 100%

Concentration	10.14 mg/L
Temperature	13.75 °C
Barometric Pressure	1,030.7 mbar

Sensor	**Conductivity**
Serial Number	789310
Last Calibrated	12/15/2021

Calibration Details

Cell Constant	0.991
Reference Temperature	25.00 °C
TDS Conversion Factor (ppm)	0.65

Sensor	**Level**
Serial Number	787063
Last Calibrated	Factory Defaults

Sensor	**pH/ORP**
Serial Number	21174
Last Calibrated	12/15/2021

Calibration Details

Total Calibration Points	3

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	158.0 mV
Temperature	13.94 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-11.4 mV
Temperature	14.16 °C

Calibration Point 3

pH of Buffer	10.08 pH
pH mV	-179.5 mV
Temperature	14.38 °C

Slope and Offset 1

Slope	-55.35 mV/pH
Offset	-8.1 mV

Slope and Offset 2

Slope	-55.66 mV/pH
Offset	-8.1 mV

ORP

ORP Solution	ZoBell's
Offset	11.9 mV
Temperature	14.45 °C

Location Properties
Location Name = T4-1HB

Report Properties
Start Time = 2021-12-15 07:02:21
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	5.387952	60.59576	94.17616	27720.61	15.64288	33752.98	21.24063	21.93943	36.07424	1.015268	-0.17696	0.228299	7.356972	-28.0873	141.3088	1030.84	14.09	
########	5.387952	60.59576	94.17616	27720.61	15.64288	33752.98	21.24063	21.93943	36.07424	1.015268	-0.17696	0.228299	7.356972	-28.0873	141.3088	1030.84	14.09	
########	5.387952	60.59576	94.17616	27720.61	15.64288	33752.98	21.24063	21.93943	36.07424	1.015268	-0.17696	0.228299	7.356972	-28.0873	141.3088	1030.84	14.09	
########	5.387952	60.59576	94.17616	27720.61	15.64288	33752.98	21.24063	21.93943	36.07424	1.015268	-0.17696	0.228299	7.356972	-28.0873	141.3088	1030.84	14.09	
########	5.357088	60.2983	93.71021	27739.83	15.68564	33742.82	21.23541	21.93284	36.04924	1.015255	-0.18989	0.198483	7.356194	-28.0477	150.6724	1030.849	14.09	
########	5.355116	60.2793	93.68045	27741.06	15.68837	33742.18	21.23508	21.93242	36.04765	1.015255	-0.19071	0.196578	7.356144	-28.0452	151.2706	1030.849	14.09	
########	5.353144	60.2603	93.65069	27742.29	15.69111	33741.53	21.23474	21.93199	36.04605	1.015254	-0.19154	0.194673	7.356095	-28.0426	151.8687	1030.85	14.09	
########	5.351172	60.24129	93.62092	27743.52	15.69384	33740.88	21.23441	21.93157	36.04446	1.015253	-0.19236	0.192768	7.356045	-28.0401	152.4669	1030.851	14.09	
########	5.327957	60.05579	93.3276	27740.69	15.72647	33711.89	21.21572	21.91273	36.04813	1.015232	-0.16705	0.251159	7.358016	-28.1535	153.8346	1030.875	14.10725	
########	5.326123	60.03987	93.30253	27741.04	15.72903	33710.31	21.21474	21.9117	36.04767	1.015231	-0.16622	0.253078	7.358087	-28.1576	154.1318	1030.877	14.10804	

Location Properties
Location Name = T4-1HS

Report Properties
Start Time = 2021-12-15 07:12:50
Time Offset = -05:00:00
Duration = 00:00:18
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	6.41439	72.67506	112.8912	27633.86	16.09839	33294.64	20.94222	21.64151	36.18749	1.014947	-0.18372	0.212697	7.399719	-30.5226	172.3491	1030.843	14.4793	
########	6.411372	72.64101	112.8382	27633.42	16.09853	33294	20.94179	21.6411	36.18806	1.014947	-0.18116	0.218604	7.39973	-30.5232	172.7174	1030.841	14.47912	
########	6.408355	72.60696	112.7851	27632.98	16.09867	33293.38	20.94136	21.64069	36.18863	1.014947	-0.1786	0.22451	7.399742	-30.5239	173.0856	1030.84	14.47894	
########	6.405337	72.57292	112.732	27632.55	16.0988	33292.74	20.94093	21.64028	36.18921	1.014946	-0.17604	0.230416	7.399753	-30.5245	173.4539	1030.839	14.47876	
########	6.369405	72.16419	112.0989	27624.17	16.10152	33280.57	20.93262	21.63237	36.20018	1.014939	-0.15335	0.282765	7.40038	-30.5601	174.0732	1030.857	14.49699	
########	6.366923	72.13606	112.0553	27623.73	16.10169	33279.91	20.93217	21.63194	36.20076	1.014939	-0.15165	0.286675	7.400419	-30.5623	174.162	1030.858	14.49793	
########	6.364442	72.10794	112.0116	27623.29	16.10186	33279.25	20.93172	21.63152	36.20133	1.014939	-0.14996	0.290584	7.400459	-30.5646	174.2509	1030.859	14.49887	
########	6.36196	72.07981	111.968	27622.86	16.10203	33278.6	20.93127	21.63109	36.2019	1.014938	-0.14826	0.294494	7.400498	-30.5668	174.3397	1030.859	14.4998	
########	6.324841	71.67007	111.3322	27647.76	16.10391	33307.16	20.9511	21.64965	36.1693	1.014953	-0.1743	0.234431	7.401121	-30.6018	174.5701	1030.868	14.49952	
########	6.322477	71.64372	111.2913	27648.66	16.10405	33308.14	20.95179	21.65029	36.16812	1.014954	-0.17494	0.232963	7.40116	-30.604	174.6007	1030.869	14.49985	

Location Properties
Location Name = T4-2HB

Report Properties
Start Time = 2021-12-15 07:22:53
Time Offset = -05:00:00
Duration = 00:00:25
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	6.615914	74.62859	115.9946	28231.09	15.67007	34352.83	21.65736	22.32934	35.42194	1.015582	-0.18365	0.212858	7.443605	-32.9402	148.0983	1030.95	14.47	
########	6.615914	74.62859	115.9946	28231.09	15.67007	34352.83	21.65736	22.32934	35.42194	1.015582	-0.18365	0.212858	7.443605	-32.9402	148.0983	1030.95	14.47	
########	6.615914	74.62859	115.9946	28231.09	15.67007	34352.83	21.65736	22.32934	35.42194	1.015582	-0.18365	0.212858	7.443605	-32.9402	148.0983	1030.95	14.47	
########	6.615914	74.62859	115.9946	28231.09	15.67007	34352.83	21.65736	22.32934	35.42194	1.015582	-0.18365	0.212858	7.443605	-32.9402	148.0983	1030.95	14.47	
########	6.455869	72.91128	113.3158	28264.95	15.72941	34346.64	21.65563	22.32532	35.37952	1.015568	-0.1848	0.210218	7.445369	-33.0441	160.0766	1030.931	14.46063	
########	6.445427	72.79922	113.141	28267.15	15.73328	34346.24	21.65551	22.32506	35.37675	1.015567	-0.18487	0.210046	7.445484	-33.0509	160.8582	1030.93	14.46002	
########	6.434985	72.68718	112.9662	28269.36	15.73716	34345.84	21.6554	22.32479	35.37398	1.015566	-0.18495	0.209873	7.4456	-33.0577	161.6397	1030.928	14.45941	
########	6.424542	72.57513	112.7914	28271.57	15.74103	34345.43	21.65529	22.32453	35.37122	1.015566	-0.18502	0.209701	7.445714	-33.0644	162.4213	1030.927	14.4588	
########	6.334795	71.65774	111.3581	28281.52	15.77323	34331.86	21.64725	22.31571	35.35879	1.015553	-0.18723	0.204616	7.447772	-33.1832	162.1744	1030.939	14.46024	
########	6.326637	71.5722	111.2246	28282.85	15.77621	34331.11	21.64685	22.31522	35.35712	1.015552	-0.18735	0.204323	7.447909	-33.1911	162.479	1030.939	14.46005	

Location Properties
Location Name = T4-2HT

Report Properties
Start Time = 2021-12-15 07:33:11
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (mV	ORP (mV)	Barometri	Temperatu	Marked
########	6.862652	78.31073	121.6181	27890.21	16.45085	33333.14	20.98256	21.66654	35.85487	1.014906	-0.13643	0.321779	7.464406	-34.1895	137.4624	1031.03	14.6	
########	6.862652	78.31073	121.6181	27890.21	16.45085	33333.14	20.98256	21.66654	35.85487	1.014906	-0.13643	0.321779	7.464406	-34.1895	137.4624	1031.03	14.6	
########	6.862652	78.31073	121.6181	27890.21	16.45085	33333.14	20.98256	21.66654	35.85487	1.014906	-0.13643	0.321779	7.464406	-34.1895	137.4624	1031.03	14.6	
########	6.862652	78.31073	121.6181	27890.21	16.45085	33333.14	20.98256	21.66654	35.85487	1.014906	-0.13643	0.321779	7.464406	-34.1895	137.4624	1031.03	14.6	
########	6.862652	78.31073	121.6181	27890.21	16.45085	33333.14	20.98256	21.66654	35.85487	1.014906	-0.13643	0.321779	7.464406	-34.1895	137.4624	1031.03	14.6	
########	6.648658	75.89248	117.853	27926.11	16.45411	33373.56	21.01067	21.69281	35.80878	1.014926	-0.19282	0.191707	7.460742	-33.9886	146.6542	1030.952	14.58061	
########	6.635469	75.74344	117.6209	27928.32	16.45432	33376.05	21.01241	21.69444	35.80594	1.014928	-0.1963	0.18369	7.460515	-33.9763	147.2207	1030.947	14.57942	
########	6.62228	75.5944	117.3889	27930.54	16.45452	33378.54	21.01414	21.69605	35.8031	1.014929	-0.19977	0.175673	7.46029	-33.9639	147.7872	1030.943	14.57822	
########	6.461797	73.82727	114.6397	27919.11	16.48952	33338.25	20.98758	21.66986	35.81776	1.014901	-0.17678	0.228713	7.45835	-33.8566	147.9142	1030.961	14.58909	
########	6.449419	73.68949	114.4253	27919.46	16.49118	33337.41	20.98706	21.66932	35.81731	1.014901	-0.1771	0.22797	7.458175	-33.8469	148.1412	1030.959	14.58911	

Location Properties
Location Name = T4-3HB

Report Properties
Start Time = 2021-12-15 07:41:09
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	6.065628	69.04128	107.256	28322.5	16.17443	34064.74	21.47865	22.14208	35.30762	1.015342	-0.17311	0.23717	7.495185	-35.8843	129.331	1031.02	14.8	
########	6.065628	69.04128	107.256	28322.5	16.17443	34064.74	21.47865	22.14208	35.30762	1.015342	-0.17311	0.23717	7.495185	-35.8843	129.331	1031.02	14.8	
########	6.065628	69.04128	107.256	28322.5	16.17443	34064.74	21.47865	22.14208	35.30762	1.015342	-0.17311	0.23717	7.495185	-35.8843	129.331	1031.02	14.8	
########	6.065628	69.04128	107.256	28322.5	16.17443	34064.74	21.47865	22.14208	35.30762	1.015342	-0.17311	0.23717	7.495185	-35.8843	129.331	1031.02	14.8	
########	6.060027	69.02079	107.2217	28380.57	16.19394	34119.28	21.51729	22.17753	35.23539	1.015368	-0.16614	0.25325	7.494011	-35.824	136.9484	1031.02	14.79074	
########	6.059664	69.01945	107.2195	28384.33	16.1952	34122.82	21.51979	22.17983	35.23071	1.015369	-0.16569	0.254292	7.493936	-35.8201	137.4424	1031.02	14.79014	
########	6.0593	69.01813	107.2173	28388.1	16.19647	34126.36	21.5223	22.18213	35.22602	1.015371	-0.16524	0.255335	7.493859	-35.8162	137.9364	1031.02	14.78954	
########	6.058937	69.0168	107.215	28391.86	16.19773	34129.89	21.5248	22.18443	35.22134	1.015373	-0.16479	0.256378	7.493783	-35.8123	138.4304	1031.02	14.78894	
########	6.040041	68.89072	107.0098	28399.75	16.2361	34109.32	21.51208	22.17106	35.21159	1.015355	-0.16782	0.249389	7.494551	-35.8582	138.5875	1031.011	14.80742	
########	6.039051	68.88455	106.9998	28401.6	16.23833	34109.81	21.51251	22.17138	35.20929	1.015355	-0.16777	0.249491	7.494555	-35.8587	138.7912	1031.011	14.80801	

Location Properties
Location Name = T4-3HS

Report Properties
Start Time = 2021-12-15 07:51:01
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	8.007293	91.41475	141.9775	27972.97	16.45779	33426.76	21.04765	21.7274	35.74879	1.014954	-0.18115	0.218626	7.591008	-41.3025	124.7794	1031.1	15.05	
########	8.007293	91.41475	141.9775	27972.97	16.45779	33426.76	21.04765	21.7274	35.74879	1.014954	-0.18115	0.218626	7.591008	-41.3025	124.7794	1031.1	15.05	
########	8.007293	91.41475	141.9775	27972.97	16.45779	33426.76	21.04765	21.7274	35.74879	1.014954	-0.18115	0.218626	7.591008	-41.3025	124.7794	1031.1	15.05	
########	8.007293	91.41475	141.9775	27972.97	16.45779	33426.76	21.04765	21.7274	35.74879	1.014954	-0.18115	0.218626	7.591008	-41.3025	124.7794	1031.1	15.05	
########	8.007293	91.41475	141.9775	27972.97	16.45779	33426.76	21.04765	21.7274	35.74879	1.014954	-0.18115	0.218626	7.591008	-41.3025	124.7794	1031.1	15.05	
########	7.430084	84.9128	131.859	27945.54	16.52191	33345.18	20.99361	21.67437	35.78388	1.014899	-0.17782	0.226304	7.567799	-40.0028	132.0547	1031.021	15.04012	
########	7.394029	84.50665	131.2269	27943.83	16.52592	33340.08	20.99023	21.67105	35.78608	1.014896	-0.17762	0.226783	7.56635	-39.9216	132.5091	1031.016	15.0395	
########	7.357974	84.10051	130.5949	27942.12	16.52992	33334.98	20.98685	21.66774	35.78827	1.014892	-0.17741	0.227263	7.564899	-39.8404	132.9636	1031.011	15.03889	
########	7.040707	80.49648	125.003	27931.42	16.53768	33316.36	20.97425	21.65563	35.80198	1.014881	-0.16012	0.267141	7.556065	-39.346	133.0968	1031.073	15.04872	
########	7.012395	80.17625	124.5054	27930.27	16.53962	33313.5	20.97235	21.65378	35.80346	1.014879	-0.15928	0.269082	7.555099	-39.2919	133.2841	1031.073	15.0489	
########	6.984083	79.856	124.0078	27929.11	16.54156	33310.65	20.97045	21.65193	35.80494	1.014877	-0.15844	0.271023	7.554132	-39.2378	133.4713	1031.074	15.04909	

Location Properties
Location Name = T4-4HB

Report Properties
Start Time = 2021-12-15 08:05:14
Time Offset = -05:00:00
Duration = 00:00:21
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (mV	ORP (mV)	Barometri	Temperatu	Marked
########	5.976108	68.64707	106.582	28296.68	16.72385	33609.48	21.18435	21.84616	35.33984	1.015002	-0.18155	0.217709	7.524747	-37.61	120.7816	1031.09	15.51	
########	5.976108	68.64707	106.582	28296.68	16.72385	33609.48	21.18435	21.84616	35.33984	1.015002	-0.18155	0.217709	7.524747	-37.61	120.7816	1031.09	15.51	
########	5.976108	68.64707	106.582	28296.68	16.72385	33609.48	21.18435	21.84616	35.33984	1.015002	-0.18155	0.217709	7.524747	-37.61	120.7816	1031.09	15.51	
########	5.976108	68.64707	106.582	28296.68	16.72385	33609.48	21.18435	21.84616	35.33984	1.015002	-0.18155	0.217709	7.524747	-37.61	120.7816	1031.09	15.51	
########	5.976108	68.64707	106.582	28296.68	16.72385	33609.48	21.18435	21.84616	35.33984	1.015002	-0.18155	0.217709	7.524747	-37.61	120.7816	1031.09	15.51	
########	5.950242	68.35976	106.1309	28317.31	16.72341	33634.32	21.20156	21.86231	35.31409	1.015016	-0.17673	0.228829	7.52121	-37.411	127.1187	1031.041	15.51	
########	5.948653	68.34211	106.1032	28318.58	16.72338	33635.85	21.20262	21.8633	35.3125	1.015017	-0.17643	0.229512	7.520993	-37.3987	127.5079	1031.038	15.51	
########	5.947064	68.32446	106.0755	28319.85	16.72336	33637.38	21.20367	21.86429	35.31092	1.015017	-0.17614	0.230195	7.520775	-37.3865	127.8972	1031.035	15.51	
########	5.925859	68.07572	105.6892	28307.12	16.72073	33624.25	21.19448	21.85576	35.32681	1.015011	-0.17486	0.233134	7.519622	-37.322	128.0714	1031.033	15.51	
########	5.924269	68.05745	105.6607	28307.03	16.7206	33624.25	21.19447	21.85576	35.32692	1.015011	-0.17469	0.233535	7.519485	-37.3142	128.2314	1031.031	15.51	

Location Properties
Location Name = T4-4HS

Report Properties
Start Time = 2021-12-15 08:13:33
Time Offset = -05:00:00
Duration = 00:00:23
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	7.430409	85.35516	132.5163	28156.2	16.76701	33409.91	21.04763	21.71644	35.51615	1.014889	-0.18954	0.199279	7.508512	-36.7036	117.7759	1031.09	16.04	
########	7.430409	85.35516	132.5163	28156.2	16.76701	33409.91	21.04763	21.71644	35.51615	1.014889	-0.18954	0.199279	7.508512	-36.7036	117.7759	1031.09	16.04	
########	7.430409	85.35516	132.5163	28156.2	16.76701	33409.91	21.04763	21.71644	35.51615	1.014889	-0.18954	0.199279	7.508512	-36.7036	117.7759	1031.09	16.04	
########	7.430409	85.35516	132.5163	28156.2	16.76701	33409.91	21.04763	21.71644	35.51615	1.014889	-0.18954	0.199279	7.508512	-36.7036	117.7759	1031.09	16.04	
########	7.430409	85.35516	132.5163	28156.2	16.76701	33409.91	21.04763	21.71644	35.51615	1.014889	-0.18954	0.199279	7.508512	-36.7036	117.7759	1031.09	16.04	
########	7.072737	81.24565	126.1314	28148.24	16.76636	33400.96	21.0414	21.71063	35.5262	1.014884	-0.18245	0.21563	7.503948	-36.4474	123.5994	1031.051	16.04978	
########	7.050487	80.99	125.7342	28147.75	16.76632	33400.41	21.04101	21.71026	35.52682	1.014884	-0.18201	0.216647	7.503664	-36.4315	123.9617	1031.048	16.05039	
########	7.028235	80.73434	125.337	28147.25	16.76628	33399.85	21.04062	21.7099	35.52745	1.014884	-0.18157	0.217664	7.50338	-36.4155	124.324	1031.046	16.051	
########	6.775294	77.83846	120.8418	28170.65	16.76711	33426.98	21.05946	21.72754	35.49794	1.014898	-0.18162	0.217546	7.50176	-36.3245	124.3455	1031.051	16.0497	
########	6.755305	77.60925	120.4858	28171.49	16.76714	33427.96	21.06014	21.72818	35.49688	1.014899	-0.18145	0.217942	7.501575	-36.3142	124.4894	1031.05	16.04988	

Location Properties
Location Name = HT BACKGROUND

Report Properties
Start Time = 2021-12-15 08:41:21
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	6.949773	81.94556	127.0838	30234.46	17.71986	35117.59	22.27082	22.82643	33.07484	1.015615	-0.17638	0.22963	7.625024	-43.3876	113.8648	1031.17	17.22	
########	6.949773	81.94556	127.0838	30234.46	17.71986	35117.59	22.27082	22.82643	33.07484	1.015615	-0.17638	0.22963	7.625024	-43.3876	113.8648	1031.17	17.22	
########	6.949773	81.94556	127.0838	30234.46	17.71986	35117.59	22.27082	22.82643	33.07484	1.015615	-0.17638	0.22963	7.625024	-43.3876	113.8648	1031.17	17.22	
########	6.949773	81.94556	127.0838	30234.46	17.71986	35117.59	22.27082	22.82643	33.07484	1.015615	-0.17638	0.22963	7.625024	-43.3876	113.8648	1031.17	17.22	
########	6.94167	81.82223	126.8973	30220.89	17.70429	35113.95	22.26772	22.82407	33.08969	1.015616	-0.1774	0.22728	7.623336	-43.2927	118.7099	1031.188	17.22919	
########	6.94114	81.81417	126.8851	30220.01	17.70328	35113.72	22.26752	22.82392	33.09066	1.015617	-0.17747	0.227126	7.623226	-43.2865	119.0266	1031.189	17.22978	
########	6.940611	81.80611	126.8729	30219.12	17.70226	35113.48	22.26732	22.82376	33.09163	1.015617	-0.17753	0.226973	7.623115	-43.2803	119.3432	1031.19	17.23038	
########	6.940081	81.79805	126.8607	30218.23	17.70124	35113.24	22.26711	22.82361	33.0926	1.015617	-0.1776	0.226819	7.623005	-43.2741	119.6599	1031.192	17.23099	
########	6.936832	81.777	126.8311	30271.69	17.70489	35172.51	22.30867	22.86213	33.03418	1.015648	-0.19062	0.196777	7.623908	-43.3243	119.6611	1031.215	17.23828	
########	6.936476	81.77287	126.825	30273.76	17.70465	35175.1	22.31047	22.86382	33.03192	1.015649	-0.19124	0.195357	7.623905	-43.3241	119.7862	1031.216	17.23885	

Location Properties
Location Name = T2-1HTS

Report Properties
Start Time = 2021-12-15 09:05:32
Time Offset = -05:00:00
Duration = 00:00:25
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (mV	ORP (mV)	Barometri	Temperatu	Marked
########	7.268449	83.65679	129.8173	26271.19	17.44276	30702.95	19.20322	19.95692	38.06451	1.013338	-0.00359	0.628212	7.620588	-43.0875	109.0513	1031.44	17.67	
########	7.268449	83.65679	129.8173	26271.19	17.44276	30702.95	19.20322	19.95692	38.06451	1.013338	-0.00359	0.628212	7.620588	-43.0875	109.0513	1031.44	17.67	
########	7.268449	83.65679	129.8173	26271.19	17.44276	30702.95	19.20322	19.95692	38.06451	1.013338	-0.00359	0.628212	7.620588	-43.0875	109.0513	1031.44	17.67	
########	7.268449	83.65679	129.8173	26271.19	17.44276	30702.95	19.20322	19.95692	38.06451	1.013338	-0.00359	0.628212	7.620588	-43.0875	109.0513	1031.44	17.67	
########	6.875275	79.04569	122.6727	26299.97	17.37107	30785.87	19.25796	20.01082	38.02286	1.013396	-0.01671	0.597936	7.596581	-41.7303	112.9341	1031.44	17.67	
########	6.850264	78.75237	122.2183	26301.8	17.36651	30791.14	19.26144	20.01424	38.02021	1.013399	-0.01755	0.59601	7.595053	-41.644	113.1811	1031.44	17.67	
########	6.825253	78.45905	121.7638	26303.63	17.36195	30796.42	19.26492	20.01767	38.01756	1.013403	-0.01838	0.594085	7.593526	-41.5576	113.4281	1031.44	17.67	
########	6.800243	78.16573	121.3093	26305.46	17.35739	30801.69	19.2684	20.0211	38.01491	1.013406	-0.01922	0.592159	7.591999	-41.4713	113.6751	1031.44	17.67	
########	6.606348	75.87004	117.752	26289.34	17.32816	30802.97	19.26837	20.02193	38.03823	1.013413	-0.01983	0.590739	7.583187	-40.9739	113.6722	1031.431	17.67	
########	6.587758	75.65105	117.4127	26289.34	17.32505	30805.12	19.26975	20.02333	38.03823	1.013414	-0.02019	0.589913	7.582188	-40.9174	113.7699	1031.431	17.67	

Location Properties
Location Name = T2-2HT

Report Properties
Start Time = 2021-12-15 09:20:13
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (mV	ORP (mV)	Barometri	Temperatu	Marked
########	6.055233	69.84554	108.3954	26470.45	17.52578	30878.61	19.3264	20.07109	37.77797	1.013414	-0.18431	0.21134	7.48786	-35.6309	104.7337	1031.64	18.41	
########	6.055233	69.84554	108.3954	26470.45	17.52578	30878.61	19.3264	20.07109	37.77797	1.013414	-0.18431	0.21134	7.48786	-35.6309	104.7337	1031.64	18.41	
########	6.055233	69.84554	108.3954	26470.45	17.52578	30878.61	19.3264	20.07109	37.77797	1.013414	-0.18431	0.21134	7.48786	-35.6309	104.7337	1031.64	18.41	
########	6.055233	69.84554	108.3954	26470.45	17.52578	30878.61	19.3264	20.07109	37.77797	1.013414	-0.18431	0.21134	7.48786	-35.6309	104.7337	1031.64	18.41	
########	6.046276	69.68872	108.1541	26461.55	17.48114	30898.95	19.33902	20.08432	37.79068	1.013434	-0.19111	0.195646	7.483654	-35.392	108.3685	1031.602	18.39139	
########	6.045684	69.67837	108.1381	26460.96	17.4782	30900.29	19.33985	20.08519	37.79152	1.013435	-0.19156	0.19461	7.483377	-35.3762	108.6083	1031.6	18.39017	
########	6.045094	69.66802	108.1222	26460.37	17.47525	30901.64	19.34068	20.08607	37.79236	1.013436	-0.19201	0.193574	7.483099	-35.3605	108.8482	1031.598	18.38894	
########	6.044502	69.65767	108.1063	26459.79	17.47231	30902.98	19.34152	20.08694	37.7932	1.013437	-0.19246	0.192538	7.482821	-35.3447	109.0881	1031.595	18.38771	
########	6.02795	69.43135	107.7658	26477.48	17.4632	30929.93	19.35975	20.10445	37.76795	1.013453	-0.20403	0.165859	7.480963	-35.2381	109.0769	1031.661	18.41628	
########	6.026968	69.41701	107.7441	26478.04	17.46161	30931.68	19.36091	20.10559	37.76715	1.013455	-0.20473	0.164242	7.480767	-35.2269	109.1727	1031.663	18.41707	

Location Properties
Location Name = T2-2HTS

Report Properties
Start Time = 2021-12-15 09:24:51
Time Offset = -05:00:00
Duration = 00:00:22
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (mV	ORP (mV)	Barometri	Temperatu	Marked
########	6.701995	76.83915	119.3046	26236.22	17.24543	30797.74	19.26221	20.01853	38.11525	1.013426	-0.20307	0.168079	7.462844	-34.1829	103.7879	1031.76	18.77	
########	6.701995	76.83915	119.3046	26236.22	17.24543	30797.74	19.26221	20.01853	38.11525	1.013426	-0.20307	0.168079	7.462844	-34.1829	103.7879	1031.76	18.77	
########	6.701995	76.83915	119.3046	26236.22	17.24543	30797.74	19.26221	20.01853	38.11525	1.013426	-0.20307	0.168079	7.462844	-34.1829	103.7879	1031.76	18.77	
########	6.701995	76.83915	119.3046	26236.22	17.24543	30797.74	19.26221	20.01853	38.11525	1.013426	-0.20307	0.168079	7.462844	-34.1829	103.7879	1031.76	18.77	
########	6.701995	76.83915	119.3046	26236.22	17.24543	30797.74	19.26221	20.01853	38.11525	1.013426	-0.20307	0.168079	7.462844	-34.1829	103.7879	1031.76	18.77	
########	6.461981	73.97429	114.8485	26238.13	17.14478	30869.65	19.30841	20.06528	38.11247	1.013482	-0.20547	0.162539	7.458583	-33.9393	107.2666	1031.564	18.77	
########	6.446902	73.7943	114.5685	26238.25	17.13846	30874.17	19.31131	20.06821	38.11229	1.013486	-0.20562	0.162191	7.458315	-33.924	107.4851	1031.552	18.77	
########	6.431823	73.61432	114.2886	26238.38	17.13214	30878.69	19.31421	20.07115	38.11212	1.013489	-0.20577	0.161843	7.458047	-33.9087	107.7037	1031.54	18.77	
########	6.301094	72.05296	111.8932	26247.88	17.11663	30900.68	19.32881	20.08544	38.09832	1.013504	-0.20811	0.156452	7.457013	-33.8482	107.543	1031.751	18.78684	
########	6.28932	71.91239	111.676	26248.35	17.11345	30903.44	19.3306	20.08724	38.09764	1.013506	-0.20827	0.156074	7.456861	-33.8394	107.6222	1031.755	18.78759	

Location Properties
Location Name = T2-3HT

Report Properties
Start Time = 2021-12-15 09:33:32
Time Offset = -05:00:00
Duration = 00:00:34
Readings = 18

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Diss	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	5.732779	65.83234	102.2104	26547.39	17.24832	31160.99	19.51186	20.25465	37.66849	1.013615	-0.23188	0.101625	7.454039	-33.6976	79.41988	1031.72	18.97	
########	5.732779	65.83234	102.2104	26547.39	17.24832	31160.99	19.51186	20.25465	37.66849	1.013615	-0.23188	0.101625	7.454039	-33.6976	79.41988	1031.72	18.97	
########	5.732779	65.83234	102.2104	26547.39	17.24832	31160.99	19.51186	20.25465	37.66849	1.013615	-0.23188	0.101625	7.454039	-33.6976	79.41988	1031.72	18.97	
########	5.731486	65.79432	102.1528	26540.08	17.22934	31165.68	19.51448	20.25769	37.67886	1.013621	-0.20544	0.162611	7.452206	-33.5929	81.82133	1031.71	18.96065	
########	5.731402	65.79185	102.1491	26539.61	17.22811	31165.98	19.51465	20.25789	37.67953	1.013622	-0.20372	0.166562	7.452087	-33.5861	81.97693	1031.71	18.96004	
########	5.731319	65.78939	102.1454	26539.13	17.22688	31166.29	19.51482	20.25809	37.68021	1.013622	-0.20201	0.170514	7.451968	-33.5793	82.13252	1031.709	18.95944	
########	5.731235	65.78693	102.1416	26538.66	17.22565	31166.59	19.51499	20.25828	37.68088	1.013622	-0.2003	0.174465	7.451849	-33.5725	82.28812	1031.708	18.95883	
########	5.723104	65.69051	101.99	26562.27	17.2156	31201.35	19.53857	20.28088	37.64739	1.013643	-0.19056	0.196933	7.451827	-33.5714	82.5349	1031.675	18.96021	
########	5.722701	65.68514	101.9816	26563.15	17.21464	31203.05	19.5397	20.28198	37.64614	1.013644	-0.18942	0.199546	7.451778	-33.5686	82.60883	1031.673	18.96003	
########	5.722298	65.67977	101.9732	26564.03	17.21369	31204.75	19.54084	20.28309	37.64489	1.013645	-0.18829	0.202159	7.451729	-33.5658	82.68276	1031.672	18.95985	
########	5.721895	65.6744	101.9648	26564.91	17.21274	31206.45	19.54198	20.28419	37.64365	1.013646	-0.18716	0.204772	7.451681	-33.563	82.7567	1031.67	18.95967	
########	5.726099	65.69581	102.0056	26526.8	17.20193	31169.25	19.51606	20.26001	37.69773	1.013628	-0.2076	0.157626	7.451057	-33.526	83.13662	1031.732	18.96883	
########	5.726115	65.69465	102.0041	26525.57	17.20117	31168.33	19.5154	20.25941	37.69948	1.013628	-0.20818	0.156281	7.451022	-33.5239	83.16902	1031.734	18.96922	
########	5.726131	65.6935	102.0026	26524.34	17.20041	31167.41	19.51475	20.25882	37.70123	1.013628	-0.20876	0.154936	7.450985	-33.5218	83.20143	1031.736	18.9696	
########	5.722672	65.64952	101.9369	26537.4	17.19398	31187.27	19.52819	20.27172	37.68267	1.013639	-0.20266	0.169022	7.450681	-33.5028	83.55057	1031.754	18.9865	
########	5.722592	65.6479	101.9346	26537.28	17.19347	31187.47	19.52832	20.27186	37.68284	1.01364	-0.20274	0.168827	7.450655	-33.5012	83.57494	1031.756	18.9874	
########	5.722511	65.64626	101.9323	26537.15	17.19297	31187.68	19.52844	20.27199	37.68302	1.01364	-0.20283	0.168632	7.450628	-33.4996	83.5993	1031.758	18.98829	
########	5.722431	65.64463	101.93	26537.03	17.19246	31187.89	19.52857	20.27213	37.6832	1.01364	-0.20291	0.168436	7.450602	-33.498	83.62366	1031.76	18.98919	

Location Properties
Location Name = T1-4HT

Report Properties
Start Time = 2021-12-15 09:54:25
Time Offset = -05:00:00
Duration = 00:00:18
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatı	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m\	ORP (mV)	Barometri	Temperatı	Marked
########	6.159812	72.22734	112.0044	27228.1	18.291	31229.96	19.59067	20.29947	36.72679	1.013448	-0.21692	0.136126	7.469309	-34.6723	81.94846	1031.839	20.03939	
########	6.158809	72.20988	111.9778	27224.9	18.28593	31229.76	19.59039	20.29935	36.73109	1.013449	-0.21697	0.136016	7.469244	-34.6679	81.94208	1031.838	20.03995	
########	6.148142	71.96943	111.6231	27329.86	18.20819	31403.7	19.70807	20.41241	36.59008	1.013555	-0.21974	0.129622	7.466978	-34.5357	82.00364	1031.848	20.05714	
########	6.147304	71.95238	111.5976	27332.95	18.20339	31410.54	19.71265	20.41685	36.58594	1.01356	-0.21964	0.129857	7.466861	-34.5288	82.00432	1031.849	20.05807	
########	6.146465	71.93534	111.5722	27336.04	18.1986	31417.39	19.71723	20.4213	36.58179	1.013564	-0.21953	0.130091	7.466744	-34.5218	82.005	1031.849	20.059	
########	6.144482	71.83544	111.4291	27339.75	18.09221	31495.26	19.76783	20.47192	36.5768	1.013627	-0.2178	0.134092	7.466554	-34.4975	81.81265	1031.866	20.07625	
########	6.144187	71.82635	111.4159	27341.78	18.08587	31501.96	19.77227	20.47628	36.57407	1.013631	-0.21778	0.134144	7.466504	-34.4939	81.80487	1031.867	20.07735	
########	6.143894	71.81726	111.4026	27343.81	18.07953	31508.67	19.77671	20.48064	36.57135	1.013636	-0.21775	0.134197	7.466453	-34.4904	81.7971	1031.868	20.07846	
########	6.1436	71.80817	111.3894	27345.84	18.07319	31515.38	19.78115	20.485	36.56862	1.013641	-0.21773	0.134249	7.466403	-34.4868	81.78931	1031.869	20.07956	
########	6.129238	71.58115	111.041	27329.09	18.02661	31528.43	19.78877	20.49348	36.59105	1.013657	-0.22943	0.107263	7.465333	-34.4217	81.49076	1031.843	20.08798	

Location Properties
Location Name = T1-4HTS

Report Properties
Start Time = 2021-12-15 10:01:12
Time Offset = -05:00:00
Duration = 00:00:23
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g,	Pressure (	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	6.91451	80.53747	124.9272	26665.86	18.05293	30745.44	19.25039	19.98453	37.50114	1.013242	-0.24586	0.069372	7.432143	-32.5386	75.21432	1031.82	20.29	
########	6.91451	80.53747	124.9272	26665.86	18.05293	30745.44	19.25039	19.98453	37.50114	1.013242	-0.24586	0.069372	7.432143	-32.5386	75.21432	1031.82	20.29	
########	6.91451	80.53747	124.9272	26665.86	18.05293	30745.44	19.25039	19.98453	37.50114	1.013242	-0.24586	0.069372	7.432143	-32.5386	75.21432	1031.82	20.29	
########	6.91451	80.53747	124.9272	26665.86	18.05293	30745.44	19.25039	19.98453	37.50114	1.013242	-0.24586	0.069372	7.432143	-32.5386	75.21432	1031.82	20.29	
########	6.574099	76.34604	118.4484	26602.69	17.8949	30779.74	19.26942	20.00683	37.5902	1.013291	-0.22635	0.114368	7.435857	-32.737	75.36377	1031.811	20.29911	
########	6.552544	76.08064	118.0382	26598.69	17.88489	30781.91	19.27063	20.00824	37.59584	1.013294	-0.22512	0.117217	7.436092	-32.7496	75.37323	1031.81	20.29969	
########	6.530988	75.81522	117.6279	26594.69	17.87488	30784.09	19.27183	20.00965	37.60148	1.013297	-0.22388	0.120066	7.436327	-32.7622	75.3827	1031.809	20.30027	
########	6.509433	75.54982	117.2177	26590.69	17.86487	30786.26	19.27304	20.01107	37.60712	1.0133	-0.22265	0.122915	7.436563	-32.7747	75.39216	1031.809	20.30084	
########	6.341879	73.42889	113.9555	26600.71	17.79118	30848.18	19.31343	20.05132	37.59298	1.013347	-0.22223	0.123869	7.438654	-32.8873	75.49796	1031.897	20.31706	
########	6.325733	73.22742	113.6448	26599.62	17.78387	30851.89	19.31577	20.05373	37.59453	1.01335	-0.22173	0.125024	7.438843	-32.8974	75.50653	1031.901	20.31803	

Location Properties
Location Name = T2-4HT

Report Properties
Start Time = 2021-12-15 10:21:25
Time Offset = -05:00:00
Duration = 00:00:26
Readings = 11

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	5.481465	67.13309	103.6745	26508.15	21.09016	28647.48	17.87954	18.62086	37.72425	1.011493	-0.19653	0.183146	7.50376	-36.9559	76.3664	1031.65	22.17	
########	5.481465	67.13309	103.6745	26508.15	21.09016	28647.48	17.87954	18.62086	37.72425	1.011493	-0.19653	0.183146	7.50376	-36.9559	76.3664	1031.65	22.17	
########	5.481465	67.13309	103.6745	26508.15	21.09016	28647.48	17.87954	18.62086	37.72425	1.011493	-0.19653	0.183146	7.50376	-36.9559	76.3664	1031.65	22.17	
########	5.481465	67.13309	103.6745	26508.15	21.09016	28647.48	17.87954	18.62086	37.72425	1.011493	-0.19653	0.183146	7.50376	-36.9559	76.3664	1031.65	22.17	
########	5.491169	67.06168	103.5866	26520.53	20.91161	28766.92	17.95817	18.6985	37.70664	1.011596	-0.20687	0.159315	7.498535	-36.642	77.76691	1031.594	22.17	
########	5.491786	67.05714	103.581	26521.31	20.90027	28774.5	17.96316	18.70343	37.70552	1.011603	-0.20752	0.157801	7.498203	-36.622	77.85588	1031.591	22.17	
########	5.492403	67.05261	103.5754	26522.1	20.88893	28782.09	17.96815	18.70836	37.7044	1.011609	-0.20818	0.156287	7.497871	-36.6021	77.94485	1031.587	22.17	
########	5.493019	67.04807	103.5698	26522.89	20.87759	28789.68	17.97315	18.71329	37.70329	1.011616	-0.20883	0.154773	7.497539	-36.5822	78.03381	1031.584	22.17	
########	5.51299	67.05471	103.6189	26538.59	20.77771	28866.62	18.02402	18.7633	37.68098	1.011679	-0.22006	0.128881	7.494538	-36.4012	78.05656	1031.661	22.18755	
########	5.514159	67.05322	103.619	26539.63	20.76859	28873.19	18.02835	18.76757	37.6795	1.011684	-0.22084	0.127082	7.494267	-36.3849	78.09295	1031.663	22.18836	
########	5.515327	67.05172	103.619	26540.67	20.75946	28879.76	18.03269	18.77184	37.67802	1.01169	-0.22162	0.125283	7.493997	-36.3686	78.12934	1031.666	22.18917	

Location Properties
Location Name = T2-4HTS

Report Properties
Start Time = 2021-12-15 10:26:48
Time Offset = -05:00:00
Duration = 00:00:24
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Diss	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	7.864553	91.59842	142.0217	26083.69	18.19688	29979.17	18.72833	19.48646	38.33813	1.012813	-0.24339	0.075074	7.524765	-37.795	78.63027	1031.56	22.6	
########	7.864553	91.59842	142.0217	26083.69	18.19688	29979.17	18.72833	19.48646	38.33813	1.012813	-0.24339	0.075074	7.524765	-37.795	78.63027	1031.56	22.6	
########	7.864553	91.59842	142.0217	26083.69	18.19688	29979.17	18.72833	19.48646	38.33813	1.012813	-0.24339	0.075074	7.524765	-37.795	78.63027	1031.56	22.6	
########	7.864553	91.59842	142.0217	26083.69	18.19688	29979.17	18.72833	19.48646	38.33813	1.012813	-0.24339	0.075074	7.524765	-37.795	78.63027	1031.56	22.6	
########	7.864553	91.59842	142.0217	26083.69	18.19688	29979.17	18.72833	19.48646	38.33813	1.012813	-0.24339	0.075074	7.524765	-37.795	78.63027	1031.56	22.6	
########	7.222996	84.06419	130.349	26119.25	18.14353	30055.24	18.77904	19.53591	38.28594	1.012863	-0.24049	0.081765	7.511118	-37.0148	79.95148	1031.56	22.6	
########	7.183052	83.5951	129.6222	26121.46	18.14021	30059.98	18.78219	19.53899	38.28269	1.012866	-0.2403	0.082182	7.510269	-36.9662	80.03374	1031.56	22.6	
########	7.143108	83.12601	128.8955	26123.68	18.13689	30064.72	18.78535	19.54207	38.27944	1.012869	-0.24012	0.082598	7.509419	-36.9176	80.116	1031.56	22.6	
########	6.879769	79.92744	123.9454	26109.74	18.07479	30089.78	18.80083	19.55836	38.29988	1.012895	-0.23716	0.089438	7.503918	-36.6046	80.03446	1031.518	22.59159	
########	6.852363	79.60087	123.4397	26109.99	18.07072	30092.76	18.80276	19.56029	38.29951	1.012897	-0.23696	0.089906	7.503339	-36.5716	80.06311	1031.516	22.59121	

Location Properties
Location Name = T3-4HT

Report Properties
Start Time = 2021-12-15 10:45:55
Time Offset = -05:00:00
Duration = 00:00:25
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	5.763672	68.84091	106.5455	27131.45	19.3914	30386.59	19.03855	19.75128	36.8576	1.012777	-0.23379	0.097199	7.453434	-33.9153	78.39117	1031.37	23.58	
########	5.763672	68.84091	106.5455	27131.45	19.3914	30386.59	19.03855	19.75128	36.8576	1.012777	-0.23379	0.097199	7.453434	-33.9153	78.39117	1031.37	23.58	
########	5.763672	68.84091	106.5455	27131.45	19.3914	30386.59	19.03855	19.75128	36.8576	1.012777	-0.23379	0.097199	7.453434	-33.9153	78.39117	1031.37	23.58	
########	5.763672	68.84091	106.5455	27131.45	19.3914	30386.59	19.03855	19.75128	36.8576	1.012777	-0.23379	0.097199	7.453434	-33.9153	78.39117	1031.37	23.58	
########	5.759974	68.82048	106.5108	27175.04	19.39911	30430.4	19.06889	19.77976	36.79848	1.012799	-0.21507	0.140399	7.451771	-33.8236	79.54946	1031.351	23.60807	
########	5.759734	68.81916	106.5085	27177.87	19.3996	30433.23	19.07085	19.7816	36.79465	1.0128	-0.21385	0.143195	7.451663	-33.8177	79.62442	1031.35	23.60989	
########	5.759495	68.81783	106.5063	27180.69	19.4001	30436.07	19.07281	19.78345	36.79082	1.012801	-0.21264	0.145991	7.451556	-33.8118	79.69939	1031.349	23.61171	
########	5.759255	68.81651	106.504	27183.51	19.4006	30438.9	19.07478	19.78529	36.78699	1.012803	-0.21143	0.148787	7.451448	-33.8058	79.77435	1031.347	23.61352	
########	5.759563	68.81376	106.5042	27196.12	19.41967	30440.61	19.0764	19.7864	36.76996	1.012799	-0.23563	0.092968	7.451599	-33.8114	79.69724	1031.385	23.61785	
########	5.759481	68.8131	106.5033	27197.81	19.42071	30441.83	19.07727	19.78719	36.76767	1.0128	-0.2362	0.091642	7.451562	-33.8092	79.72404	1031.386	23.61877	

Location Properties
Location Name = T3-4HTS

Report Properties
Start Time = 2021-12-15 10:51:32
Time Offset = -05:00:00
Duration = 00:00:25
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (|	Depth (ft)	pH (pH) (2	pH mV (m'	ORP (mV)	Barometri	Temperatu	Marked
########	6.016187	71.27209	110.3277	25978.72	19.21402	29206.38	18.22433	18.98415	38.49304	1.012201	-0.24081	0.081006	7.461897	-34.355	79.41399	1031.3	24.65	
########	6.016187	71.27209	110.3277	25978.72	19.21402	29206.38	18.22433	18.98415	38.49304	1.012201	-0.24081	0.081006	7.461897	-34.355	79.41399	1031.3	24.65	
########	6.016187	71.27209	110.3277	25978.72	19.21402	29206.38	18.22433	18.98415	38.49304	1.012201	-0.24081	0.081006	7.461897	-34.355	79.41399	1031.3	24.65	
########	6.016187	71.27209	110.3277	25978.72	19.21402	29206.38	18.22433	18.98415	38.49304	1.012201	-0.24081	0.081006	7.461897	-34.355	79.41399	1031.3	24.65	
########	5.929185	70.36323	108.9454	26895.05	19.06858	30331.51	18.9929	19.71548	37.18433	1.012817	-0.24941	0.061189	7.457528	-34.1011	80.37194	1031.328	24.66883	
########	5.923536	70.30421	108.8557	26954.56	19.05914	30404.57	19.04281	19.76297	37.09934	1.012857	-0.24996	0.059903	7.457244	-34.0846	80.43415	1031.33	24.67005	
########	5.917886	70.24519	108.7659	27014.06	19.04969	30477.63	19.09272	19.81046	37.01436	1.012897	-0.25052	0.058616	7.45696	-34.0681	80.49635	1031.332	24.67128	
########	5.912237	70.18617	108.6762	27073.56	19.04025	30550.69	19.14263	19.85795	36.92937	1.012937	-0.25108	0.057329	7.456676	-34.0516	80.55856	1031.333	24.6725	
########	5.888365	69.76219	108.0337	26915.49	19.0115	30391.82	19.0329	19.75468	37.15442	1.012861	-0.25858	0.040017	7.456984	-34.0654	80.39141	1031.372	24.68671	
########	5.885032	69.71974	107.9693	26932.71	19.00641	30414.51	19.04834	19.76943	37.12978	1.012874	-0.25914	0.038739	7.456882	-34.0593	80.40934	1031.374	24.68782	

Location Properties
Location Name = LT BACKGROUND

Report Properties
Start Time = 2021-12-15 12:57:08
Time Offset = -05:00:00
Duration = 00:00:22
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (mV	ORP (mV)	Barometri	Temperatu	Marked
########	5.538951	69.064	106.3129	27395.59	21.82686	29163.07	18.24573	18.956	36.50223	1.011585	-0.20857	0.155391	7.504241	-37.0763	36.46436	1029.56	30.21	
########	5.538951	69.064	106.3129	27395.59	21.82686	29163.07	18.24573	18.956	36.50223	1.011585	-0.20857	0.155391	7.504241	-37.0763	36.46436	1029.56	30.21	
########	5.538951	69.064	106.3129	27395.59	21.82686	29163.07	18.24573	18.956	36.50223	1.011585	-0.20857	0.155391	7.504241	-37.0763	36.46436	1029.56	30.21	
########	5.538951	69.064	106.3129	27395.59	21.82686	29163.07	18.24573	18.956	36.50223	1.011585	-0.20857	0.155391	7.504241	-37.0763	36.46436	1029.56	30.21	
########	5.538951	69.064	106.3129	27395.59	21.82686	29163.07	18.24573	18.956	36.50223	1.011585	-0.20857	0.155391	7.504241	-37.0763	36.46436	1029.56	30.21	
########	5.574921	69.29337	106.6994	27366.57	21.64129	29242.52	18.29725	19.00764	36.54094	1.01167	-0.22873	0.108872	7.501811	-36.9147	36.67051	1029.579	30.21	
########	5.577117	69.30737	106.723	27364.79	21.62997	29247.37	18.30039	19.01079	36.5433	1.011676	-0.22996	0.106033	7.501663	-36.9048	36.68309	1029.58	30.21	
########	5.579312	69.32137	106.7466	27363.02	21.61864	29252.22	18.30353	19.01394	36.54567	1.011681	-0.2312	0.103193	7.501514	-36.8949	36.69567	1029.581	30.21	
########	5.634331	69.71544	107.3894	27348.18	21.48329	29317.47	18.34605	19.05635	36.56552	1.011747	-0.21236	0.14663	7.49971	-36.7821	36.7814	1029.545	30.21	
########	5.637652	69.73855	107.4274	27346.82	21.4728	29322.29	18.34918	19.05949	36.56733	1.011752	-0.21201	0.147455	7.499571	-36.7732	36.79018	1029.544	30.21	

Location Properties
Location Name = T4-4L

Report Properties
Start Time = 2021-12-15 13:53:27
Time Offset = -05:00:00
Duration = 00:00:25
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	6.332381	81.98575	125.7449	29647.52	23.54926	30492.44	19.18851	19.82009	33.72963	1.011843	-0.18702	0.205091	7.640213	-45.0931	71.71249	1028.79	24.03	
########	6.332381	81.98575	125.7449	29647.52	23.54926	30492.44	19.18851	19.82009	33.72963	1.011843	-0.18702	0.205091	7.640213	-45.0931	71.71249	1028.79	24.03	
########	6.332381	81.98575	125.7449	29647.52	23.54926	30492.44	19.18851	19.82009	33.72963	1.011843	-0.18702	0.205091	7.640213	-45.0931	71.71249	1028.79	24.03	
########	6.332381	81.98575	125.7449	29647.52	23.54926	30492.44	19.18851	19.82009	33.72963	1.011843	-0.18702	0.205091	7.640213	-45.0931	71.71249	1028.79	24.03	
########	6.332381	81.98575	125.7449	29647.52	23.54926	30492.44	19.18851	19.82009	33.72963	1.011843	-0.18702	0.205091	7.640213	-45.0931	71.71249	1028.79	24.03	
########	6.175674	79.59072	122.124	29496.06	23.29599	30488.35	19.18215	19.81743	33.90287	1.011907	-0.1799	0.221504	7.612327	-43.4494	72.13621	1028.78	24.03	
########	6.166048	79.4436	121.9016	29486.75	23.28043	30488.1	19.18176	19.81726	33.91351	1.011911	-0.17947	0.222512	7.610613	-43.3484	72.16224	1028.779	24.03	
########	6.156422	79.29647	121.6792	29477.45	23.26487	30487.85	19.18137	19.8171	33.92415	1.011914	-0.17903	0.223521	7.608901	-43.2475	72.18827	1028.779	24.03	
########	6.174029	78.88564	121.1463	29453.54	23.04656	30595.18	19.25248	19.88687	33.95184	1.012026	-0.20273	0.168855	7.594635	-42.399	72.26727	1028.797	24.03	
########	6.17106	78.80991	121.0358	29448.84	23.03074	30599.87	19.2555	19.88992	33.95722	1.012033	-0.20362	0.166808	7.59333	-42.3217	72.28096	1028.797	24.03	

Location Properties
Location Name = T1-4LT

Report Properties
Start Time = 2021-12-15 14:49:28
Time Offset = -05:00:00
Duration = 00:00:23
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Diss	Resistivity	Density (g/	Pressure (|	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	6.360045	81.34225	124.769	27182.81	23.40079	28039.27	17.49697	18.22552	36.78796	1.010611	-0.17056	0.243064	7.759721	-51.8068	69.44081	1028.62	22.39	
########	6.360045	81.34225	124.769	27182.81	23.40079	28039.27	17.49697	18.22552	36.78796	1.010611	-0.17056	0.243064	7.759721	-51.8068	69.44081	1028.62	22.39	
########	6.360045	81.34225	124.769	27182.81	23.40079	28039.27	17.49697	18.22552	36.78796	1.010611	-0.17056	0.243064	7.759721	-51.8068	69.44081	1028.62	22.39	
########	6.360045	81.34225	124.769	27182.81	23.40079	28039.27	17.49697	18.22552	36.78796	1.010611	-0.17056	0.243064	7.759721	-51.8068	69.44081	1028.62	22.39	
########	6.360045	81.34225	124.769	27182.81	23.40079	28039.27	17.49697	18.22552	36.78796	1.010611	-0.17056	0.243064	7.759721	-51.8068	69.44081	1028.62	22.39	
########	6.216711	78.28915	120.2723	27109.56	22.45396	28495.46	17.79708	18.52205	36.88736	1.011086	-0.19244	0.192596	7.702606	-48.4551	69.77504	1028.571	22.39	
########	6.207961	78.10278	119.9978	27105.09	22.39616	28523.3	17.8154	18.54015	36.89342	1.011115	-0.19377	0.189515	7.69912	-48.2505	69.79544	1028.568	22.39	
########	6.199211	77.9164	119.7233	27100.62	22.33837	28551.15	17.83372	18.55825	36.89949	1.011144	-0.19511	0.186435	7.695633	-48.0459	69.81584	1028.565	22.39	
########	6.148678	76.64988	117.867	27063.87	22.03401	28689.92	17.9241	18.64845	36.94967	1.011289	-0.19667	0.182829	7.674843	-46.8415	69.88289	1028.58	22.39	
########	6.142983	76.52014	117.6764	27060.48	21.9977	28707.06	17.93534	18.65959	36.95428	1.011307	-0.19727	0.181454	7.672545	-46.7073	69.89391	1028.579	22.39	

Location Properties
Location Name = T2-4LT

Report Properties
Start Time = 2021-12-15 15:01:58
Time Offset = -05:00:00
Duration = 00:00:18
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	8.111484	94.67448	145.1045	226.6598	23.85026	231.7206	0.110744	0.150618	4267.992	0.99742	-0.19039	0.197308	6.998269	-8.23372	117.6737	1028.62	22.2889	
########	8.227412	95.2765	146.1285	148.9055	23.71192	152.637	0.072311	0.099214	6845.117	0.997425	-0.17005	0.244231	7.690642	-48.0057	77.44965	1028.597	22.29889	
########	8.221458	95.1679	145.9672	147.4926	23.70247	151.2188	0.071622	0.098292	6887.221	0.997427	-0.16965	0.245166	7.709708	-49.0995	76.25878	1028.594	22.2991	
########	8.215506	95.0593	145.8059	146.0797	23.69302	149.8007	0.070933	0.09737	6929.326	0.997429	-0.16924	0.246102	7.728773	-50.1933	75.06791	1028.591	22.2993	
########	8.209552	94.95069	145.6445	144.6667	23.68357	148.3825	0.070243	0.096449	6971.43	0.99743	-0.16884	0.247037	7.747838	-51.2871	73.87704	1028.588	22.29951	
########	7.165391	87.6195	134.7971	23361.6	21.6011	25149.75	15.71458	16.34734	916.71	1.009735	-0.15304	0.283465	7.69711	-48.0078	73.04539	1028.625	22.29975	
########	7.120954	87.29398	134.317	24358.57	21.50832	26223.43	16.38659	17.04523	694.9859	1.010265	-0.15205	0.285761	7.706562	-48.5348	72.32021	1028.626	22.29991	
########	7.076517	86.96847	133.8369	25355.55	21.41554	27297.11	17.05861	17.74312	473.2619	1.010794	-0.15105	0.288058	7.716014	-49.0618	71.59505	1028.627	22.30008	
########	6.8258	83.40179	128.431	25649.7	20.98611	27848.07	17.40096	18.10125	337.5923	1.011158	-0.14591	0.299915	7.670299	-46.4157	71.9586	1028.636	22.31661	
########	6.796278	83.11425	127.9998	26071.25	20.93058	28312.22	17.69129	18.40294	224.6499	1.01139	-0.14541	0.301069	7.667491	-46.2471	71.95323	1028.637	22.31733	

Location Properties
Location Name = T3-4LT

Report Properties
Start Time = 2021-12-15 15:12:21
Time Offset = -05:00:00
Duration = 00:00:18
Readings = 10

Instrument Properties
Device Model = Aqua TROLL 400
Device SN = 789310

Instrument Properties
Device Model = PowerPack
Device SN = 784034

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Cor	Temperatu	Specific Cc	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2	pH mV (m	ORP (mV)	Barometri	Temperatu	Marked
########	8.459426	95.7757	147.1882	88.651	22.26212	93.54204	0.043662	0.060802	11281.78	0.997747	-0.20239	0.169635	6.803296	2.960281	152.6633	1028.606	22.61831	
########	8.458356	95.7494	147.1498	88.55612	22.25125	93.46249	0.043623	0.060751	11293.46	0.997749	-0.20358	0.166902	6.802186	3.023733	152.6538	1028.607	22.61906	
########	8.420677	94.98178	146.0074	118.7508	22.12125	125.6754	0.059242	0.081689	8524.777	0.997791	-0.17824	0.225336	7.551212	-39.811	84.19871	1028.547	22.61935	
########	8.417695	94.92892	145.9285	120.0645	22.11336	127.0815	0.059924	0.082603	8406.178	0.997793	-0.17757	0.226886	7.584985	-41.7425	81.20049	1028.546	22.61967	
########	8.414713	94.87606	145.8495	121.3783	22.10546	128.4876	0.060606	0.083517	8287.577	0.997795	-0.1769	0.228435	7.618759	-43.6739	78.20228	1028.544	22.61999	
########	8.411731	94.8232	145.7706	122.692	22.09757	129.8936	0.061288	0.084431	8168.978	0.997798	-0.17623	0.229984	7.652532	-45.6053	75.20406	1028.542	22.62031	
########	7.372268	88.67873	136.636	23675.85	20.5216	26012.96	16.27516	16.90843	1109.788	1.010421	-0.19338	0.190427	7.623383	-43.6831	75.50183	1028.524	22.62876	
########	7.325753	88.39275	136.2109	24713.31	20.44952	27153.04	16.98924	17.64947	744.2661	1.010978	-0.19364	0.189815	7.636934	-44.4468	74.15761	1028.522	22.62915	
########	7.279237	88.10678	135.7857	25750.78	20.37744	28293.11	17.70333	18.39052	378.7437	1.011534	-0.19391	0.189202	7.650485	-45.2105	72.81339	1028.52	22.62953	
########	6.979312	84.26578	129.9014	25854.76	20.20852	28504.51	17.83102	18.52794	348.8524	1.011671	-0.19005	0.198113	7.619761	-43.432	73.76653	1028.554	22.63796	

APPENDIX E

Statistical Analyses

GROUNDWATER STATS CONSULTING

February 28, 2022

Resolute Environmental & Water Resources Consulting
Attn: Mr. Stephen Wilson
1003 Weatherstone Parkway, Ste. 320
Woodstock, GA 30188

Re: Plant McManus Ash Pond (AP)
Statistical Analysis - September 2021 Sampling Event

Dear Mr. Wilson,

Groundwater Stats Consulting, formerly the statistical consulting division of Sanitas Technologies, is pleased to provide the statistical analysis of groundwater data for the for the September 2021 sample event for Georgia Power Company's Plant McManus Ash Pond. The analysis complies with the federal rule for the Disposal of Coal Combustion Residuals (CCR) from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules (EPD) for Solid Waste Management Chapter 391-3-4-.10, and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

The groundwater monitoring well network consists of the following:

- **Upgradient Wells:** MCM-01, MCM-02, MCM-11, MCM-15, MCM-16, MCM-18, MCM-19, and MCM-20
- **Downgradient Wells:** MCM-04, MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, and MCM-17
- **Delineation Well:** DPZ-2

Note that upgradient wells MCM-18, MCM-19, and MCM-20 were installed late in 2019. Delineation well DPZ-2 is evaluated with confidence intervals for Appendix IV constituents with four or more samples. A minimum of 8 samples have been collected at each well and data from these wells are included in this analysis. For some constituents in these

upgradient wells such as arsenic, calcium, lead, and lithium, the concentrations are higher in comparison to other upgradient wells.

Data were sent electronically to Groundwater Stats Consulting, and the statistical analysis was reviewed by Kristina Rayner, Founder and Groundwater Statistician for Groundwater Stats Consulting.

The statistical analysis provided in this report was performed according to the background screening conducted by MacStat Consulting in April 2019. Interwell prediction limits, combined with a 1-of-2 resample plan, for Appendix III parameters were recommended as the primary statistical method.

The CCR program monitors the constituents listed below. The terms "parameters" and "constituents" are used interchangeably.

- **Appendix III** (Detection Monitoring) **-** boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- **Appendix IV** (Assessment Monitoring) **–** antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium

Note that when there are no detections present in downgradient wells for a given constituent, statistical analyses are not required. A list of Appendix IV downgradient and delineation well/constituent pairs with 100% non-detects follow this letter.

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. However, during this analysis, higher reporting limits resulted from laboratory dilution factors for antimony, cadmium, chromium, lead, molybdenum, and thallium. Therefore, the previous lower historical reporting limits were substituted for these constituents to maintain more conservative limits.

When concentrations exist higher in downgradient wells relative to observations reported upgradient of the facility, as seen in the majority of the Appendix III parameters, this may be reflective of natural variation or a result of practices at the facility. A separate study and hydrogeological investigation would be required to fully understand the geochemical conditions and expected groundwater quality for the region. That study and assessment is beyond the scope of services provided by Groundwater Stats Consulting.

Time series plots for Appendix III and IV parameters at all wells are provided for the purpose of screening data at these wells (Figure A). Additionally, a separate section of

box plots is included for all constituents at upgradient and downgradient wells (Figure B). The time series plots are used to initially screen for suspected outliers and trends, while the box plots provide visual representation of variation within individual wells and between all wells. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. As a result of the previous background screening, the following non-detect values were flagged due to elevated reporting limits: <0.025 mg/L for lead in upgradient well MCM-19; and <0.1 mg/L, <0.15 mg/L and <0.3 mg/L for lithium in upgradient well MCM-18. Additionally, a high value for combined radium 226 + 228 in upgradient well MCM-20 was flagged as an outlier as well as a high value for fluoride in downgradient well MCM-06. This step results in construction of background limits that are conservative from a regulatory perspective. A summary of flagged outliers follows this report (Figure C).

Based on the 2019 screening, data at all wells for constituents detected in downgradient wells were evaluated for the following: 1) outliers; 2) trends; 3) most appropriate statistical method based on site characteristics of groundwater data upgradient of the facility; and 4) eligibility of downgradient wells when intrawell statistical methods were recommended. Power curves were provided with the 2019 screening to demonstrate that the selected statistical methods for the parameters listed above comply with the USEPA Unified Guidance and the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10. The EPA suggests the selected statistical method should provide at least 55% power at 3 standard deviations or at least 80% power at 4 standard deviations.

Summary of Statistical Methods:

Based on the evaluation for state and federal regulatory requirements, the following methods were selected for Appendix III and IV constituents:

- Appendix III: Interwell prediction limits, combined with a 1-of-2 resample plan for boron, calcium, chloride, fluoride, pH, sulfate, and TDS
- Appendix IV: Confidence intervals on downgradient well data compared against Groundwater Protection Standards (GWPS) for each detected Appendix IV constituent

The distribution of data is tested using the Shapiro-Wilk/Shapiro-Francia test for normality. Parametric prediction limits (or tolerance limits or confidence intervals as applicable) 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 non-detects, a nonparametric test is utilized. While the false positive rate associated with the

parametric limits is based on an annual 10% (5% per semi-annual event) as recommended by the EPA Unified Guidance (2009), the false positive rate associated with the nonparametric limits is dependent upon the available background sample size, number of future comparisons, and verification resample plan. The following approaches are used for handling non-detects (USEPA, 2009):

- No statistical analyses are required on wells and analytes containing 100% non-detects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% non-detects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for non-detects is the most recent practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% non-detects, the Kaplan-Meier non-detect 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% non-detects.

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. While this was not required for this report, in some cases, deselecting the earlier portion of data may be necessary prior to construction of limits so that resulting statistical limits are conservative (lower) from a regulatory perspective and capable of rapidly detecting 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.

Statistical Analysis of Appendix III Parameters – September 2021

All Appendix III parameters were analyzed using interwell prediction limits. Background (upgradient) well data were re-assessed for potential outliers during this analysis. Values in background which have been flagged as outliers may be seen in a lighter font and as a disconnected symbol on the graphs. No new values were flagged for Appendix III parameters in upgradient wells and a summary of flagged outliers follows this report (Figure C).

Interwell prediction limits, combined with a 1-of-2 resample plan, were constructed using all historical upgradient well data through September 2021 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The September 2021 sample from each downgradient well is compared to the background limit to determine whether initial exceedances are present.

In the event of an initial exceedance of compliance well data, the 1-of-2 resample plan allows for collection of one additional sample to determine whether the initial exceedance is confirmed. When a resample confirms the initial exceedance, a statistically significant increase is identified and further research would be required to identify the cause of the exceedance (i.e. impact from the site, natural variation, or an off-site source). If the resample falls within the statistical limit, the initial exceedance is considered to be a false positive result and, therefore, no exceedance is noted and no further action is necessary. If no resample is collected, the original result is considered a confirmed exceedance. 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:

- Boron: MCM-07, MCM-12, and MCM-17
- Calcium: MCM-06, MCM-07, and MCM-17
- pH: MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, and MCM-17

When prediction limit exceedances are identified in downgradient wells, data are further evaluated using the Sen's Slope/Mann Kendall trend test to determine whether concentrations are statistically increasing, decreasing, or stable (Figure E), Upgradient well data are included in the trend analyses for all parameters found to exceed their prediction limit in downgradient wells to identify whether similar patterns exist upgradient of the site. Upgradient trends are an indication of natural variability in groundwater quality unrelated to practices at the site. A summary of trend test results follows this letter including a list of statistically significant trends. Statistically significant trends were identified for the following well/constituent pairs:

Increasing:

- Boron: MCM-07
- Calcium: MCM-07

Decreasing:

- Calcium: MCM-18 (upgradient) and MCM-20 (upgradient)
- pH: MCM-05, MCM-06, MCM-07, MCM-12, and MCM-14

Statistical Analysis of Appendix IV Parameters – September 2021

For Appendix IV parameters, confidence intervals for each downgradient well/constituent pair were compared against corresponding Groundwater Protection Standards (GWPS). GWPS were developed as described below. Downgradient and delineation well/constituent pairs containing 100% non-detects do not require analysis. Data from upgradient wells for Appendix IV parameters are reassessed for outliers during each analysis. No new values were flagged as outliers. A summary of all previously flagged outliers follows this report (Figure C).

Interwell Upper Tolerance Limits

First, interwell tolerance limits were used to calculate site-specific background limits from all available pooled upgradient well data through September 2021 for Appendix IV constituents (Figure F). Parametric tolerance limits are used when data follow a normal or transformed-normal distribution. When data contained greater than 50% non-detects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used.

Groundwater Protection Standards

The background limits were then used when determining the groundwater protection standard (GWPS) under 40 CFR §257.95(h) and Georgia EPD Rule 391-3-4-.10(6)(a).

As described in 40 CFR §257.95(h) (1-3), the Federal GWPS is:

- The maximum contaminant level (MCL) established under §141.62 and §141.66 of this title
- Where an MCL has not been established for a constituent, CCR-rule specified level have been specified for cobalt (0.006 mg/L), lead (0.015 mg/L), lithium (0.040 mg/L), and molybdenum (0.100 mg/L)
- The respective background level for a constituent when the background level is higher than the MCL or Federal CCR Rule identified GWPS

On July 30, 2018, USEPA revised the Federal CCR rule updating GWPS for cobalt, lead, lithium, and molybdenum as described above in 40 CFR §257.95(h)(2). Georgia EPD has not incorporated the updated GWPS into the current Georgia EPD Rules for Solid Waste Management 391-3-4-.10(6)(a); therefore, for sites regulated under Georgia EPD Rules, the State GWPS is:

- The MCL or
- The background concentration when an MCL is not established or when the background concentration is higher than the MCL.

Following Georgia EPD Rule requirements and the Federal CCR requirements, Federal and State GWPS were established for statistical comparison of Appendix IV constituents for the September 2021 sample event (Figure G).

Confidence Intervals

To complete the statistical comparison of downgradient well data to GWPS, confidence intervals were constructed for the Appendix IV constituents in each downgradient and delineation well using all available data through September 2021. Note that confidence intervals require a minimum of 4 samples and, in many cases, delineation well DPZ-2 had insufficient samples at this time. The Sanitas software was used to calculate both the tolerance limits and the confidence intervals. For Federal requirements, confidence intervals were compared to the GWPS prepared according to the CCR Rule (Figure H). For the State requirements, confidence intervals were compared to the GWPS established using the Georgia EPD Rules 391-3-4-.10(6)(a) (Figure I). The background limit for combined radium 226 + 228 is considerably higher than the MCL due to high concentrations in upgradient wells, such as those observed in upgradient well MCM-20. These concentrations are assumed to represent natural groundwater quality since the reported measurements are in upgradient wells; however, this determination is beyond the scope of this analysis.

Only when the entire confidence interval is above a GWPS is the downgradient well/constituent pair considered to exceed its respective standard. If there is an exceedance of the GWPS, a statistically significant level (SSL) exceedance is identified. Summaries of both the Federal and State confidence intervals follow this letter and exceedances were identified for the following well/constituent pairs:

Federal:

- Arsenic: MCM-06
- Lithium: DPZ-2 and MCM-06

State:

- Arsenic: MCM-06
- Lithium: DPZ-2, MCM-06, and MCM-14

Trend Test Evaluation – Appendix IV

The Sen's Slope/Mann Kendall trend test was conducted to determine whether concentrations are statistically increasing, decreasing, or stable (Figure J). Upgradient wells are included in the trend analyses to identify whether similar patterns exist upgradient of the site for the same constituents. When trends are present in upgradient trends, it is an indication of natural variability in groundwater quality unrelated to practices at the site. Note delineation well DPZ-2 has insufficient samples at this time for meaningful results using the Sen's Slope/Mann Kendall trend test with 99% confidence. A summary of the Appendix IV trend test results follows this letter and no statistically significant trends were identified.

Thank you for the opportunity to assist you in the statistical analysis of groundwater quality for the Plant McManus Ash Pond. If you have any questions or comments, please feel free to contact us.

For Groundwater Stats Consulting,

Andrew Collins
Project Manager

Kristina L. Rayner
Groundwater Statistician

100% Non-Detects: Appendix IV Downgradient & Delineation

Analysis Run 12/29/2021 3:18 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Antimony (mg/L)
DPZ-2, MCM-04, MCM-05, MCM-07, MCM-12

Beryllium (mg/L)
DPZ-2, MCM-06

Cadmium (mg/L)
DPZ-2, MCM-04, MCM-05, MCM-06, MCM-07, MCM-12, MCM-14

Chromium (mg/L)
DPZ-2

Cobalt (mg/L)
DPZ-2

Lead (mg/L)
DPZ-2, MCM-04

Mercury (mg/L)
DPZ-2, MCM-12

Molybdenum (mg/L)
DPZ-2, MCM-04, MCM-07, MCM-12, MCM-14

Selenium (mg/L)
DPZ-2

Thallium (mg/L)
DPZ-2, MCM-04, MCM-05, MCM-07, MCM-12, MCM-14

Appendix III Interwell Prediction Limits - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/1/2021, 11:29 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**MCM-07**	**1.3**	**n/a**	**9/14/2021**	**1.5**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**MCM-12**	**1.3**	**n/a**	**9/13/2021**	**1.4**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**MCM-17**	**1.3**	**n/a**	**9/14/2021**	**2.1**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-06**	**169**	**n/a**	**9/14/2021**	**299**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-07**	**169**	**n/a**	**9/14/2021**	**225**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-17**	**169**	**n/a**	**9/14/2021**	**190**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-05**	**5.81**	**3.36**	**9/14/2021**	**6.67**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-06**	**5.81**	**3.36**	**9/14/2021**	**6.94**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-07**	**5.81**	**3.36**	**9/14/2021**	**6.28**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-12**	**5.81**	**3.36**	**9/13/2021**	**6.24**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-14**	**5.81**	**3.36**	**9/13/2021**	**6.3**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-17**	**5.81**	**3.36**	**9/14/2021**	**6.77**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**

Appendix III Interwell Prediction Limits - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/1/2021, 11:29 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MCM-04	1.3	n/a	9/14/2021	0.07J	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-05	1.3	n/a	9/14/2021	0.95J	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-06	1.3	n/a	9/14/2021	1.1	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	**MCM-07**	**1.3**	**n/a**	**9/14/2021**	**1.5**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**MCM-12**	**1.3**	**n/a**	**9/13/2021**	**1.4**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	MCM-14	1.3	n/a	9/13/2021	1.2	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	**MCM-17**	**1.3**	**n/a**	**9/14/2021**	**2.1**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MCM-04	169	n/a	9/14/2021	12.5	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	9/14/2021	13.9	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MCM-06**	**169**	**n/a**	**9/14/2021**	**299**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-07**	**169**	**n/a**	**9/14/2021**	**225**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MCM-12	169	n/a	9/13/2021	6	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	9/13/2021	165	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MCM-17**	**169**	**n/a**	**9/14/2021**	**190**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	MCM-04	8130	n/a	9/14/2021	28.5	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	9/14/2021	3940	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-06	8130	n/a	9/14/2021	5360	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-07	8130	n/a	9/14/2021	6300	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-12	8130	n/a	9/13/2021	433	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-14	8130	n/a	9/13/2021	5010	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-17	8130	n/a	9/14/2021	4090	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-04	1.5	n/a	9/14/2021	0.05	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-06	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-07	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-12	1.5	n/a	9/13/2021	1.4	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-14	1.5	n/a	9/13/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-17	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
pH, field (Std. Units)	MCM-04	5.81	3.36	9/14/2021	5.09	No	110	0	n/a	0.0003284	NP Inter (normality) 1 of 2
pH, field (Std. Units)	**MCM-05**	**5.81**	**3.36**	**9/14/2021**	**6.67**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-06**	**5.81**	**3.36**	**9/14/2021**	**6.94**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-07**	**5.81**	**3.36**	**9/14/2021**	**6.28**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-12**	**5.81**	**3.36**	**9/13/2021**	**6.24**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-14**	**5.81**	**3.36**	**9/13/2021**	**6.3**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-17**	**5.81**	**3.36**	**9/14/2021**	**6.77**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	MCM-04	1140	n/a	9/14/2021	96.2	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	9/14/2021	459	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-06	1140	n/a	9/14/2021	490	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-07	1140	n/a	9/14/2021	819	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-12	1140	n/a	9/13/2021	0.5ND	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-14	1140	n/a	9/13/2021	680	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-17	1140	n/a	9/14/2021	460	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-04	14600	n/a	9/14/2021	193	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-05	14600	n/a	9/14/2021	8020	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-06	14600	n/a	9/14/2021	11800	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-07	14600	n/a	9/14/2021	13400	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-12	14600	n/a	9/13/2021	1450	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-14	14600	n/a	9/13/2021	11400	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-17	14600	n/a	9/14/2021	8820	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2

Appendix III Trend Tests - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/30/2021, 10:06 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**MCM-07**	**0.1515**	**64**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MCM-07**	**35.39**	**70**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MCM-18 (bg)**	**-19.45**	**-52**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MCM-20 (bg)**	**-47.21**	**-46**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-05**	**-0.06323**	**-73**	**-63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-06**	**-0.07919**	**-57**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-07**	**-0.07594**	**-64**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-12**	**-0.05115**	**-56**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-14**	**-0.1384**	**-101**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/30/2021, 10:06 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-01 (bg)	0.005268	29	48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-02 (bg)	-0.01422	-18	-48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	**MCM-07**	**0.1515**	**64**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	MCM-11 (bg)	0.004391	25	48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-12	0.0235	20	48	No	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-15 (bg)	0.007968	39	48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-16 (bg)	-0.005194	-22	-48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-17	-0.04304	-18	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-18 (bg)	-0.02454	-24	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-19 (bg)	0.1284	14	38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-20 (bg)	0	-1	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-01 (bg)	0.2793	5	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-02 (bg)	-0.2586	-42	-48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-06	44.92	51	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MCM-07**	**35.39**	**70**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	MCM-11 (bg)	-1.659	-41	-48	No	14	7.143	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-15 (bg)	0.1417	10	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-16 (bg)	0.2144	23	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-17	16.77	53	58	No	16	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MCM-18 (bg)**	**-19.45**	**-52**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	MCM-19 (bg)	-30.87	-37	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MCM-20 (bg)**	**-47.21**	**-46**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	MCM-01 (bg)	0.03493	24	58	No	16	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-02 (bg)	0.01474	34	58	No	16	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	**MCM-05**	**-0.06323**	**-73**	**-63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-06**	**-0.07919**	**-57**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-07**	**-0.07594**	**-64**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	MCM-11 (bg)	-0.05853	-45	-53	No	15	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	**MCM-12**	**-0.05115**	**-56**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-14**	**-0.1384**	**-101**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	MCM-15 (bg)	-0.07157	-27	-53	No	15	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-16 (bg)	0.01093	5	53	No	15	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-17	-0.09795	-47	-58	No	16	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-18 (bg)	0.1318	32	34	No	11	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-19 (bg)	-0.04282	-8	-34	No	11	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-20 (bg)	-0.1177	-30	-34	No	11	0	n/a	n/a	0.01	NP

Upper Tolerance Limits Summary Table

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/2/2021, 2:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	n/a	n/a	91	n/a	n/a	94.51	n/a	n/a	0.009394	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.031	n/a	n/a	n/a	110	n/a	n/a	14.55	n/a	n/a	0.003545	NP Inter(normality)
Barium (mg/L)	n/a	0.22	n/a	n/a	n/a	107	n/a	n/a	0	n/a	n/a	0.004135	NP Inter(normality)
Beryllium (mg/L)	n/a	0.021	n/a	n/a	n/a	106	n/a	n/a	26.42	n/a	n/a	0.004352	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	n/a	n/a	n/a	85	n/a	n/a	92.94	n/a	n/a	0.01278	NP Inter(NDs)
Chromium (mg/L)	n/a	0.011	n/a	n/a	n/a	91	n/a	n/a	49.45	n/a	n/a	0.009394	NP Inter(normality)
Cobalt (mg/L)	n/a	0.036	n/a	n/a	n/a	106	n/a	n/a	76.42	n/a	n/a	0.004352	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	55.8	n/a	n/a	n/a	105	n/a	n/a	0	n/a	n/a	0.004581	NP Inter(normality)
Fluoride (mg/L)	n/a	1.5	n/a	n/a	n/a	111	n/a	n/a	45.95	n/a	n/a	0.003368	NP Inter(normality)
Lead (mg/L)	n/a	0.005	n/a	n/a	n/a	106	n/a	n/a	82.08	n/a	n/a	0.004352	NP Inter(NDs)
Lithium (mg/L)	n/a	0.026	n/a	n/a	n/a	103	n/a	n/a	55.34	n/a	n/a	0.005076	NP Inter(NDs)
Mercury (mg/L)	n/a	0.0007	n/a	n/a	n/a	85	n/a	n/a	94.12	n/a	n/a	0.01278	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.01	n/a	n/a	n/a	90	n/a	n/a	92.22	n/a	n/a	0.009888	NP Inter(NDs)
Selenium (mg/L)	n/a	0.15	n/a	n/a	n/a	107	n/a	n/a	60.75	n/a	n/a	0.004135	NP Inter(NDs)
Thallium (mg/L)	n/a	0.002	n/a	n/a	n/a	90	n/a	n/a	92.22	n/a	n/a	0.009888	NP Inter(NDs)

MCMANUS ASH POND GWPS					
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal GWPS**	**State GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006	0.006
Arsenic, Total (mg/L)	0.01		0.031	0.031	0.031
Barium, Total (mg/L)	2		0.22	2	2
Beryllium, Total (mg/L)	0.004		0.021	0.021	0.021
Cadmium, Total (mg/L)	0.005		0.0025	0.005	0.005
Chromium, Total (mg/L)	0.1		0.011	0.1	0.1
Cobalt, Total (mg/L)		0.006	0.036	0.036	0.036
Combined Radium, Total (pCi/L)	5		55.8	55.8	55.8
Fluoride, Total (mg/L)	4		1.5	4	4
Lead, Total (mg/L)		0.015	0.005	0.015	0.005
Lithium, Total (mg/L)		0.04	0.026	0.04	0.026
Mercury, Total (mg/L)	0.002		0.0007	0.002	0.002
Molybdenum, Total (mg/L)		0.1	0.01	0.1	0.01
Selenium, Total (mg/L)	0.05		0.15	0.15	0.15
Thallium, Total (mg/L)	0.002		0.001	0.002	0.002

**Grey cell indicates Background Limit is higher than MCL or CCR-Rule Specified Level*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

Federal Confidence Intervals - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.04**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.04**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MCM-06	0.003	0.00098	0.006	No	13	0.002675	0.0007709	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-14	0.003	0.0004	0.006	No	12	0.002783	0.0007506	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-17	0.003	0.00078	0.006	No	12	0.002815	0.0006409	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DPZ-2	0.0249	0.0151	0.031	No	4	0.0225	0.005447	25	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-04	0.008019	0.002934	0.031	No	15	0.0058	0.004243	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.002	0.031	No	17	0.01725	0.01344	17.65	None	No	0.01	NP (normality)
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	MCM-07	0.0214	0.01122	0.031	No	17	0.01631	0.008125	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.03	0.001	0.031	No	14	0.0159	0.01468	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.03	0.0014	0.031	No	14	0.01651	0.0141	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.03	0.0017	0.031	No	15	0.01376	0.0138	40	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09086	0.03286	2	No	14	0.07307	0.0749	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.04502	0.009496	2	No	15	0.05122	0.1122	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	15	0.1079	0.05641	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.2056	0.1016	2	No	14	0.1644	0.09816	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-12	0.1285	0.1062	2	No	14	0.1174	0.01579	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1285	0.05361	2	No	14	0.09108	0.0529	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1388	0.06144	2	No	14	0.1001	0.05463	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.00021	0.021	No	14	0.001272	0.001345	35.71	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No	15	0.002804	0.0007607	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.00012	0.021	No	14	0.002377	0.001239	78.57	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001236	0.0004659	0.021	No	14	0.0009843	0.0008851	14.29	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No	14	0.001968	0.001438	64.29	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No	14	0.001231	0.001369	35.71	None	No	0.01	NP (normality)
Cadmium (mg/L)	MCM-17	0.0025	0.0025	0.005	No	11	0.002281	0.0007257	90.91	None	No	0.006	NP (NDs)
Chromium (mg/L)	MCM-04	0.01	0.0012	0.1	No	12	0.005667	0.004533	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-05	0.01	0.00057	0.1	No	12	0.005453	0.004755	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-06	0.01	0.00085	0.1	No	13	0.00655	0.004546	61.54	None	No	0.01	NP (NDs)
Chromium (mg/L)	MCM-07	0.01	0.002	0.1	No	12	0.00485	0.00381	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-12	0.01	0.0047	0.1	No	12	0.00695	0.002356	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-14	0.01	0.00076	0.1	No	12	0.005106	0.004349	41.67	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-17	0.01305	0.007718	0.1	No	12	0.01104	0.003034	25	Kaplan-Meier	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.03	0.0054	0.036	No	15	0.01746	0.01221	46.67	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.03	0.0019	0.036	No	15	0.02813	0.007255	93.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.03	0.0009	0.036	No	15	0.02608	0.01035	86.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.03	0.0011	0.036	No	14	0.02794	0.007724	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.03	0.00053	0.036	No	14	0.01948	0.01464	64.29	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.03	0.0006	0.036	No	14	0.0279	0.007857	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.03	0.0007	0.036	No	14	0.02369	0.01254	78.57	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	5.96	3.112	55.8	No	14	4.634	2.256	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	3.042	1.387	55.8	No	15	2.441	1.741	0	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	8.58	1.94	55.8	No	14	5.409	3.319	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.615	5.621	55.8	No	15	7.618	2.946	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.092	2.128	55.8	No	14	2.61	0.6799	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.458	3.108	55.8	No	15	5.283	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	8.82	2.01	55.8	No	15	5.015	3.04	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-04	0.18	0.055	4	No	15	0.1375	0.1296	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5406	0.2639	4	No	17	0.4194	0.2322	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	15	0.1965	0.1497	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	16	0.2916	0.2926	43.75	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.296	0.9687	4	No	15	1.1	0.3249	6.667	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	16	0.2315	0.2003	56.25	None	No	0.01	NP (NDs)
Fluoride (mg/L)	MCM-17	1.2	0.1	4	No	16	0.5396	0.5124	37.5	None	No	0.01	NP (normality)

Federal Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No	15	0.00468	0.001239	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.015	No	15	0.004675	0.00126	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0002	0.015	No	14	0.003956	0.002075	78.57	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.0001	0.015	No	14	0.003605	0.00229	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.015	No	14	0.004649	0.001315	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.00027	0.015	No	14	0.003639	0.002233	71.43	None	No	0.01	NP (NDs)
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.04**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	MCM-04	0.006	0.0015	0.04	No	14	0.003986	0.002174	50	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.042	0.021	0.04	No	15	0.06487	0.14	0	None	No	0.01	NP (normality)
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.04**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MCM-07	0.05517	0.02018	0.04	No	15	0.04383	0.03675	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01198	0.009702	0.04	No	14	0.01061	0.002124	14.29	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-14	0.05038	0.03288	0.04	No	15	0.03619	0.01935	6.667	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02576	0.01317	0.04	No	14	0.01946	0.008888	7.143	None	No	0.01	Param.
Mercury (mg/L)	MCM-04	0.0002	0.0002	0.002	No	11	0.0002464	0.0001538	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-05	0.0002	0.0002	0.002	No	11	0.0001856	0.00004764	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-06	0.0002	0.00016	0.002	No	12	0.0001967	0.00001155	91.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	MCM-07	0.0002	0.0002	0.002	No	11	0.0002427	0.0001417	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-14	0.0002	0.0002	0.002	No	11	0.0002418	0.0001387	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-17	0.0002	0.0002	0.002	No	11	0.0002251	0.0001461	81.82	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	MCM-05	0.01	0.0099	0.1	No	12	0.009258	0.002538	83.33	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-06	0.01	0.0024	0.1	No	13	0.007562	0.003813	69.23	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-17	0.01	0.0019	0.1	No	12	0.009325	0.002338	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No	14	0.008777	0.003136	85.71	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No	15	0.00794	0.00354	73.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.002	0.15	No	15	0.0066	0.003726	46.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0023	0.15	No	14	0.006557	0.003675	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0019	0.15	No	14	0.005943	0.004219	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0019	0.15	No	14	0.006879	0.003864	57.14	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No	14	0.0063	0.003859	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	MCM-06	0.002	0.000076	0.002	No	13	0.001852	0.0005336	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	MCM-17	0.002	0.00014	0.002	No	12	0.001845	0.0005369	91.67	None	No	0.01	NP (NDs)

State Confidence Intervals - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.026**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.026**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MCM-14**	**0.05038**	**0.03288**	**0.026**	**Yes**	**15**	**0.03619**	**0.01935**	**6.667**	**None**	**x^3**	**0.01**	**Param.**

State Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MCM-06	0.003	0.00098	0.006	No	13	0.002675	0.0007709	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-14	0.003	0.0004	0.006	No	12	0.002783	0.0007506	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-17	0.003	0.00078	0.006	No	12	0.002815	0.0006409	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DPZ-2	0.0249	0.0151	0.031	No	4	0.0225	0.005447	25	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-04	0.008019	0.002934	0.031	No	15	0.0058	0.004243	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.002	0.031	No	17	0.01725	0.01344	17.65	None	No	0.01	NP (normality)
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	MCM-07	0.0214	0.01122	0.031	No	17	0.01631	0.008125	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.03	0.001	0.031	No	14	0.0159	0.01468	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.03	0.0014	0.031	No	14	0.01651	0.0141	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.03	0.0017	0.031	No	15	0.01376	0.0138	40	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09086	0.03286	2	No	14	0.07307	0.0749	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.04502	0.009496	2	No	15	0.05122	0.1122	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	15	0.1079	0.05641	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.2056	0.1016	2	No	14	0.1644	0.09816	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-12	0.1285	0.1062	2	No	14	0.1174	0.01579	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1285	0.05361	2	No	14	0.09108	0.0529	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1388	0.06144	2	No	14	0.1001	0.05463	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.00021	0.021	No	14	0.001272	0.001345	35.71	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No	15	0.002804	0.0007607	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.00012	0.021	No	14	0.002377	0.001239	78.57	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001236	0.0004659	0.021	No	14	0.0009843	0.0008851	14.29	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No	14	0.001968	0.001438	64.29	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No	14	0.001231	0.001369	35.71	None	No	0.01	NP (normality)
Cadmium (mg/L)	MCM-17	0.0025	0.0025	0.005	No	11	0.002281	0.0007257	90.91	None	No	0.006	NP (NDs)
Chromium (mg/L)	MCM-04	0.01	0.0012	0.1	No	12	0.005667	0.004533	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-05	0.01	0.00057	0.1	No	12	0.005453	0.004755	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-06	0.01	0.00085	0.1	No	13	0.00655	0.004546	61.54	None	No	0.01	NP (NDs)
Chromium (mg/L)	MCM-07	0.01	0.002	0.1	No	12	0.00485	0.00381	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-12	0.01	0.0047	0.1	No	12	0.00695	0.002356	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-14	0.01	0.00076	0.1	No	12	0.005106	0.004349	41.67	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-17	0.01305	0.007718	0.1	No	12	0.01104	0.003034	25	Kaplan-Meier	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.03	0.0054	0.036	No	15	0.01746	0.01221	46.67	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.03	0.0019	0.036	No	15	0.02813	0.007255	93.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.03	0.0009	0.036	No	15	0.02608	0.01035	86.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.03	0.0011	0.036	No	14	0.02794	0.007724	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.03	0.00053	0.036	No	14	0.01948	0.01464	64.29	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.03	0.0006	0.036	No	14	0.0279	0.007857	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.03	0.0007	0.036	No	14	0.02369	0.01254	78.57	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	5.96	3.112	55.8	No	14	4.634	2.256	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	3.042	1.387	55.8	No	15	2.441	1.741	0	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	8.58	1.94	55.8	No	14	5.409	3.319	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.615	5.621	55.8	No	15	7.618	2.946	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.092	2.128	55.8	No	14	2.61	0.6799	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.458	3.108	55.8	No	15	5.283	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	8.82	2.01	55.8	No	15	5.015	3.04	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-04	0.18	0.055	4	No	15	0.1375	0.1296	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5406	0.2639	4	No	17	0.4194	0.2322	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	15	0.1965	0.1497	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	16	0.2916	0.2926	43.75	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.296	0.9687	4	No	15	1.1	0.3249	6.667	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	16	0.2315	0.2003	56.25	None	No	0.01	NP (NDs)
Fluoride (mg/L)	MCM-17	1.2	0.1	4	No	16	0.5396	0.5124	37.5	None	No	0.01	NP (normality)

State Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No	15	0.00468	0.001239	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.005	No	15	0.004675	0.00126	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0002	0.005	No	14	0.003956	0.002075	78.57	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.0001	0.005	No	14	0.003605	0.00229	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.005	No	14	0.004649	0.001315	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.00027	0.005	No	14	0.003639	0.002233	71.43	None	No	0.01	NP (NDs)
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.026**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	MCM-04	0.006	0.0015	0.026	No	14	0.003986	0.002174	50	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.042	0.021	0.026	No	15	0.06487	0.14	0	None	No	0.01	NP (normality)
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.026**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MCM-07	0.05517	0.02018	0.026	No	15	0.04383	0.03675	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01198	0.009702	0.026	No	14	0.01061	0.002124	14.29	None	x^3	0.01	Param.
Lithium (mg/L)	**MCM-14**	**0.05038**	**0.03288**	**0.026**	**Yes**	**15**	**0.03619**	**0.01935**	**6.667**	**None**	**x^3**	**0.01**	**Param.**
Lithium (mg/L)	MCM-17	0.02576	0.01317	0.026	No	14	0.01946	0.008888	7.143	None	No	0.01	Param.
Mercury (mg/L)	MCM-04	0.0002	0.0002	0.002	No	11	0.0002464	0.0001538	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-05	0.0002	0.0002	0.002	No	11	0.0001856	0.00004764	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-06	0.0002	0.00016	0.002	No	12	0.0001967	0.00001155	91.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	MCM-07	0.0002	0.0002	0.002	No	11	0.0002427	0.0001417	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-14	0.0002	0.0002	0.002	No	11	0.0002418	0.0001387	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-17	0.0002	0.0002	0.002	No	11	0.0002251	0.0001461	81.82	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	MCM-05	0.01	0.0099	0.01	No	12	0.009258	0.002538	83.33	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-06	0.01	0.0024	0.01	No	13	0.007562	0.003813	69.23	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-17	0.01	0.0019	0.01	No	12	0.009325	0.002338	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No	14	0.008777	0.003136	85.71	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No	15	0.00794	0.00354	73.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.002	0.15	No	15	0.0066	0.003726	46.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0023	0.15	No	14	0.006557	0.003675	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0019	0.15	No	14	0.005943	0.004219	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0019	0.15	No	14	0.006879	0.003864	57.14	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No	14	0.0063	0.003859	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	MCM-06	0.002	0.000076	0.002	No	13	0.001852	0.0005336	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	MCM-17	0.002	0.00014	0.002	No	12	0.001845	0.0005369	91.67	None	No	0.01	NP (NDs)

Appendix IV Trend Tests - All Results (No Significant)

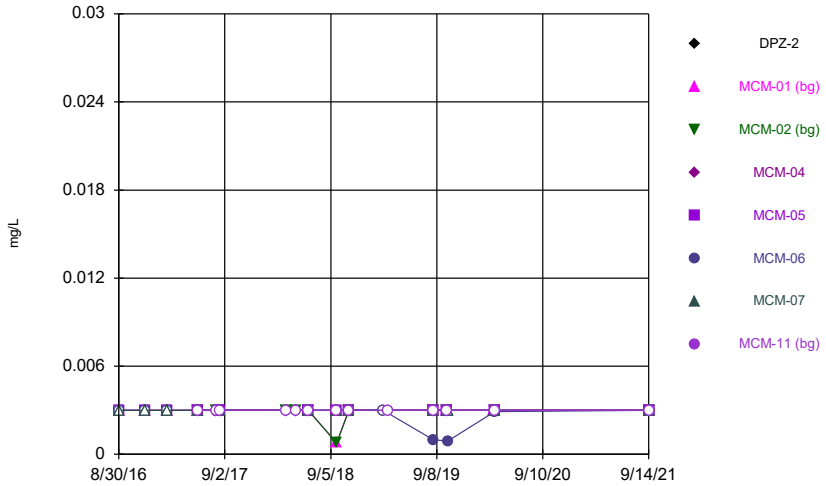
Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/2/2021, 2:27 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	MCM-01 (bg)	0.001171	42	53	No	15	6.667	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-02 (bg)	0	0	53	No	15	40	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-06	0.04091	53	68	No	18	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-11 (bg)	-0.00367	-56	-58	No	16	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-15 (bg)	0.0002099	14	48	No	14	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-16 (bg)	0	-1	-48	No	14	50	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-18 (bg)	-0.002162	-28	-38	No	12	16.67	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-19 (bg)	-0.0005531	-7	-38	No	12	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-20 (bg)	-0.005196	-12	-38	No	12	0	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-01 (bg)	0	1	48	No	14	92.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-02 (bg)	0	1	48	No	14	92.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-06	0.01364	49	53	No	15	0	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-11 (bg)	0	12	48	No	14	42.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-14	0.007102	40	53	No	15	6.667	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-15 (bg)	0	16	48	No	14	57.14	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-16 (bg)	0	1	48	No	14	92.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-18 (bg)	0.01173	12	25	No	9	44.44	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-19 (bg)	0	6	38	No	12	0	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-20 (bg)	-0.0009363	-8	-38	No	12	0	n/a	n/a	0.01	NP

FIGURE A.

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

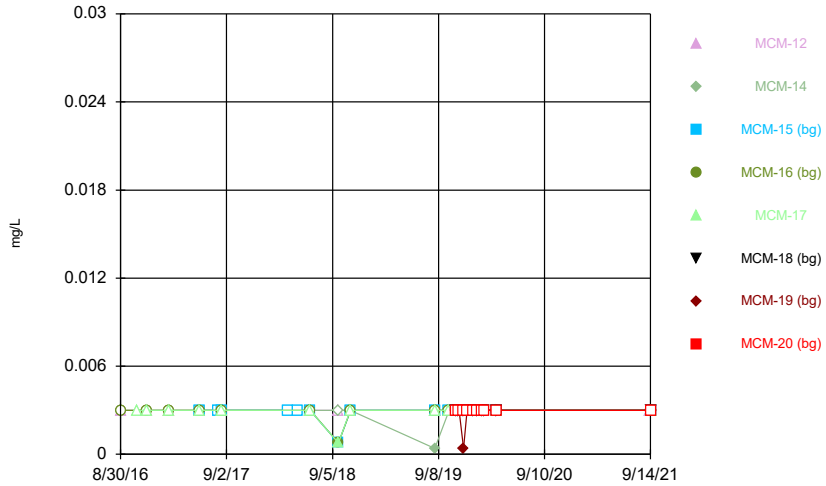
Time Series



Constituent: Antimony Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

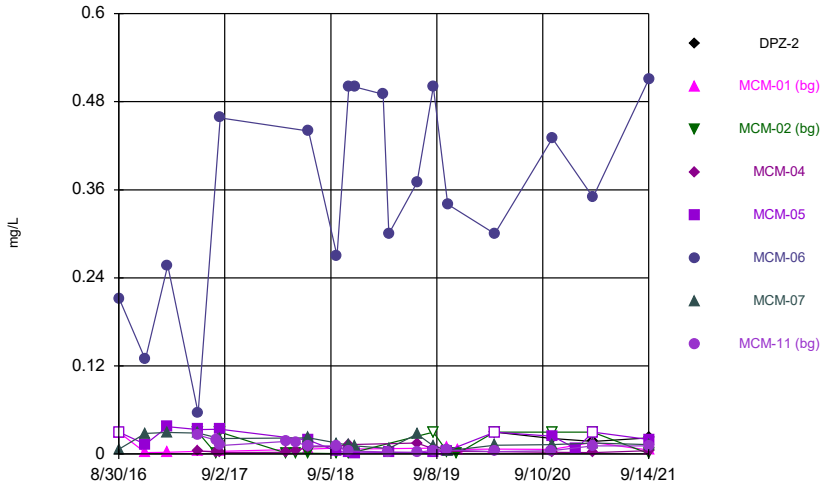
Time Series



Constituent: Antimony Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

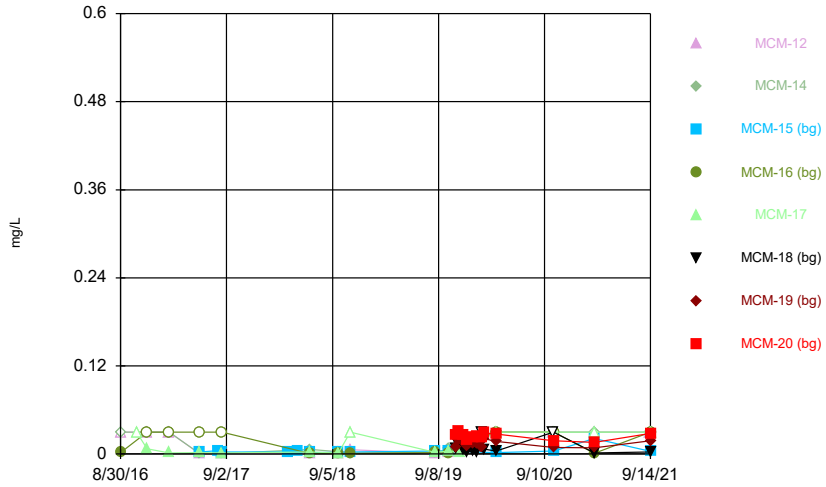
Time Series



Constituent: Arsenic Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

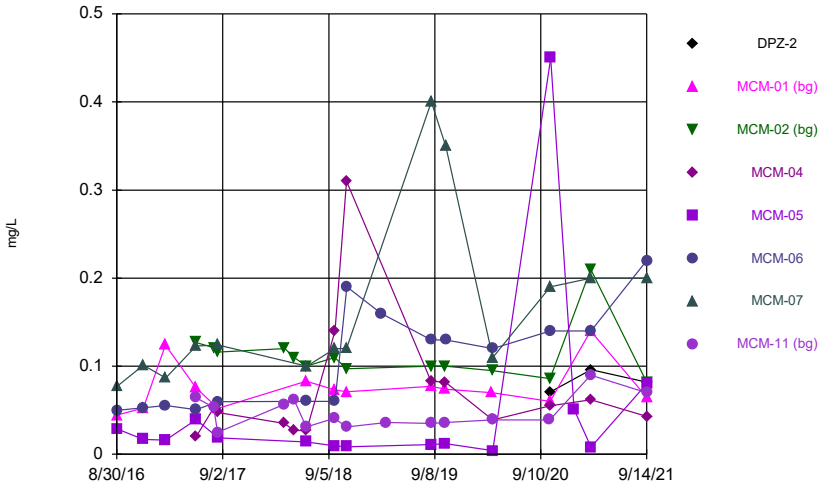
Time Series



Constituent: Arsenic Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series

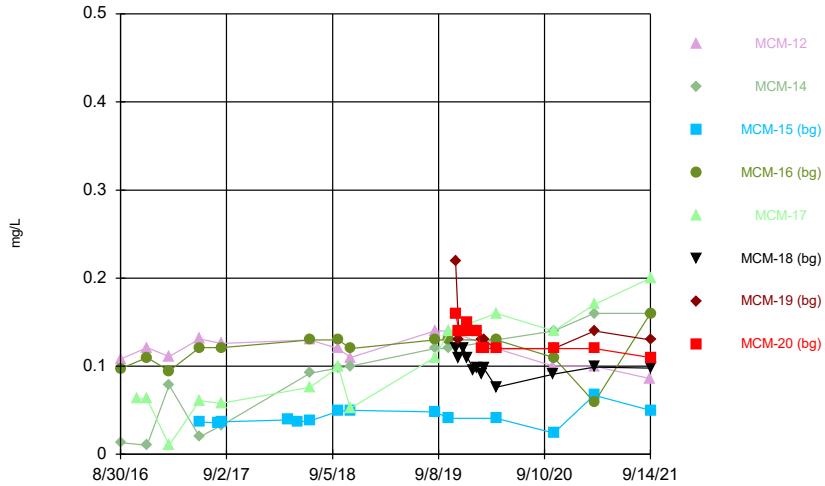


Constituent: Barium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series

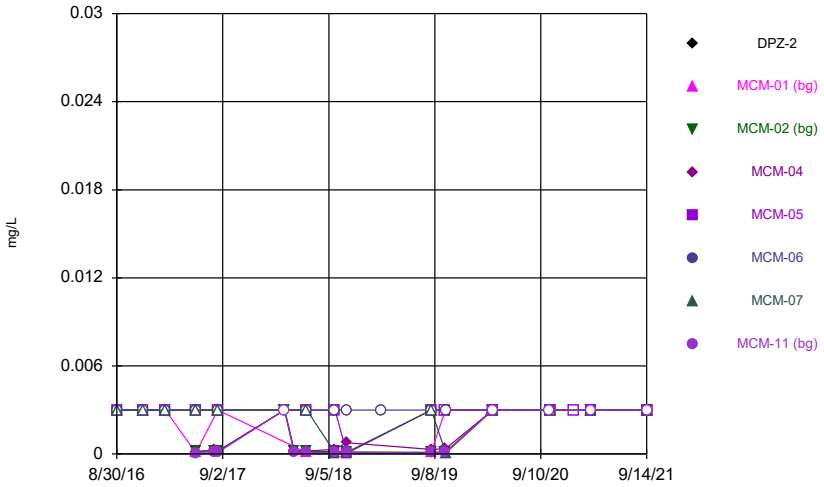


Constituent: Barium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

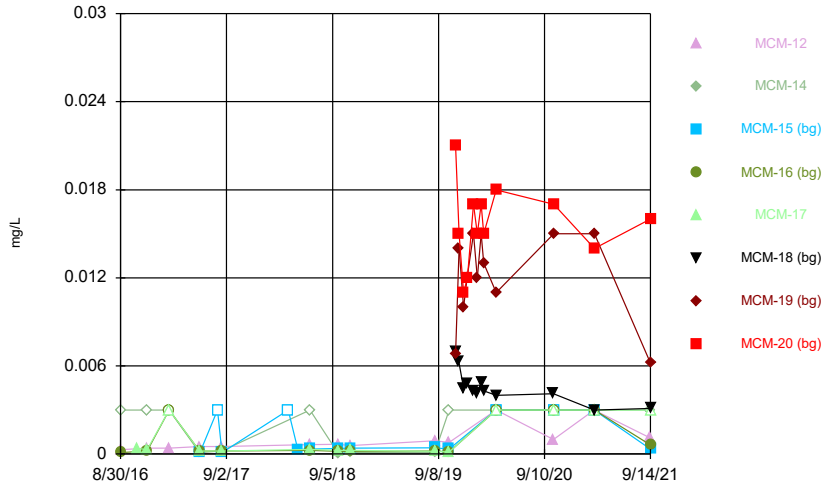


Constituent: Beryllium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

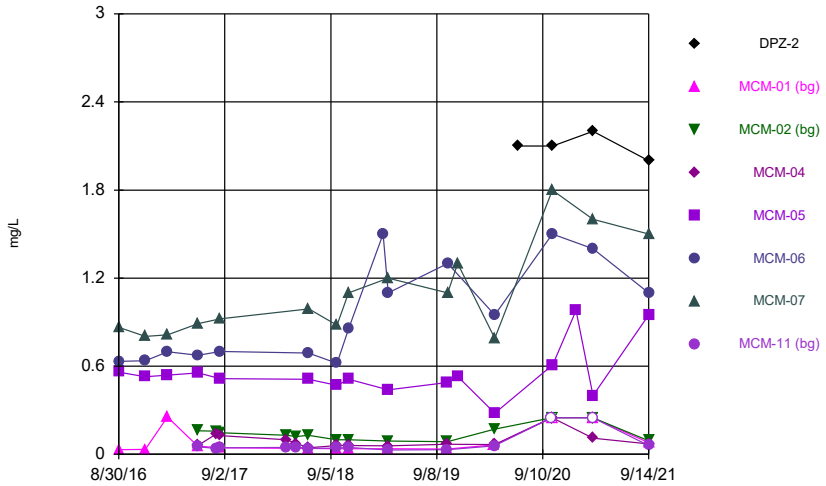


Constituent: Beryllium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

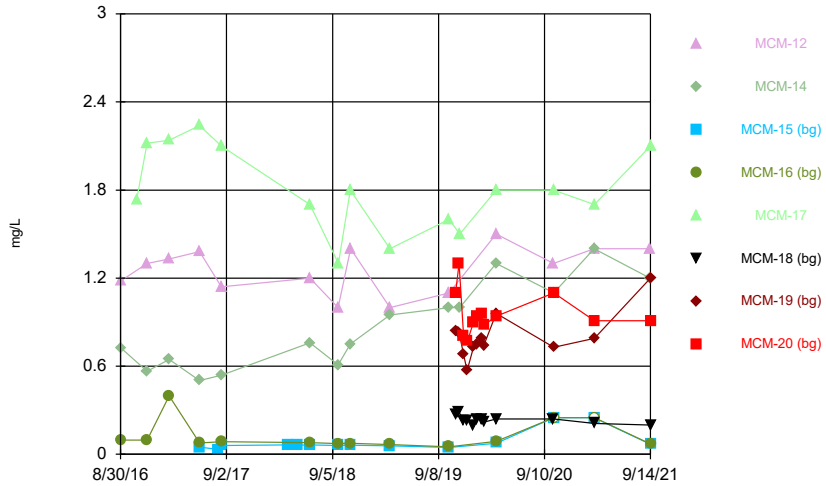
Time Series



Constituent: Boron Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

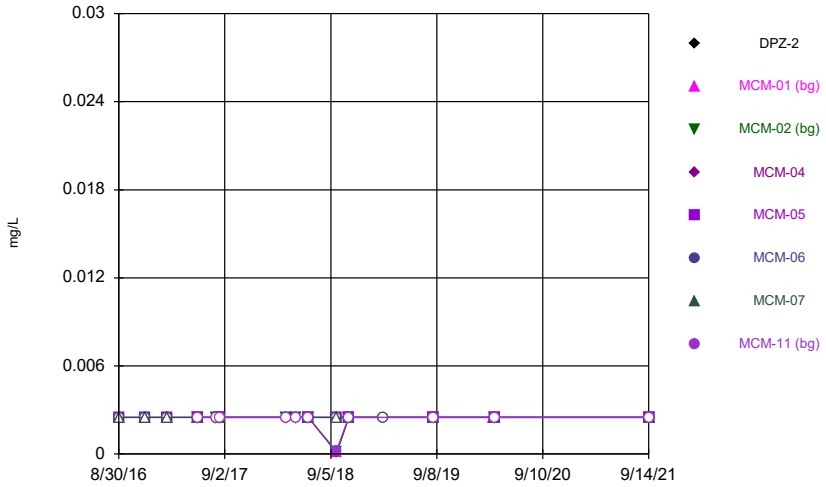
Time Series



Constituent: Boron Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

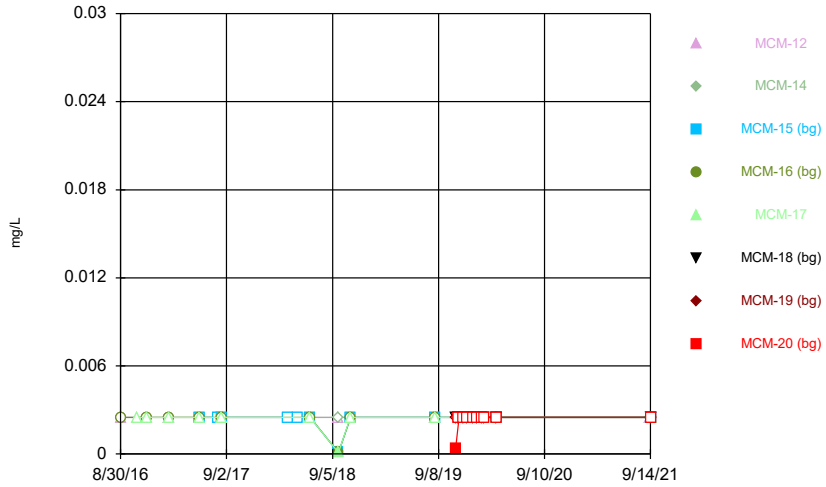
Time Series



Constituent: Cadmium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

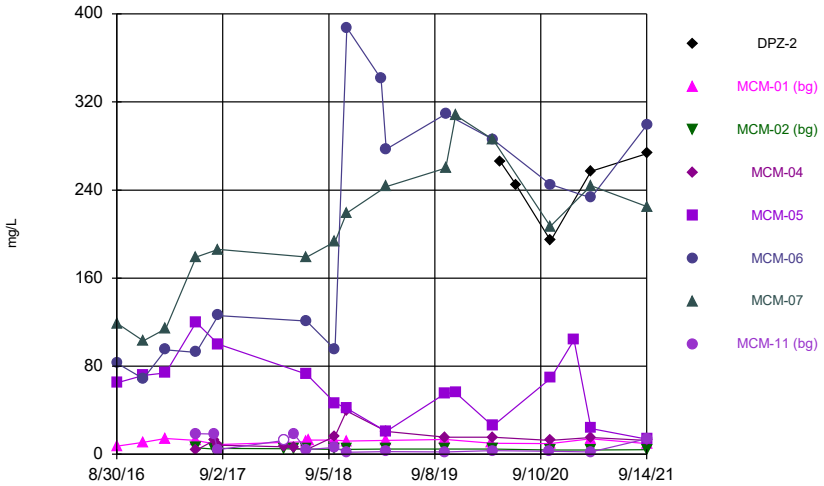
Time Series



Constituent: Cadmium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

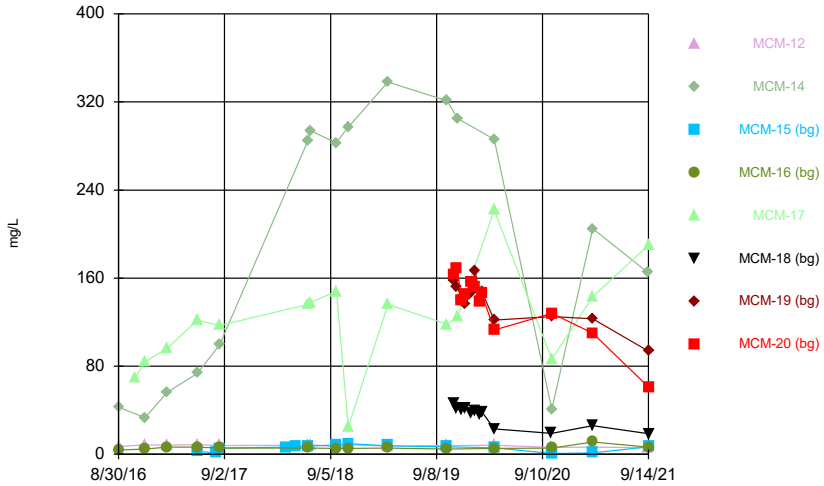
Time Series



Constituent: Calcium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

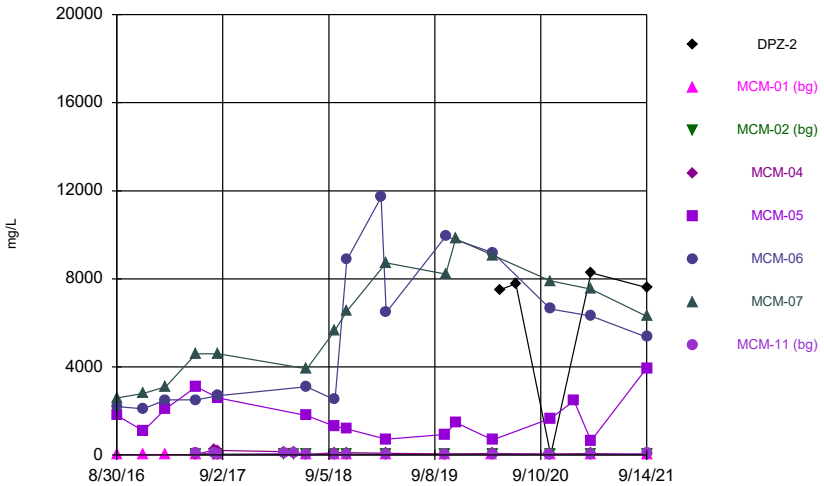
Time Series



Constituent: Calcium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

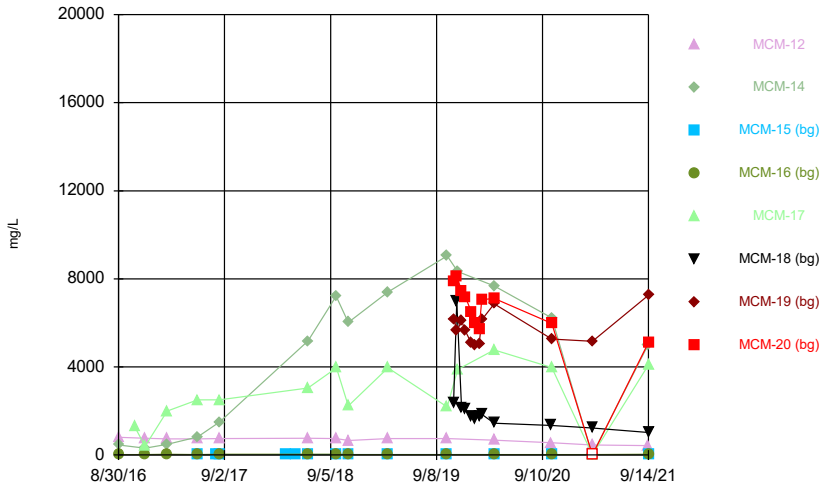
Time Series



Constituent: Chloride Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

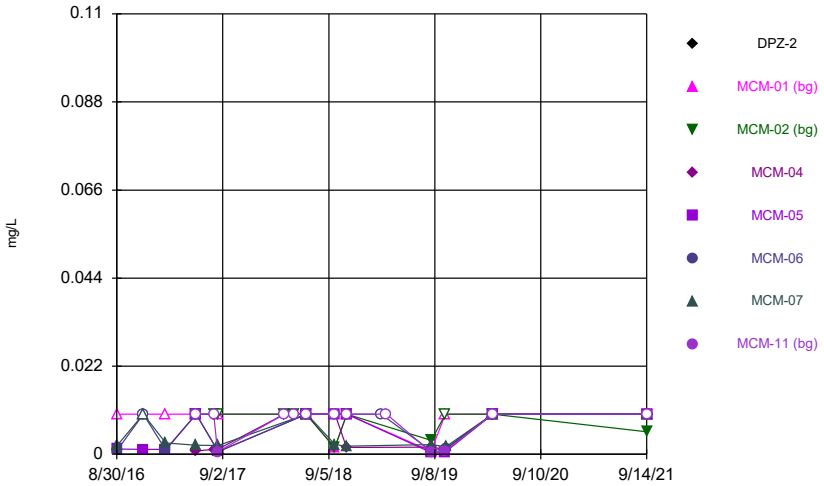
Time Series



Constituent: Chloride Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

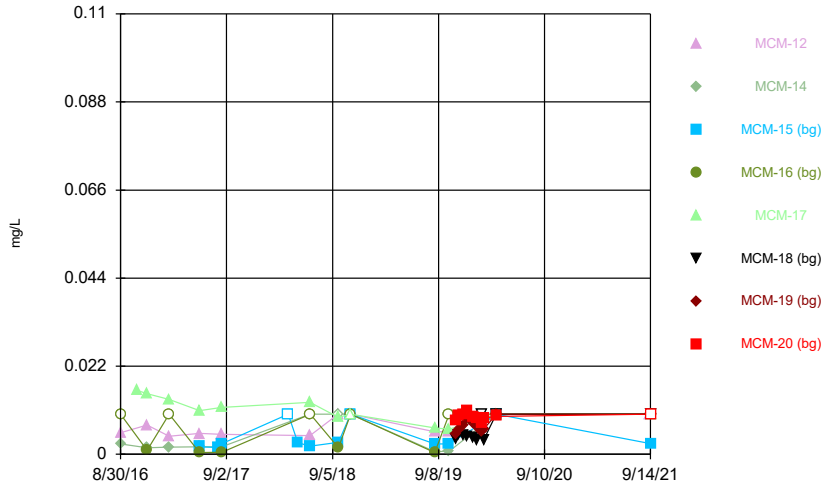
Time Series



Constituent: Chromium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

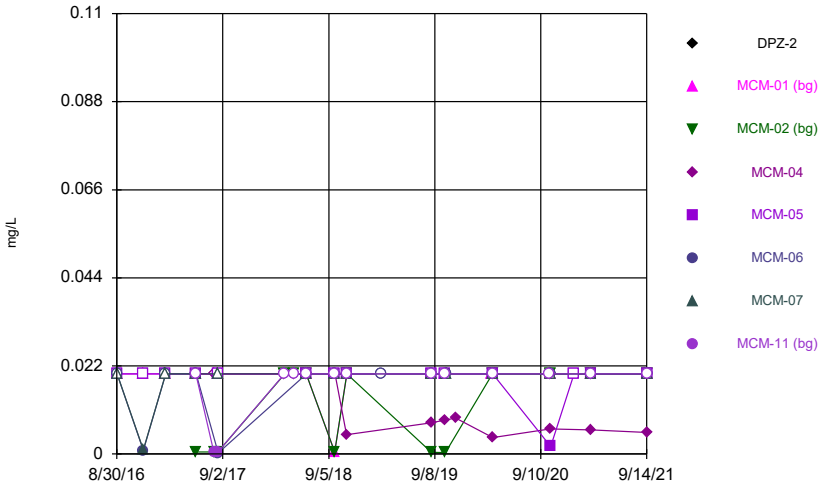
Time Series



Constituent: Chromium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

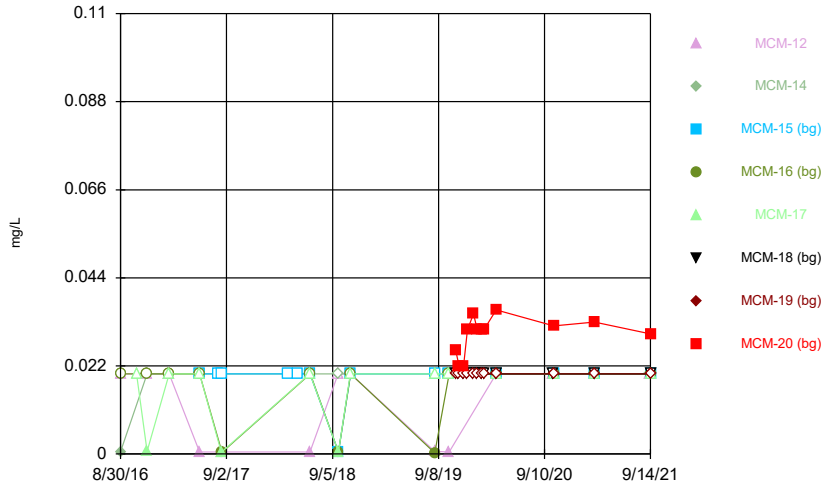
Time Series



Constituent: Cobalt Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

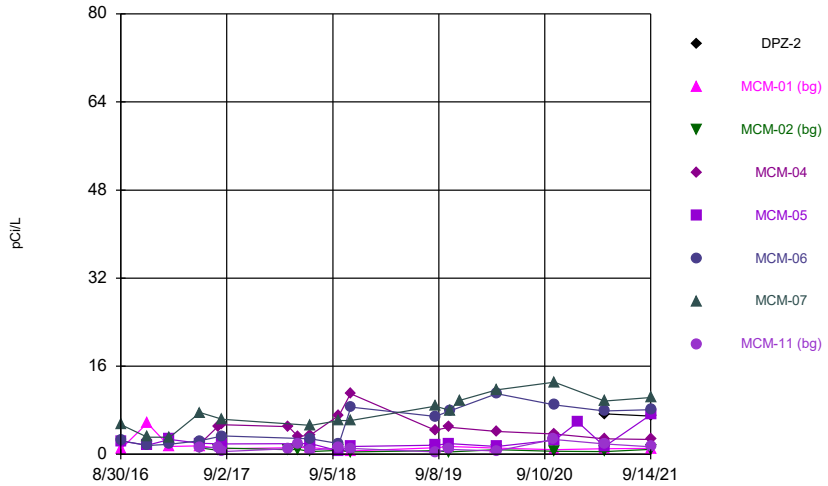
Time Series



Constituent: Cobalt Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series

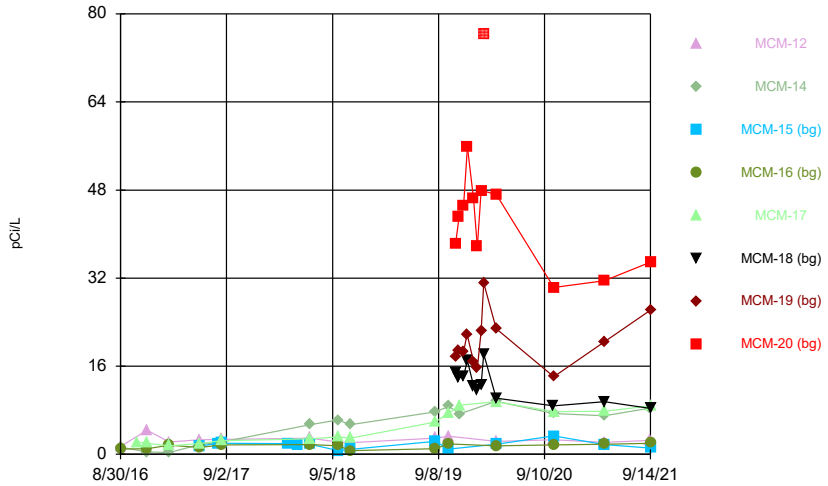


Constituent: Combined Radium 226 + 228 Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series

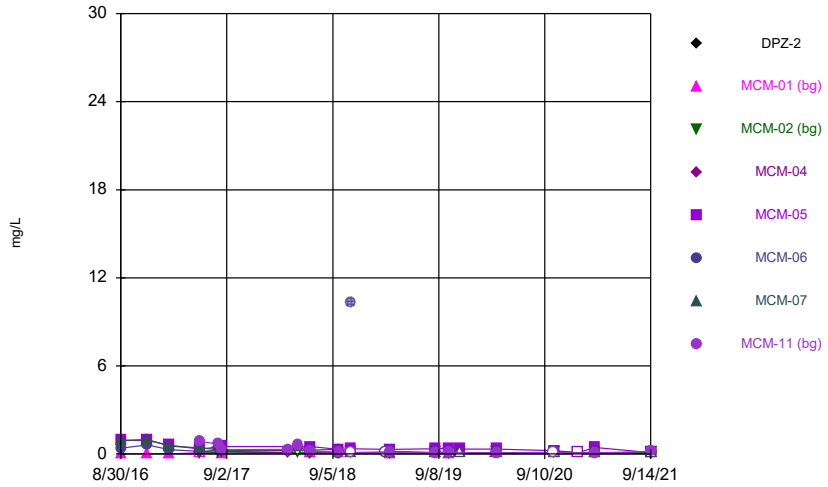


Constituent: Combined Radium 226 + 228 Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

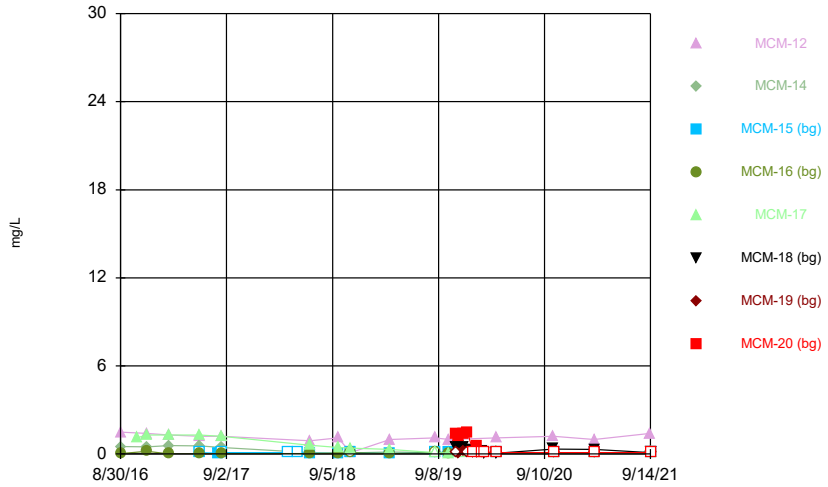


Constituent: Fluoride Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

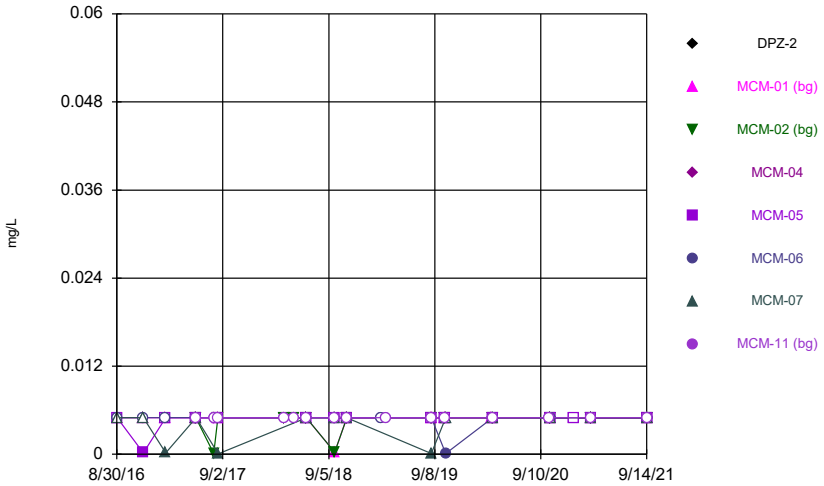


Constituent: Fluoride Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

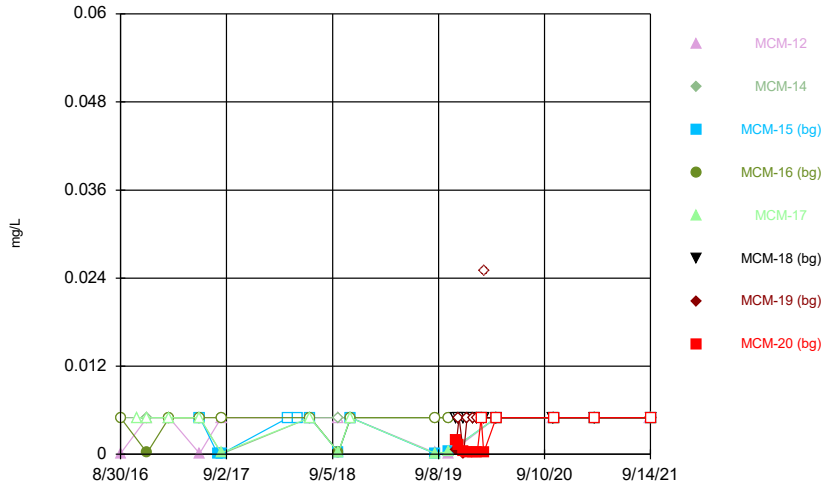
Time Series



Constituent: Lead Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

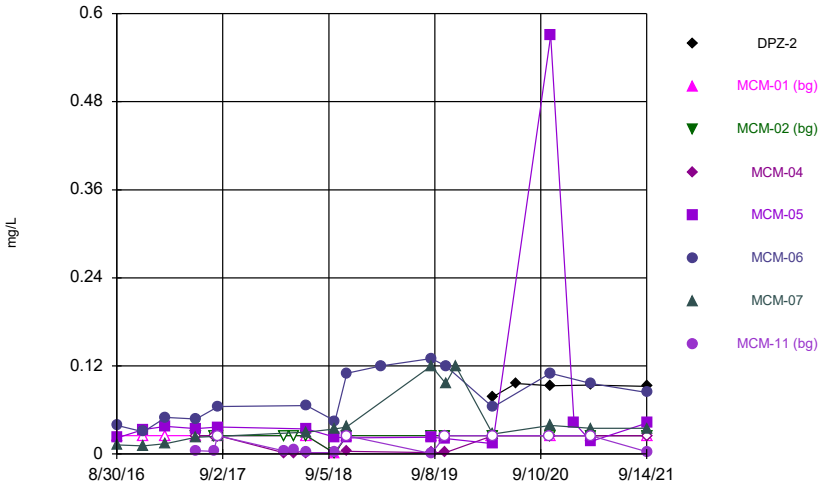
Time Series



Constituent: Lead Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

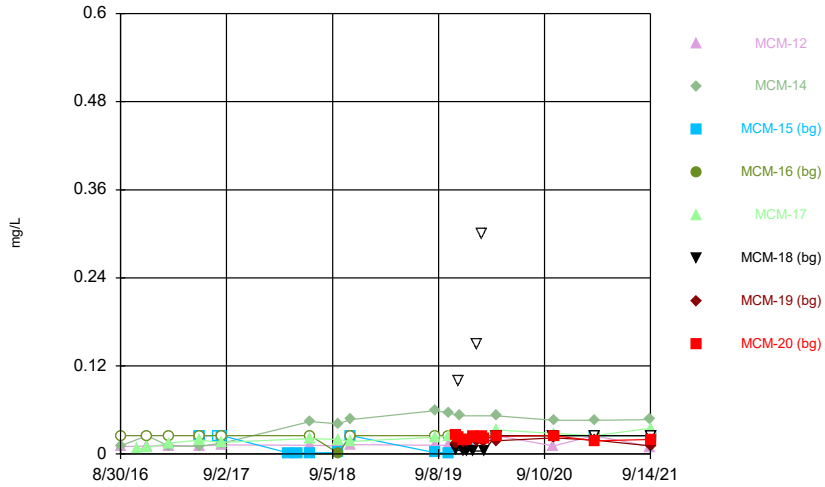
Time Series



Constituent: Lithium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

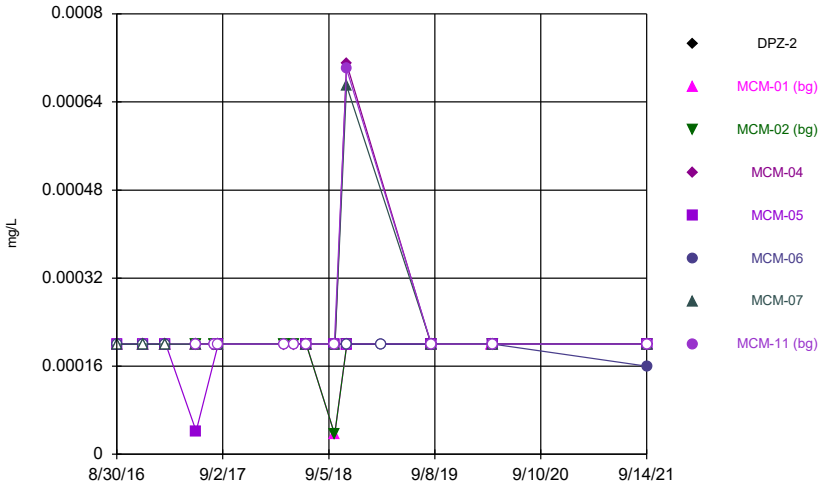
Time Series



Constituent: Lithium Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

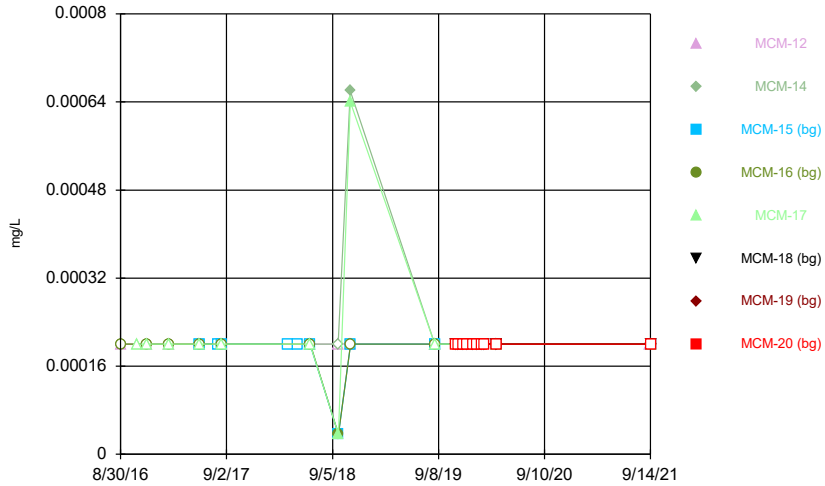
Time Series



Constituent: Mercury Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

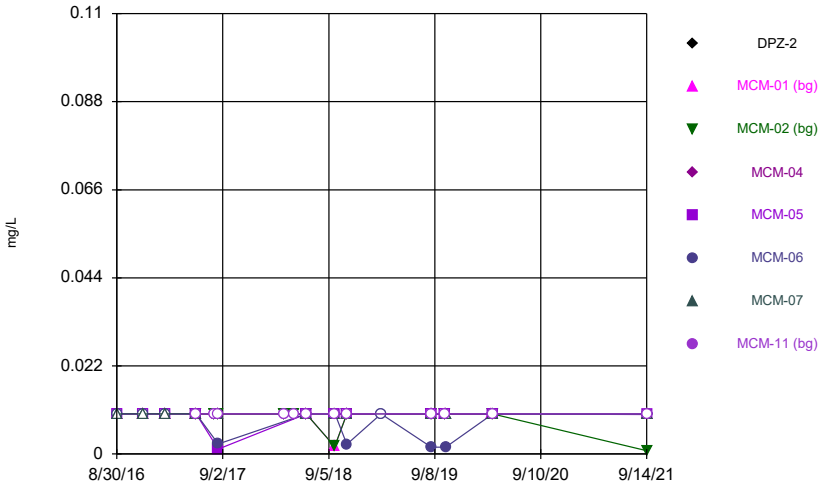
Time Series



Constituent: Mercury Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

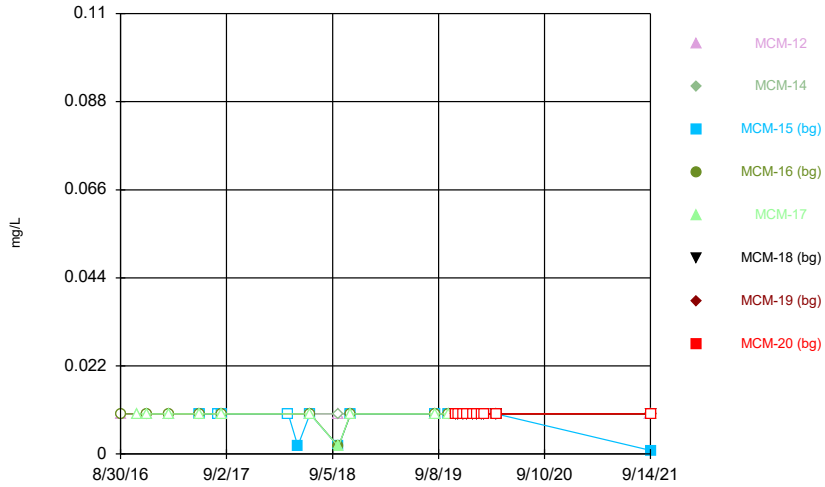
Time Series



Constituent: Molybdenum Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

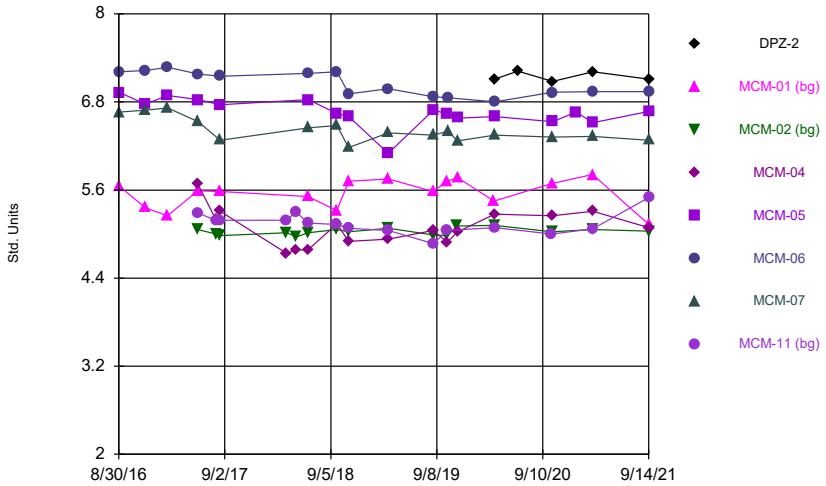
Time Series



Constituent: Molybdenum Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series

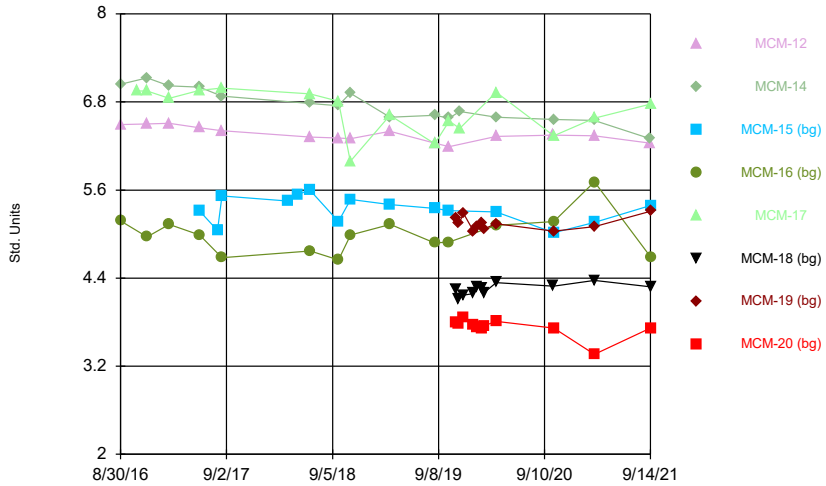


Constituent: pH, field Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series

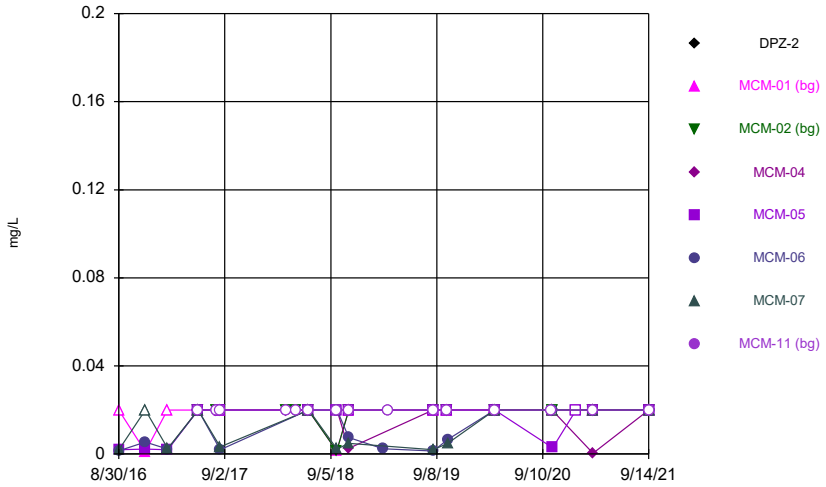


Constituent: pH, field Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

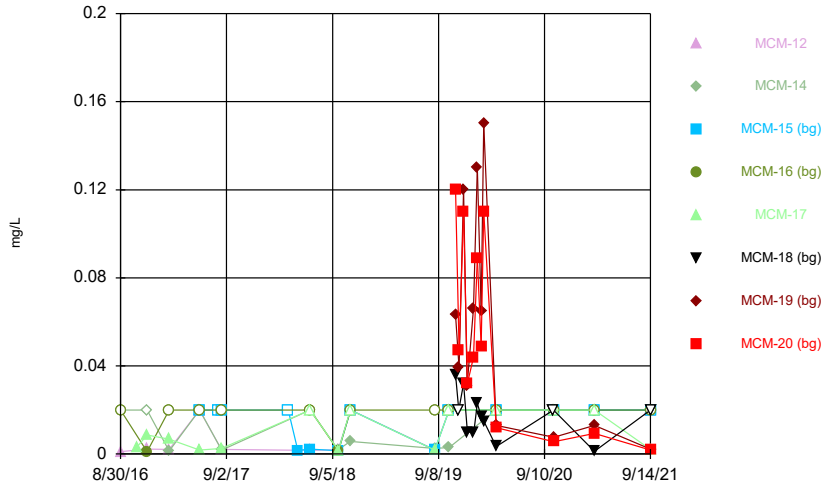


Constituent: Selenium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series

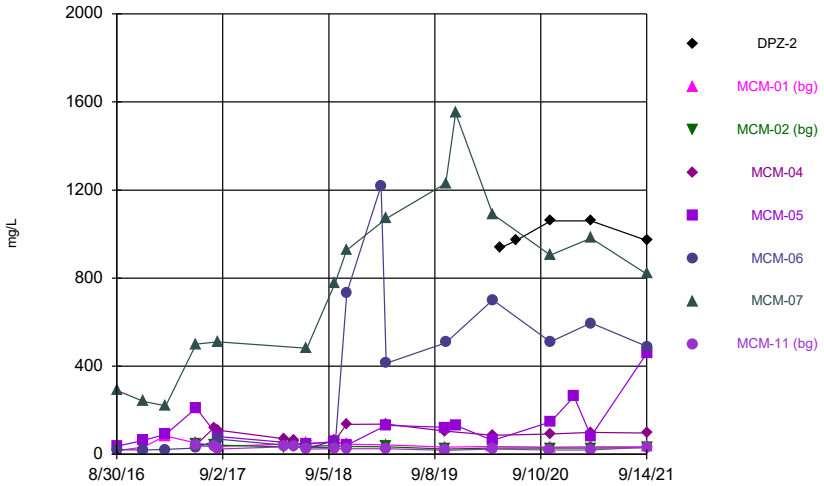


Constituent: Selenium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Time Series



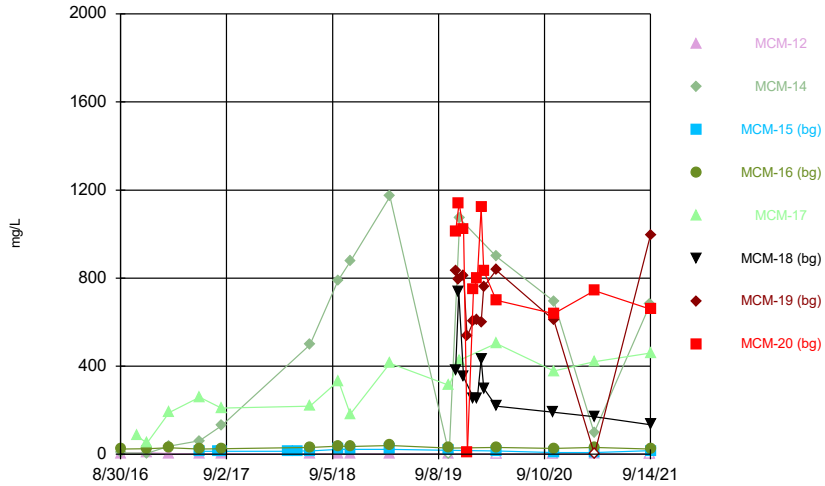
Constituent: Sulfate Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



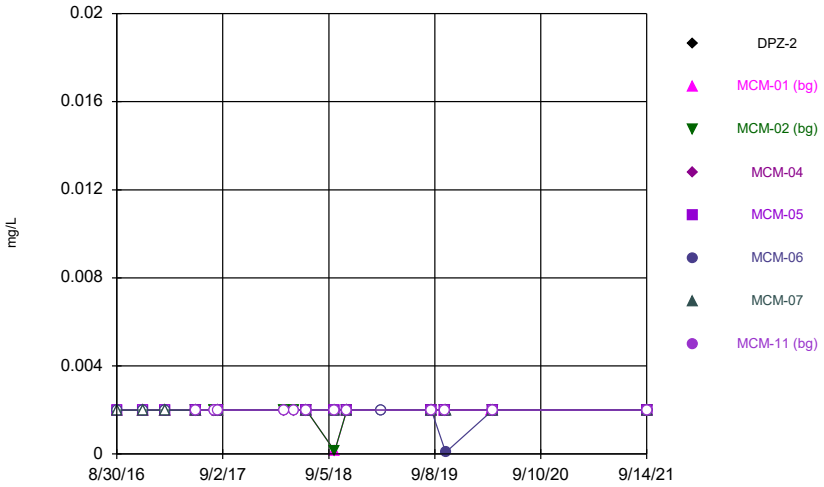
Constituent: Sulfate Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series



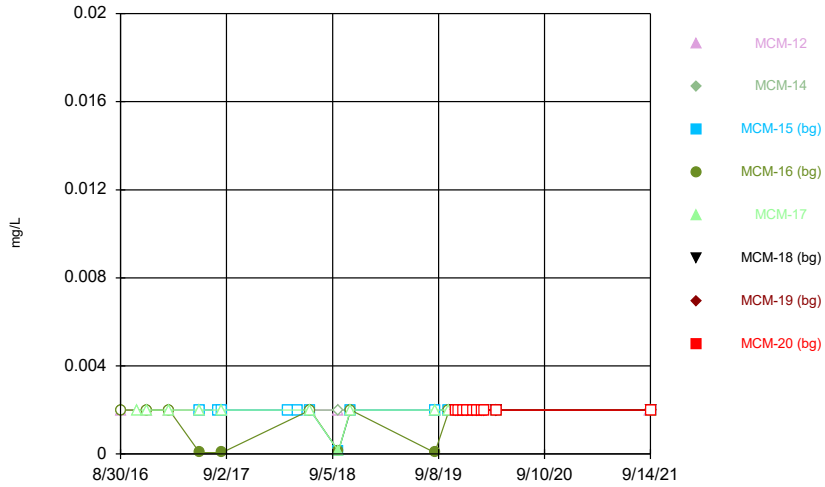
Constituent: Thallium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Time Series

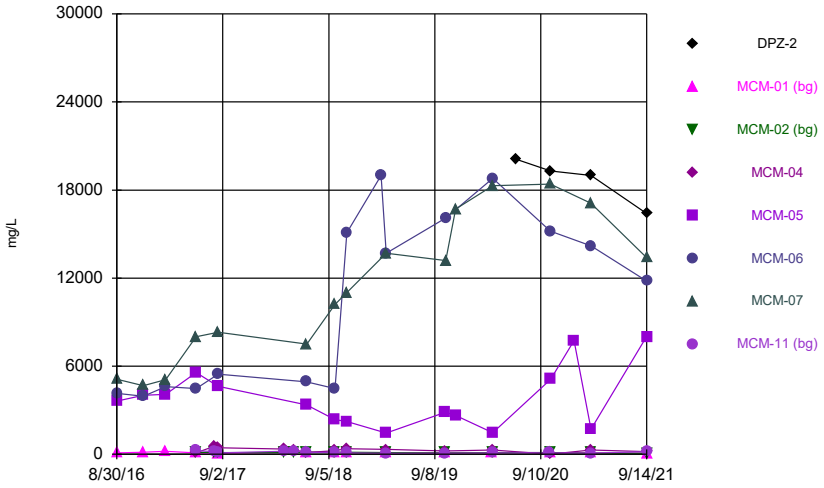


Constituent: Thallium Analysis Run 12/29/2021 3:07 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

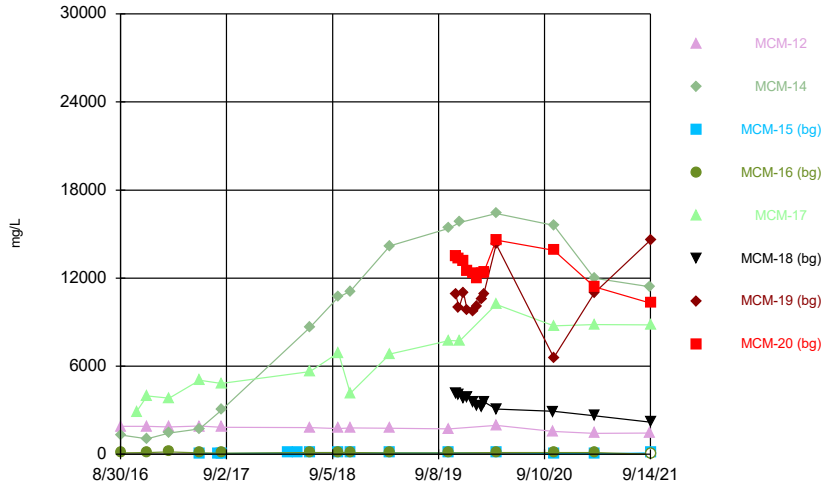
Time Series



Constituent: Total Dissolved Solids Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Time Series



Constituent: Total Dissolved Solids Analysis Run 12/29/2021 3:07 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.003						
8/31/2016					<0.003	<0.003	<0.003	
11/30/2016		<0.003			<0.003	<0.003	<0.003	
2/15/2017		<0.003						
2/16/2017					<0.003	<0.003	<0.003	
5/31/2017			<0.003					<0.003
6/1/2017		<0.003		<0.003				
6/2/2017					<0.003	<0.003	<0.003	
8/2/2017			<0.003	<0.003				<0.003
8/15/2017								<0.003
8/16/2017		<0.003	<0.003					
8/17/2017				<0.003	<0.003	<0.003	<0.003	
4/4/2018				<0.003				<0.003
4/5/2018			<0.003					
5/8/2018				<0.003				<0.003
5/9/2018			<0.003					
6/19/2018		<0.003	<0.003					<0.003
6/20/2018				<0.003	<0.003	<0.003		
6/21/2018							<0.003	
9/25/2018								<0.003
9/26/2018		0.00078	0.00078					
9/27/2018				<0.003	<0.003	<0.003	<0.003	
11/6/2018				<0.003			<0.003	<0.003
11/7/2018		<0.003	<0.003		<0.003	<0.003		
3/6/2019						<0.003		
3/25/2019								<0.003
8/27/2019		<0.003		<0.003				
8/28/2019			<0.003		<0.003	0.00098 (J)	<0.003	<0.003
10/15/2019				<0.003				
10/16/2019		<0.003	<0.003		<0.003			<0.003
10/17/2019						0.0009 (J)	<0.003	
3/26/2020		<0.003						
3/27/2020			<0.003					<0.003
3/28/2020				<0.003	<0.003	0.0029 (J)	<0.003	
9/14/2021	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.003	<0.003		<0.003				
10/25/2016					<0.003			
11/30/2016	<0.003	<0.003		<0.003	<0.003			
2/15/2017	<0.003	<0.003		<0.003	<0.003			
5/31/2017	<0.003	<0.003			<0.003			
6/1/2017				<0.003				
6/2/2017			<0.003					
8/2/2017			<0.003					
8/15/2017	<0.003				<0.003			
8/16/2017		<0.003						
8/17/2017			<0.003	<0.003				
4/4/2018			<0.003					
5/8/2018			<0.003					
6/19/2018	<0.003	<0.003	<0.003		<0.003			
6/20/2018				<0.003				
9/25/2018	<0.003	<0.003						
9/26/2018			0.00078	0.00078	0.00078			
11/6/2018		<0.003			<0.003			
11/7/2018	<0.003		<0.003	<0.003				
8/26/2019		0.0004 (J)						
8/27/2019	<0.003		<0.003	<0.003	<0.003			
10/15/2019	<0.003	<0.003	<0.003					
10/16/2019				<0.003	<0.003			
11/7/2019						<0.003	<0.003	<0.003
11/18/2019						<0.003		
11/19/2019							<0.003	<0.003
12/4/2019							0.00041 (J)	<0.003
12/5/2019						<0.003		
12/17/2019							<0.003	
12/18/2019						<0.003		<0.003
1/8/2020							<0.003	<0.003
1/9/2020						<0.003		
1/21/2020						<0.003	<0.003	<0.003
2/4/2020						<0.003	<0.003	<0.003
2/13/2020						<0.003	<0.003	<0.003
3/27/2020	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
9/13/2021	<0.003	<0.003						
9/14/2021			<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.03						
8/31/2016					<0.03	0.212	0.0066	
11/30/2016		0.0018 (J)			0.0132	0.129	0.0281	
2/15/2017		0.0022 (J)						
2/16/2017					0.0372	0.257	0.0295	
5/31/2017			<0.03					0.0259
6/1/2017		0.0036 (J)		0.004 (J)				
6/2/2017					0.0335	0.0559	0.0286	
8/2/2017			0.0011 (J)	0.0028 (J)				0.0188
8/15/2017								0.0117
8/16/2017		0.0038 (J)	<0.03					
8/17/2017				0.0021 (J)	0.0336	0.458	0.0211	
4/4/2018				0.0023 (J)				0.017
4/5/2018			0.00098 (J)					
5/8/2018				0.0048 (J)				0.016
5/9/2018			0.0014 (J)					
6/19/2018		0.0069	0.0011 (J)					0.011
6/20/2018				0.0099	0.019	0.44		
6/21/2018							0.022 (J)	
9/25/2018								0.011
9/26/2018		0.0081	0.00057					
9/27/2018				0.01	0.0035 (J)	0.27	0.015	
11/6/2018				0.013			0.012	0.0043 (J)
11/7/2018		0.0069	0.00059 (J)		0.002 (J)	0.5		
11/27/2018					0.0016 (J)	0.5	0.011	
3/6/2019						0.49		
3/25/2019								0.0029 (J)
3/26/2019					0.0018 (J)	0.3	0.0078	
7/2/2019				0.015 (J)		0.37	0.027	0.0024 (J)
8/27/2019		0.0079		0.0072				
8/28/2019			<0.03		0.0019 (J)	0.5	0.011	0.005 (J)
10/15/2019				0.0038 (J)				
10/16/2019		0.01	0.003 (J)		0.0047 (J)			0.0054
10/17/2019						0.34	0.0046 (J)	
11/19/2019			0.00057 (J)					
11/20/2019		0.0064						
3/26/2020		0.0069						
3/27/2020			<0.03					0.0034 (J)
3/28/2020	<0.03			0.0034 (J)	<0.03	0.3	0.012	
10/12/2020								0.0047 (J)
10/13/2020		0.0061	<0.03	0.0022 (J)				
10/14/2020						0.43	0.013	
10/15/2020	0.021				0.024			
1/4/2021					0.0072			
3/3/2021		0.016 (J)	<0.03					0.011 (J)
3/4/2021	0.017 (J)			0.0018 (J)	<0.03	0.35	0.015 (J)	
9/14/2021	0.022	0.0055	0.00067 (J)	0.0047 (J)	0.02 (J)	0.51	0.013 (J)	0.011

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.03	<0.03		0.0018 (J)				
10/25/2016					<0.03			
11/30/2016	<0.03	<0.03		<0.03	0.0072			
2/15/2017	<0.03	<0.03		<0.03	0.0017 (J)			
5/31/2017	0.0007 (J)	0.0008 (J)			0.0018 (J)			
6/1/2017				<0.03				
6/2/2017			0.0026 (J)					
8/2/2017			0.0047 (J)					
8/15/2017	0.0006 (J)				0.0015 (J)			
8/16/2017		0.0007 (J)						
8/17/2017			0.0028 (J)	<0.03				
4/4/2018			0.0029 (J)					
5/8/2018			0.0048 (J)					
6/19/2018	0.001 (J)	0.0062 (J)	0.0019 (J)		0.0029 (J)			
6/20/2018				0.00058 (J)				
9/25/2018	0.0011 (J)	0.0031 (J)						
9/26/2018			0.0023 (J)	0.00057	0.0015 (J)			
11/6/2018		0.0014 (J)			<0.03			
11/7/2018	0.0057		0.0028	0.00057				
8/26/2019		0.0022 (J)						
8/27/2019	0.0011 (J)		0.0041 (J)	0.0019 (J)	0.0024 (J)			
10/15/2019	0.0024 (J)	0.0067	0.0038 (J)					
10/16/2019				0.001 (J)	0.0043 (J)			
11/7/2019						0.0067	0.0094 (J)	0.026
11/18/2019						0.012 (J)		
11/19/2019							0.019 (J)	0.031 (J)
11/21/2019					0.0031 (J)			
12/4/2019							0.016	0.026
12/5/2019						0.0055		
12/17/2019							0.011 (J)	
12/18/2019						0.0031 (J)		0.019 (J)
1/8/2020							0.015 (J)	0.022 (J)
1/9/2020						0.0034 (J)		
1/21/2020						0.0031 (J)	0.015 (J)	0.024 (J)
2/4/2020						<0.03	0.0092 (J)	0.022 (J)
2/13/2020						0.0066	0.021 (J)	0.029
3/27/2020	<0.03	<0.03	0.0018 (J)	<0.03	<0.03	0.0043 (J)	0.017	0.027
10/12/2020	<0.03					<0.03		
10/13/2020		<0.03	0.0042 (J)	<0.03	<0.03		0.0089	0.018
3/2/2021	<0.03	<0.03	0.021 (J)					
3/3/2021				0.0012 (J)	<0.03	0.0014 (J)	0.0086 (J)	0.016 (J)
9/13/2021	<0.03	<0.03						
9/14/2021			0.0035 (J)	<0.03	<0.03	0.0029 (J)	0.018 (J)	0.028

Time Series

Constituent: Barium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		0.0443						
8/31/2016					0.0289	0.0498	0.0771	
11/30/2016		0.0524			0.0168	0.0528	0.101	
2/15/2017		0.124						
2/16/2017					0.016	0.0555	0.0865	
5/31/2017			0.127					0.0646
6/1/2017		0.0757		0.0195				
6/2/2017					0.0393 (J)	0.0508	0.123	
8/2/2017			0.121	0.053				0.0533
8/15/2017								0.0247
8/16/2017		0.0522	0.116					
8/17/2017				0.0475	0.0188	0.0596	0.124	
4/4/2018				0.035				0.057
4/5/2018			0.12					
5/8/2018				0.027				0.062
5/9/2018			0.11					
6/19/2018		0.083	0.1					0.031
6/20/2018				0.027	0.014	0.06		
6/21/2018							0.1	
9/25/2018								0.041
9/26/2018		0.073	0.11					
9/27/2018				0.14	0.0097 (J)	0.06	0.12	
11/6/2018				0.31			0.12	0.031
11/7/2018		0.071	0.097		0.0085 (J)	0.19		
3/6/2019						0.16		
3/25/2019								0.036
8/27/2019		0.077		0.083				
8/28/2019			0.1		0.011	0.13	0.4	0.035
10/15/2019				0.082				
10/16/2019		0.074	0.1		0.012			0.036
10/17/2019						0.13	0.35	
3/26/2020		0.07						
3/27/2020			0.095					0.039
3/28/2020				0.039	0.0041 (J)	0.12	0.11	
10/12/2020								0.039
10/13/2020		0.06	0.086	0.055				
10/14/2020						0.14	0.19	
10/15/2020	0.071				0.45			
1/4/2021					0.051			
3/3/2021		0.14	0.21					0.09
3/4/2021	0.096			0.062	0.0082 (J)	0.14	0.2	
9/14/2021	0.082	0.065	0.082	0.043	0.08	0.22	0.2	0.07

Time Series

Constituent: Barium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.108	0.0131		0.0973				
10/25/2016					0.063			
11/30/2016	0.121	0.0105		0.11	0.0628			
2/15/2017	0.111	0.0786		0.0945	0.0102			
5/31/2017	0.131	0.0199			0.061			
6/1/2017				0.121				
6/2/2017			0.0368 (J)					
8/2/2017			0.0355					
8/15/2017	0.126				0.0579			
8/16/2017		0.033						
8/17/2017			0.037	0.121				
4/4/2018			0.039					
5/8/2018			0.037					
6/19/2018	0.13	0.092	0.038		0.076			
6/20/2018				0.13				
9/25/2018	0.12	0.098						
9/26/2018			0.049	0.13	0.099			
11/6/2018		0.1			0.052			
11/7/2018	0.11		0.05	0.12				
8/26/2019		0.12						
8/27/2019	0.14		0.048	0.13	0.11			
10/15/2019	0.14	0.12	0.041					
10/16/2019				0.13	0.14			
11/7/2019						0.12	0.22	0.16
11/18/2019						0.11		
11/19/2019							0.13	0.14
12/4/2019							0.14	0.14
12/5/2019						0.12		
12/17/2019							0.14	
12/18/2019						0.11		0.15
1/8/2020							0.14	0.14
1/9/2020						0.096		
1/21/2020						0.098	0.14	0.14
2/4/2020						0.091	0.13	0.12
2/13/2020						0.098	0.13	0.12
3/27/2020	0.12	0.13	0.041	0.13	0.16	0.076	0.12	0.12
10/12/2020	0.1					0.091		
10/13/2020		0.14	0.024	0.11	0.14		0.12	0.12
3/2/2021	0.1	0.16	0.067					
3/3/2021				0.059	0.17	0.099	0.14	0.12
9/13/2021	0.086	0.16						
9/14/2021			0.05	0.16	0.2 (M1)	0.098	0.13	0.11

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.003						
8/31/2016					<0.003	<0.003	<0.003	
11/30/2016		<0.003			<0.003	<0.003	<0.003	
2/15/2017		<0.003						
2/16/2017					<0.003	<0.003	<0.003	
5/31/2017			0.0002 (J)					7E-05 (J)
6/1/2017		9E-05 (J)		0.0001 (J)				
6/2/2017					<0.003	<0.003	<0.003	
8/2/2017			0.0002 (J)	0.0003 (J)				0.0001 (J)
8/15/2017								9E-05 (J)
8/16/2017		<0.003	0.0002 (J)					
8/17/2017				0.0002 (J)	<0.003	<0.003	<0.003	
4/4/2018				<0.003				<0.003
4/5/2018			<0.003					
5/8/2018				0.00025 (J)				0.0001 (J)
5/9/2018			0.00017 (J)					
6/19/2018		0.00011 (J)	0.00017 (J)					0.00011 (J)
6/20/2018				0.00021 (J)	<0.003	<0.003		
6/21/2018							<0.003	
9/25/2018								0.0001 (J)
9/26/2018		9.2E-05 (J)	0.00017 (J)					
9/27/2018				0.00031 (J)	<0.003	<0.003	7.4E-05 (J)	
11/6/2018				0.00077 (J)			0.00012 (J)	0.00012 (J)
11/7/2018		0.0001 (J)	0.00015 (J)		5.4E-05 (J)	<0.003		
3/6/2019						<0.003		
8/27/2019		9E-05 (J)		0.00032 (J)				
8/28/2019			0.00011 (J)		<0.003	<0.003	<0.003	8.4E-05 (J)
10/15/2019				0.00035 (J)				
10/16/2019		<0.003	0.00013 (J)		<0.003			9E-05 (J)
10/17/2019						<0.003	7.8E-05 (J)	
3/26/2020		<0.003						
3/27/2020			<0.003					<0.003
3/28/2020				<0.003	<0.003	<0.003	<0.003	
10/12/2020								<0.003
10/13/2020		<0.003	<0.003	<0.003				
10/14/2020						<0.003	<0.003	
10/15/2020	<0.003				<0.003			
1/4/2021					<0.003			
3/3/2021		<0.003	<0.003					<0.003
3/4/2021	<0.003			<0.003	<0.003	<0.003	<0.003	
9/14/2021	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0003 (J)	<0.003		0.0001 (J)				
10/25/2016					0.0004 (J)			
11/30/2016	0.0004 (J)	<0.003		0.0002 (J)	0.0003 (J)			
2/15/2017	0.0004 (J)	<0.003		<0.003	<0.003			
5/31/2017	0.0005 (J)	0.0001 (J)			0.0002 (J)			
6/1/2017				0.0002 (J)				
6/2/2017			0.0001 (J)					
8/2/2017			<0.003					
8/15/2017	0.0005 (J)				0.0002 (J)			
8/16/2017		0.0002 (J)						
8/17/2017			0.0001 (J)	0.0002 (J)				
4/4/2018			<0.003					
5/8/2018			0.00031 (J)					
6/19/2018	0.00065 (J)	<0.003	0.00034 (J)		0.00032 (J)			
6/20/2018				0.00024 (J)				
9/25/2018	0.00066 (J)	5E-05 (J)						
9/26/2018			0.00039 (J)	0.00019 (J)	0.00024 (J)			
11/6/2018		9.7E-05 (J)			0.00026 (J)			
11/7/2018	0.00058 (J)		0.00041 (J)	0.00019 (J)				
8/26/2019		0.0001 (J)						
8/27/2019	0.0009 (J)		0.00042 (J)	0.00021 (J)	0.00018 (J)			
10/15/2019	0.00079 (J)	<0.003	0.00034 (J)					
10/16/2019				0.00014 (J)	0.00014 (J)			
11/7/2019						0.007	0.0068 (J)	0.021
11/18/2019						0.0063 (J)		
11/19/2019							0.014 (J)	0.015 (J)
12/4/2019							0.01	0.011
12/5/2019						0.0045		
12/17/2019							0.012	
12/18/2019						0.0048		0.012
1/8/2020							0.015 (J)	0.017
1/9/2020						0.0043		
1/21/2020						0.0041 (J)	0.012 (J)	0.015
2/4/2020						0.0049 (J)	0.015 (J)	0.017 (J)
2/13/2020						0.0043	0.013 (J)	0.015 (J)
3/27/2020	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	0.011	0.018
10/12/2020	0.001 (J)					0.0041		
10/13/2020		<0.003	<0.003	<0.003	<0.003		0.015	0.017
3/2/2021	<0.003	<0.003	<0.003					
3/3/2021				<0.003	<0.003	0.003	0.015	0.014
9/13/2021	0.0011	<0.003						
9/14/2021			0.00034 (J)	0.00062	<0.003	0.0031	0.0062	0.016

Time Series

Constituent: Boron (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		0.0325 (J)						
8/31/2016					0.56	0.632	0.863	
11/30/2016		0.0334 (J)			0.529	0.637	0.804	
2/15/2017		0.254						
2/16/2017					0.539	0.698	0.815	
5/31/2017			0.161					0.0521
6/1/2017		0.0564		0.0608				
6/2/2017					0.555	0.674	0.891	
8/2/2017			0.158	0.137				0.0392 (J)
8/15/2017								0.0448
8/16/2017		0.0435	0.148					
8/17/2017				0.128	0.516	0.7	0.922	
4/4/2018				0.1				0.046
4/5/2018			0.13					
5/8/2018				0.074				0.048
5/9/2018			0.12					
6/19/2018		0.04 (J)	0.13					0.04
6/20/2018				0.045	0.51	0.69		
6/21/2018							0.99	
9/25/2018								0.043
9/26/2018		0.038 (J)	0.1					
9/27/2018				0.06	0.47	0.62	0.88	
11/6/2018				0.06			1.1	0.046
11/7/2018		0.037 (J)	0.1		0.51	0.86		
3/6/2019						1.5		
3/24/2019					0.44	1.1	1.2	
3/25/2019		0.038 (J)	0.091	0.058				0.03 (J)
10/15/2019				0.068				
10/16/2019		0.036 (J)	0.085		0.49			0.032 (J)
10/17/2019						1.3	1.1	
11/20/2019					0.53		1.3	
3/26/2020		0.064 (J)						
3/27/2020			0.17 (J)					0.058 (J)
3/28/2020				0.067 (J)	0.28 (J)	0.95	0.79	
6/16/2020	2.1							
10/12/2020								<0.5
10/13/2020		<0.5	<0.5	<0.5				
10/14/2020						1.5	1.8	
10/15/2020	2.1				0.61			
1/4/2021					0.98			
3/3/2021		<0.5	<0.5					<0.5
3/4/2021	2.2 (J)			0.11 (J)	0.4 (J)	1.4 (J)	1.6 (J)	
9/14/2021	2	0.079 (J)	0.093 (J)	0.07 (J)	0.95 (J)	1.1	1.5	0.06 (J)

Time Series

Constituent: Boron (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	1.18	0.726		0.0972 (J)				
10/25/2016					1.73			
11/30/2016	1.3	0.565		0.0964	2.12			
2/15/2017	1.33	0.647		0.398	2.14			
5/31/2017	1.38	0.503			2.24			
6/1/2017				0.0776				
6/2/2017			0.0495					
8/2/2017			0.0333 (J)					
8/15/2017	1.14				2.1			
8/16/2017		0.539						
8/17/2017			0.0593	0.0853				
4/4/2018			0.065					
5/8/2018			0.062					
6/19/2018	1.2	0.76	0.064		1.7			
6/20/2018				0.079				
9/25/2018	1	0.61						
9/26/2018			0.06	0.072	1.3			
11/6/2018		0.75			1.8			
11/7/2018	1.4		0.062 (J)	0.074				
3/24/2019	1	0.95			1.4			
3/25/2019			0.057	0.067				
10/15/2019	1.1	1	0.046					
10/16/2019				0.051	1.6			
11/7/2019						0.27	0.84	1.1
11/18/2019						0.29 (J)		
11/19/2019							0.83	1.3
11/21/2019		1			1.5			
12/4/2019							0.68	0.81
12/5/2019						0.23		
12/17/2019							0.57	
12/18/2019						0.23		0.77
1/8/2020							0.73	0.9
1/9/2020						0.2		
1/21/2020						0.24 (J)	0.75	0.94
2/4/2020						0.24 (J)	0.79 (J)	0.96 (J)
2/13/2020						0.22	0.74	0.88
3/27/2020	1.5	1.3	0.076 (J)	0.088 (J)	1.8	0.24 (J)	0.96	0.94
10/12/2020	1.3					0.24 (J)		
10/13/2020		1.1	<0.5	<0.5	1.8		0.73	1.1
3/2/2021	1.4 (J)	1.4 (J)	<0.5					
3/3/2021				<0.5	1.7 (J)	0.21 (J)	0.79 (J)	0.91 (J)
9/13/2021	1.4 (M1)	1.2						
9/14/2021			0.068 (J)	0.071 (J)	2.1 (M1)	0.2 (J)	1.2	0.91 (J)

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.0025						
8/31/2016					<0.0025	<0.0025	<0.0025	
11/30/2016		<0.0025			<0.0025	<0.0025	<0.0025	
2/15/2017		<0.0025						
2/16/2017					<0.0025	<0.0025	<0.0025	
5/31/2017			<0.0025					<0.0025
6/1/2017		<0.0025		<0.0025				
6/2/2017					<0.0025	<0.0025	<0.0025	
8/2/2017			<0.0025	<0.0025				<0.0025
8/15/2017								<0.0025
8/16/2017		<0.0025	<0.0025					
8/17/2017				<0.0025	<0.0025	<0.0025	<0.0025	
4/4/2018				<0.0025				<0.0025
4/5/2018			<0.0025					
5/8/2018				<0.0025				<0.0025
5/9/2018			<0.0025					
6/19/2018		<0.0025	<0.0025					<0.0025
6/20/2018				<0.0025	<0.0025	<0.0025		
6/21/2018							<0.0025	
9/25/2018								0.0002 (J)
9/26/2018		9.3E-05	9.3E-05					
9/27/2018				<0.0025	<0.0025	<0.0025	<0.0025	
11/6/2018				<0.0025			<0.0025	<0.0025
11/7/2018		<0.0025	<0.0025		<0.0025	<0.0025		
3/6/2019						<0.0025		
8/27/2019		<0.0025		<0.0025				
8/28/2019			<0.0025		<0.0025	<0.0025	<0.0025	<0.0025
3/26/2020		<0.0025						
3/27/2020			<0.0025					<0.0025
3/28/2020				<0.0025	<0.0025	<0.0025	<0.0025	
9/14/2021	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.0025	<0.0025		<0.0025				
10/25/2016					<0.0025			
11/30/2016	<0.0025	<0.0025		<0.0025	<0.0025			
2/15/2017	<0.0025	<0.0025		<0.0025	<0.0025			
5/31/2017	<0.0025	<0.0025			<0.0025			
6/1/2017				<0.0025				
6/2/2017			<0.0025					
8/2/2017			<0.0025					
8/15/2017	<0.0025				<0.0025			
8/16/2017		<0.0025						
8/17/2017			<0.0025	<0.0025				
4/4/2018			<0.0025					
5/8/2018			<0.0025					
6/19/2018	<0.0025	<0.0025	<0.0025		<0.0025			
6/20/2018				<0.0025				
9/25/2018	<0.0025	<0.0025						
9/26/2018			9.3E-05	9.3E-05	9.3E-05			
11/6/2018		<0.0025			<0.0025			
11/7/2018	<0.0025		<0.0025	<0.0025				
8/26/2019		<0.0025						
8/27/2019	<0.0025		<0.0025	<0.0025	<0.0025			
11/7/2019						<0.0025	<0.0025	0.00034 (J)
11/18/2019						<0.0025		
11/19/2019							<0.0025	<0.0025
12/4/2019							<0.0025	<0.0025
12/5/2019						<0.0025		
12/17/2019							<0.0025	
12/18/2019						<0.0025		<0.0025
1/8/2020							<0.0025	<0.0025
1/9/2020						<0.0025		
1/21/2020						<0.0025	<0.0025	<0.0025
2/4/2020						<0.0025	<0.0025	<0.0025
2/13/2020						<0.0025	<0.0025	<0.0025
3/27/2020	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
9/13/2021	<0.0025	<0.0025						
9/14/2021			<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		7.3						
8/31/2016					65	82.8	119	
11/30/2016		10.8			71.7	68.7	103	
2/15/2017		14.3						
2/16/2017					74	94.8	114	
5/31/2017			5.9					18.6
6/1/2017		12.7 (J)		3.65				
6/2/2017					120	92.5	179	
8/2/2017			4.69	12.4				18.5
8/15/2017								4.09
8/16/2017		8.7	5.25					
8/17/2017				8.17	100	126	186	
4/4/2018				6.8				<25
4/5/2018			5					
5/8/2018				5.7				18.4 (J)
5/9/2018			4.7					
6/19/2018		11.6 (J)	4.8					4.3
6/20/2018				4.3	72.8	121		
6/21/2018							179	
6/28/2018		13						
9/25/2018								6.2 (D)
9/26/2018		12.8 (J)	4.6					
9/27/2018				16.4 (J)	46.6	95.1	193	
11/6/2018				39.5			219	1.8
11/7/2018		11.9	4.6		41.8	387.5 (D)		
3/6/2019						341		
3/24/2019					20.9 (J)	277	243	
3/25/2019		12.6 (J)	4.7	20.8 (J)				2.5 (D)
10/15/2019				15.5				
10/16/2019		13.6	4.9		55.2			2.2
10/17/2019						309	260	
11/20/2019					55.8		308	
3/26/2020		10.1						
3/27/2020			4.9					3.3
3/28/2020				15.5	25.8	286	286	
4/23/2020	266							
6/16/2020	245							
10/12/2020								2.8
10/13/2020		9.8	3.8	12.5				
10/14/2020						245	207	
10/15/2020	194				69.1			
1/4/2021					104			
3/3/2021		14	4					
3/4/2021	257			15.1	23.4	233	244	2.1
9/14/2021	273	9.6	4.2	12.5	13.9	299	225	14

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	7.05	42.8		4.02				
10/25/2016					69.4			
11/30/2016	8.69	33.2		4.87	83.9			
2/15/2017	8.34	56.1		6.61	96.3			
5/31/2017	8.85	73.6			122			
6/1/2017				6.42				
6/2/2017			2.77					
8/2/2017			1.27					
8/15/2017	8.05				117			
8/16/2017		99.6						
8/17/2017			5.53	5.62				
4/4/2018			6.5					
5/8/2018			6.7					
6/19/2018	8.3	285	7.4		136			
6/20/2018				5.7				
6/28/2018	8.9	294			138			
9/25/2018	6.8	283						
9/26/2018			8.5 (J)	5.3	148			
11/6/2018		297			24.7			
11/7/2018	8.5		9.8	5.3				
3/24/2019	7.4	338			136			
3/25/2019			7.8	5.7				
10/15/2019	7.9	321	6.7					
10/16/2019				4.8	118			
11/7/2019						46.2	158	163
11/18/2019						41.8		
11/19/2019							152	169
11/21/2019		305			125			
12/4/2019							142	140
12/5/2019						40.5		
12/17/2019							136	
12/18/2019						42		145
1/8/2020							147	157
1/9/2020						37.1		
1/21/2020						40.1	167	152
2/4/2020						36.2	142	139
2/13/2020						38.9	148	146
3/27/2020	8.3	286	5.9	5.4	222	23.2	122	113
10/12/2020	6.1					19.1		
10/13/2020		40.9	0.83	5.7	86.4		125	128
3/4/2021	6.5	205	1.4	11.2	143	26	123	110
9/13/2021	6	165						
9/14/2021			6.7	6.5	190	18.8	93.6	61.1

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		9.7						
8/31/2016					1800	2200	2600	
11/30/2016		19			1100	2100	2800	
2/15/2017		21						
2/16/2017					2100	2500	3100	
5/31/2017			39					98
6/1/2017		12		22				
6/2/2017					3100	2500	4600	
8/2/2017			42	230				57
8/15/2017								15
8/16/2017		14	41					
8/17/2017				210	2600	2700	4600	
4/4/2018				156				69
4/5/2018			40.2					
5/8/2018				140				72.3
5/9/2018			40.6					
6/19/2018		24.4	37.7					17.3
6/20/2018				27.5	1800	3100		
6/21/2018							3920	
9/25/2018								31.3
9/26/2018		23.4	33.4					
9/27/2018				101	1300	2510 (D)	5660 (D)	
11/6/2018				107			6520	9.8
11/7/2018		21.8	30.7		1180	8860		
3/6/2019						11700		
3/24/2019					717	6470	8720	
3/25/2019		19.4	33.5	78.5				12.9
10/15/2019				46				
10/16/2019		21.4	33.1		941 (D)			12.2
10/17/2019						9930	8210	
11/20/2019					1480		9810	
3/26/2020		23						
3/27/2020			32.9					14.5
3/28/2020				71.4	693	9190	9070	
4/23/2020	7500							
6/16/2020	7780							
10/12/2020								13.9
10/13/2020		13.5	25.7	54.4				
10/14/2020						6630	7910	
10/15/2020	<1				1660			
1/4/2021					2460			
3/3/2021		13.6	20.5					9.4
3/4/2021	8280			69.6	652	6310	7540	
9/14/2021	7610	16.7	21.8	28.5	3940	5360	6300	62.8

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	800	450		26				
10/25/2016					1300			
11/30/2016	760	310		27	400			
2/15/2017	740	490		30	2000			
5/31/2017	740	820			2500			
6/1/2017				27				
6/2/2017			11					
8/2/2017			3.2					
8/15/2017	750				2500			
8/16/2017		1500						
8/17/2017			12	32				
4/4/2018			13.4					
5/8/2018			13.2					
6/19/2018	760	5180	13.7		3050			
6/20/2018				30				
9/25/2018	752 (D)	7220						
9/26/2018			18.5	28.4	3965 (D)			
11/6/2018		6020			2230			
11/7/2018	665		20.2	25.1				
3/24/2019	744	7400			3960			
3/25/2019			19.7	21.8				
10/15/2019	744	9050	17.1					
10/16/2019				20	2181.5 (D)			
11/7/2019						2360	6170	7880
11/18/2019						6970		
11/19/2019							5650	8130
11/21/2019		8330			3890			
12/4/2019							6100	7410
12/5/2019						2130		
12/17/2019							5660	
12/18/2019						2090		7170
1/8/2020							5070	6480
1/9/2020						1750		
1/21/2020						1630	5010	6000
2/4/2020						1760	5030	5700
2/13/2020						1850	6140	7060
3/27/2020	675	7680	14.1	23.6	4770	1450	6870	7110
10/12/2020	552					1340		
10/13/2020		6230	3.8	23.3	3980		5260	5980
3/2/2021	459	<1	4.2					
3/3/2021				27.6	<1	1230	5170	<1
9/13/2021	433	5010						
9/14/2021			13.6	30	4090	1020	7250	5100

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.01						
8/31/2016					0.0013 (J)	0.001 (J)	0.0022 (J)	
11/30/2016		<0.01			0.0012 (J)	<0.01	<0.01	
2/15/2017		<0.01						
2/16/2017					0.0012 (J)	0.0011 (J)	0.0028 (J)	
5/31/2017			<0.01					<0.01
6/1/2017		<0.01		0.0008 (J)				
6/2/2017					<0.01	<0.01	0.0023 (J)	
8/2/2017			<0.01	0.0012 (J)				<0.01
8/15/2017								0.0006 (J)
8/16/2017		<0.01	<0.01					
8/17/2017				0.0013 (J)	0.0007 (J)	0.0007 (J)	0.0022 (J)	
4/4/2018				<0.01				<0.01
4/5/2018			<0.01					
5/8/2018				<0.01				<0.01
5/9/2018			<0.01					
6/19/2018		<0.01	<0.01					<0.01
6/20/2018				<0.01	<0.01	<0.01		
6/21/2018							<0.01	
9/25/2018								<0.01
9/26/2018		0.0016	0.0016					
9/27/2018				<0.01	<0.01	<0.01	0.0024 (J)	
11/6/2018				0.0017 (J)			0.002 (J)	<0.01
11/7/2018		<0.01	<0.01		<0.01	<0.01		
3/6/2019						<0.01		
3/25/2019								<0.01
8/27/2019		0.00079 (J)		0.0018 (J)				
8/28/2019			0.0035 (J)		0.00047 (J)	0.00085 (J)	0.0024 (J)	0.00053 (J)
10/15/2019				0.0012 (J)				
10/16/2019		<0.01	<0.01		0.00057 (J)			0.00072 (J)
10/17/2019						0.0015 (J)	0.0019 (J)	
3/26/2020		<0.01						
3/27/2020			<0.01					<0.01
3/28/2020				<0.01	<0.01	<0.01	<0.01	
9/14/2021	<0.01	<0.01	0.0056	<0.01	<0.01	<0.01	<0.01	<0.01

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0054 (J)	0.0026 (J)		<0.01				
10/25/2016					0.016			
11/30/2016	0.0073 (J)	0.0016 (J)		0.001 (J)	0.0151 (J)			
2/15/2017	0.0045 (J)	0.0018 (J)		<0.01	0.0137			
5/31/2017	0.0052 (J)	0.0019 (J)			0.0109			
6/1/2017				0.0004 (J)				
6/2/2017			0.0019 (J)					
8/2/2017			0.0017 (J)					
8/15/2017	0.005 (J)				0.0117			
8/16/2017		0.0019 (J)						
8/17/2017			0.0027 (J)	0.0005 (J)				
4/4/2018			<0.01					
5/8/2018			0.0029 (J)					
6/19/2018	0.0047 (J)	<0.01	0.002 (J)		0.013 (J)			
6/20/2018				<0.01				
9/25/2018	<0.01	<0.01						
9/26/2018			0.003 (J)	0.0016	0.0092 (J)			
11/6/2018		<0.01			<0.01			
11/7/2018	<0.01		<0.01	<0.01				
8/26/2019		0.00071 (J)						
8/27/2019	0.0056 (J)		0.0026 (J)	0.00043 (J)	0.0066 (J)			
10/15/2019	0.0057 (J)	0.00076 (J)	0.0026 (J)					
10/16/2019				<0.01	0.0063 (J)			
11/7/2019						0.0038 (J)	0.005 (J)	0.0083 (J)
11/18/2019						0.0046 (J)		
11/19/2019							0.0059 (J)	0.0096 (J)
12/4/2019							0.0073 (J)	0.0099 (J)
12/5/2019						0.0046 (J)		
12/17/2019							0.009 (J)	
12/18/2019						0.0045 (J)		0.011 (J)
1/8/2020							0.0077 (J)	0.0092 (J)
1/9/2020						0.004 (J)		
1/21/2020						0.0036 (J)	0.007 (J)	0.009 (J)
2/4/2020						<0.01	0.0057 (J)	0.0078 (J)
2/13/2020						0.0036 (J)	0.0063 (J)	0.0091 (J)
3/27/2020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0095 (J)
9/13/2021	<0.01	<0.01						
9/14/2021			0.0027 (J)	<0.01	<0.01	<0.01	<0.01	<0.01

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.02						
8/31/2016					<0.02	<0.02	<0.02	
11/30/2016		<0.02			<0.02	0.0009 (J)	0.0011 (J)	
2/15/2017		<0.02						
2/16/2017					<0.02	<0.02	<0.02	
5/31/2017			0.0005 (J)					<0.02
6/1/2017		<0.02		<0.02				
6/2/2017					<0.02	<0.02	<0.02	
8/2/2017			0.0005 (J)	<0.02				0.0006 (J)
8/15/2017								0.0004 (J)
8/16/2017		<0.02	0.0005 (J)					
8/17/2017				<0.02	<0.02	0.0003 (J)	<0.02	
4/4/2018				<0.02				<0.02
4/5/2018			<0.02					
5/8/2018				<0.02				<0.02
5/9/2018			<0.02					
6/19/2018		<0.02	<0.02					<0.02
6/20/2018				<0.02	<0.02	<0.02		
6/21/2018							<0.02	
9/25/2018								<0.02
9/26/2018		0.00052	0.00052					
9/27/2018				<0.02	<0.02	<0.02	<0.02	
11/6/2018				0.0048 (J)			<0.02	<0.02
11/7/2018		<0.02	<0.02		<0.02	<0.02		
3/6/2019						<0.02		
8/27/2019		<0.02		0.0078				
8/28/2019			0.00042 (J)		<0.02	<0.02	<0.02	<0.02
10/15/2019				0.0085				
10/16/2019		<0.02	0.00037 (J)		<0.02			<0.02
10/17/2019						<0.02	<0.02	
11/20/2019				0.009				
3/26/2020		<0.02						
3/27/2020			<0.02					<0.02
3/28/2020				0.0041 (J)	<0.02	<0.02	<0.02	
10/12/2020								<0.02
10/13/2020		<0.02	<0.02	0.0063				
10/14/2020						<0.02	<0.02	
10/15/2020	<0.02				0.0019 (J)			
1/4/2021					<0.02			
3/3/2021		<0.02	<0.02					<0.02
3/4/2021	<0.02			0.006	<0.02	<0.02	<0.02	
9/14/2021	<0.02	<0.02	<0.02	0.0054	<0.02	<0.02	<0.02	<0.02

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.02	0.0006 (J)		<0.02				
10/25/2016					<0.02			
11/30/2016	<0.02	<0.02		<0.02	0.0007 (J)			
2/15/2017	<0.02	<0.02		<0.02	<0.02			
5/31/2017	0.0005 (J)	<0.02			<0.02			
6/1/2017				<0.02				
6/2/2017			<0.02					
8/2/2017			<0.02					
8/15/2017	0.0005 (J)				0.0004 (J)			
8/16/2017		<0.02						
8/17/2017			<0.02	0.0004 (J)				
4/4/2018			<0.02					
5/8/2018			<0.02					
6/19/2018	0.00053 (J)	<0.02	<0.02		<0.02			
6/20/2018				<0.02				
9/25/2018	<0.02	<0.02						
9/26/2018			0.00052	0.00052	0.00052			
11/6/2018		<0.02			<0.02			
11/7/2018	<0.02		<0.02	<0.02				
8/26/2019		<0.02						
8/27/2019	0.0007 (J)		<0.02	0.0003 (J)	<0.02			
10/15/2019	0.00054 (J)	<0.02	<0.02					
10/16/2019				<0.02	<0.02			
11/7/2019						<0.02	<0.02	0.026
11/18/2019						<0.02		
11/19/2019							<0.02	0.022 (J)
12/4/2019							<0.02	0.022
12/5/2019						<0.02		
12/17/2019							<0.02	
12/18/2019						<0.02		0.031
1/8/2020							<0.02	0.035
1/9/2020						<0.02		
1/21/2020						<0.02	<0.02	0.031
2/4/2020						<0.02	<0.02	0.031 (J)
2/13/2020						<0.02	<0.02	0.031
3/27/2020	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.036
10/12/2020	<0.02					<0.02		
10/13/2020		<0.02	<0.02	<0.02	<0.02		<0.02	0.032
3/2/2021	<0.02	<0.02	<0.02					
3/3/2021				<0.02	<0.02	<0.02	<0.02	0.033
9/13/2021	<0.02	<0.02						
9/14/2021			<0.02	<0.02	<0.02	<0.02	<0.02	0.03

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		0.929						
8/31/2016					2.39 (D)	2.47 (D)	5.4 (D)	
11/30/2016		5.64			1.66	1.6	3.13	
2/15/2017		1.41						
2/16/2017					2.71	1.83	3.09	
5/31/2017			1.17 (U)					1.2
6/1/2017		1.51		1.9				
6/2/2017					1.99	2.45	7.56	
8/2/2017			0.704 (U)	5.01				1.26
8/15/2017								0.511 (U)
8/16/2017		1.01 (U)	1.11 (U)					
8/17/2017				5.35	1.87	3.33	6.38	
4/4/2018				5.05				1.04
4/5/2018			0.868 (U)					
5/8/2018				3.25				1.95
5/9/2018			0.888					
6/19/2018		1.23	0.483 (U)					0.785 (U)
6/20/2018				3.53	1.95	2.84		
6/21/2018							5.24	
9/25/2018								1.15 (U)
9/26/2018		0.72 (U)	0.73 (U)					
9/27/2018				7.07	0.629 (U)	1.94	6.11	
11/6/2018				11			6.1	1.1
11/7/2018		0.616 (U)	0.429 (U)		1.41 (U)	8.58		
8/27/2019		1.2 (U)		4.4				
8/28/2019			0.679 (U)		1.67	6.86	8.73	0.434 (U)
10/15/2019				4.92				
10/16/2019		1.4 (U)	0.422 (U)		1.92			0.923 (U)
10/17/2019						7.85	7.97	
11/20/2019							9.8	
3/26/2020		1.15 (U)						
3/27/2020			0.838 (U)					0.609 (U)
3/28/2020				4.16	1.44 (U)	11 (U)	11.7	
10/12/2020								2.7
10/13/2020		0.855 (U)	0.56 (U)	3.71				
10/14/2020						8.97	13.1	
10/15/2020					2.56			
1/4/2021					5.84			
4/6/2021	7.33	1.01 (U)	0.474 (U)	2.83	1.43 (U)	7.89	9.66	1.88
9/14/2021	6.97	1.06 (U)	0.878 (U)	2.69	7.15	8.11	10.3	1.37 (U)

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	1.4	1.31		0.977 (U)				
10/25/2016					2.22			
11/30/2016	4.37	0.438 (U)		0.994	2.01			
2/15/2017	2.21	0.3 (U)		1.65	1.56			
5/31/2017	2.62	1.77			1.92			
6/1/2017				1.22				
6/2/2017			1.47					
8/2/2017			1.99					
8/15/2017	2.69				2.47			
8/16/2017		2.26						
8/17/2017			2.03	1.71				
4/4/2018			1.96					
5/8/2018			1.69					
6/19/2018	2.96	5.39	1.83		2.82			
6/20/2018				1.78				
9/25/2018	2.23	6.22						
9/26/2018			0.637 (U)	1.56	3.15 (D)			
11/6/2018		5.38			2.95			
11/7/2018	2.14		0.894 (U)	0.651 (U)				
8/26/2019		7.68						
8/27/2019	2.91		2.33	1.03 (U)	5.82			
10/15/2019	3.28	8.7	0.979 (U)					
10/16/2019				1.86	7.5			
11/7/2019						14.8	17.7	38.2
11/18/2019						13.9		
11/19/2019							18.9	43.1
11/21/2019		7.34			8.89			
12/4/2019							18.6	45.1
12/5/2019						14.2		
12/17/2019							21.8	
12/18/2019						17		55.8
1/8/2020							16.9	46.5
1/9/2020						12.3		
1/21/2020						11.7	15.6	37.7
2/4/2020						12.7	22.38	47.9
2/13/2020						18.2	31.1	76.3 (o)
3/27/2020	2.33	9.63	1.84	1.51	9.54	10.2	22.8	47.2
10/12/2020	2.66					8.83		
10/13/2020		7.43	3.32	1.71	7.75		14.1	30.3
4/6/2021	2.2	7.02	1.74	1.81	7.8	9.57	20.4	31.5
9/13/2021	2.54	8.38						
9/14/2021			1.15 (U)	2.02	8.82	8.31	26.2	34.9

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		0.03 (J)						
8/31/2016					0.93	0.41	0.92	
11/30/2016		0.04 (J)			0.93	0.61	0.99	
2/15/2017		0.007 (J)						
2/16/2017					0.6	0.3 (J)	0.54	
5/31/2017			0.01 (J)					0.85
6/1/2017		<0.1		<0.1				
6/2/2017					0.34	0.19 (J)	0.42	
8/2/2017			0.14 (J)	0.27 (J)				0.69
8/15/2017								0.29 (J)
8/16/2017		0.03 (J)	0.13 (J)					
8/17/2017				0.18 (J)	0.52	0.26 (J)	0.27 (J)	
4/4/2018				<0.1				0.32
4/5/2018			<0.1					
5/8/2018				0.56				0.63
5/9/2018			<0.1					
6/19/2018		<0.1	0.065 (J)					0.17 (J)
6/20/2018				0.033 (J)	0.5	0.22 (J)		
6/21/2018							0.28 (J)	
9/25/2018								0.15 (J)
9/26/2018		0.12 (J)	0.029					
9/27/2018				0.12 (J)	0.32	0.068 (J)	0.32 (D)	
11/6/2018				<0.1			0.086 (J)	<0.1
11/7/2018		<0.1	<0.1		0.35	10.3 (o)		
3/6/2019						<0.1		
3/24/2019					0.32	0.19 (J)	0.14 (J)	
3/25/2019		0.038 (J)	0.039 (J)	0.055 (J)				0.12 (J)
8/27/2019		<0.1		<0.1				
8/28/2019			<0.1		0.36	<0.1	<0.1	0.068 (J)
10/15/2019				0.095 (J)				
10/16/2019		0.046 (JD)	0.044 (JD)		0.41			0.1 (J)
10/17/2019						<0.1	<0.1	
11/20/2019					0.34		<0.1	
3/26/2020		<0.1						
3/27/2020			<0.1					0.066 (J)
3/28/2020				<0.1	0.34	<0.1	<0.1	
10/12/2020								<0.1
10/13/2020		<0.1	<0.1	<0.1				
10/14/2020						<0.1	<0.1	
10/15/2020	0.11				0.22			
1/4/2021					<0.1			
3/3/2021		<0.1	<0.1					0.082 (J)
3/4/2021	<0.1			<0.1	0.45	<0.1	<0.1	
9/14/2021	<0.1	<0.1	<0.1	0.05	<0.1	<0.1	<0.1	0.18

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	1.5	0.5		0.04 (J)				
10/25/2016					1.1			
11/30/2016	1.4	0.49		0.18 (J)	1.3			
2/15/2017	1.3	0.58		0.02 (J)	1.3			
5/31/2017	1.2	0.56			1.3			
6/1/2017				0.005 (J)				
6/2/2017			<0.1					
8/2/2017			0.05 (J)					
8/15/2017	1.2				1.2			
8/16/2017		0.45						
8/17/2017			<0.1	0.04 (J)				
4/4/2018			<0.1					
5/8/2018			<0.1					
6/19/2018	0.91	<0.1	0.057 (J)		0.6			
6/20/2018				0.038 (J)				
9/25/2018	1.1	<0.1						
9/26/2018			0.029	0.029	0.44 (D)			
11/6/2018		0.084 (J)			0.4			
11/7/2018	<0.1		<0.1	<0.1				
3/24/2019	0.99	0.14 (J)			0.31			
3/25/2019			0.036 (J)	0.041 (J)				
8/26/2019		<0.1						
8/27/2019	1.1		<0.1	<0.1	<0.1			
10/15/2019	1	<0.1	0.14 (J)					
10/16/2019				0.044 (J)	0.083 (J)			
11/7/2019						0.49	<0.1	1.4
11/18/2019						0.52		
11/19/2019							0.033 (J)	1.2
11/21/2019		<0.1			<0.1			
12/4/2019							0.22 (J)	1.4
12/5/2019						0.5		
12/17/2019							<0.1	
12/18/2019						0.33		1.5
1/8/2020							<0.1	<0.1
1/9/2020						0.12 (J)		
1/21/2020						0.13 (J)	0.11 (J)	0.53
2/4/2020						0.18 (J)	<0.1	<0.1
2/13/2020						0.077 (J)	<0.1	<0.1
3/27/2020	1.1	<0.1	<0.1	<0.1	<0.1	0.06 (J)	<0.1	<0.1
10/12/2020	1.2					0.34		
10/13/2020		<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
3/2/2021	1	<0.1	<0.1					
3/3/2021				<0.1	<0.1	0.32	<0.1	<0.1
9/13/2021	1.4	<0.1						
9/14/2021			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Time Series

Constituent: Lead (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.005						
8/31/2016					<0.005	<0.005	<0.005	
11/30/2016		<0.005			0.0002 (J)	<0.005	<0.005	
2/15/2017		<0.005						
2/16/2017					<0.005	<0.005	0.0002 (J)	
5/31/2017			<0.005					<0.005
6/1/2017		<0.005		<0.005				
6/2/2017					<0.005	<0.005	<0.005	
8/2/2017			0.0001 (J)	<0.005				<0.005
8/15/2017								<0.005
8/16/2017		<0.005	<0.005					
8/17/2017				<0.005	<0.005	<0.005	8E-05 (J)	
4/4/2018				<0.005				<0.005
4/5/2018			<0.005					
5/8/2018				<0.005				<0.005
5/9/2018			<0.005					
6/19/2018		<0.005	<0.005					<0.005
6/20/2018				<0.005	<0.005	<0.005		
6/21/2018							<0.005	
9/25/2018								<0.005
9/26/2018		0.00027	0.00027					
9/27/2018				<0.005	<0.005	<0.005	<0.005	
11/6/2018				<0.005			<0.005	<0.005
11/7/2018		<0.005	<0.005		<0.005	<0.005		
3/6/2019						<0.005		
3/25/2019								<0.005
8/27/2019		<0.005		<0.005				
8/28/2019			<0.005		<0.005	<0.005	0.0001 (J)	<0.005
10/15/2019				<0.005				
10/16/2019		<0.005	<0.005		<0.005			<0.005
10/17/2019						0.00012 (J)	<0.005	
3/26/2020		<0.005						
3/27/2020			<0.005					<0.005
3/28/2020				<0.005	<0.005	<0.005	<0.005	
10/12/2020								<0.005
10/13/2020		<0.005	<0.005	<0.005				
10/14/2020						<0.005	<0.005	
10/15/2020	<0.005				<0.005			
1/4/2021					<0.005			
3/3/2021		<0.005	<0.005					<0.005
3/4/2021	<0.005			<0.005	<0.005	<0.005	<0.005	
9/14/2021	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Time Series

Constituent: Lead (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0001 (J)	<0.005		<0.005				
10/25/2016					<0.005			
11/30/2016	<0.005	<0.005		0.0002 (J)	<0.005			
2/15/2017	<0.005	<0.005		<0.005	<0.005			
5/31/2017	9E-05 (J)	<0.005			<0.005			
6/1/2017				<0.005				
6/2/2017			<0.005					
8/2/2017			0.0001 (J)					
8/15/2017	<0.005				0.0002 (J)			
8/16/2017		8E-05 (J)						
8/17/2017			0.0001 (J)	<0.005				
4/4/2018			<0.005					
5/8/2018			<0.005					
6/19/2018	<0.005	<0.005	<0.005		<0.005			
6/20/2018				<0.005				
9/25/2018	<0.005	<0.005						
9/26/2018			0.00027	0.00027	0.00027			
11/6/2018		<0.005			<0.005			
11/7/2018	<0.005		<0.005	<0.005				
8/26/2019		<0.005						
8/27/2019	0.00022 (J)		0.00011 (J)	<0.005	0.00014 (J)			
10/15/2019	5.6E-05 (J)	<0.005	0.00038 (J)					
10/16/2019				<0.005	0.00034 (J)			
11/7/2019						<0.005	0.00063 (J)	0.0019 (J)
11/18/2019						<0.005		
11/19/2019							<0.005	0.0013 (J)
12/4/2019							5.3E-05 (J)	0.00045 (J)
12/5/2019						<0.005		
12/17/2019							<0.005	
12/18/2019						<0.005		0.00023 (J)
1/8/2020							<0.005	0.00029 (J)
1/9/2020						<0.005		
1/21/2020						<0.005	<0.005	0.00033 (J)
2/4/2020						<0.005	<0.005	<0.005
2/13/2020						<0.005	<0.025 (o)	0.00023 (J)
3/27/2020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
10/12/2020	<0.005					<0.005		
10/13/2020		<0.005	<0.005	<0.005	<0.005		<0.005	<0.005
3/2/2021	<0.005	<0.005	<0.005					
3/3/2021				<0.005	<0.005	<0.005	<0.005	<0.005
9/13/2021	<0.005	<0.005						
9/14/2021			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.025						
8/31/2016					0.0219 (J)	0.0389 (J)	0.0122 (J)	
11/30/2016		<0.025			0.0333 (J)	0.0303 (J)	0.011 (J)	
2/15/2017		<0.025						
2/16/2017					0.0376 (J)	0.05 (J)	0.0142 (J)	
5/31/2017			<0.025					0.0047 (J)
6/1/2017		<0.025		<0.025				
6/2/2017					0.0346 (J)	0.0477 (J)	0.0229 (J)	
8/2/2017			<0.025	<0.025				0.0036 (J)
8/15/2017								<0.025
8/16/2017		<0.025	<0.025					
8/17/2017				<0.025	0.0367 (J)	0.0645	0.0241 (J)	
4/4/2018				0.0013 (J)				0.0041 (J)
4/5/2018			<0.025					
5/8/2018				0.0012 (J)				0.0052 (J)
5/9/2018			<0.025					
6/19/2018		<0.025	<0.025					0.0017 (J)
6/20/2018				0.0015 (J)	0.034 (J)	0.066 (J)		
6/21/2018							0.03 (J)	
9/25/2018								0.0018 (J)
9/26/2018		0.00097	0.00097					
9/27/2018				0.0021 (J)	0.023 (J)	0.045 (J)	0.034 (J)	
11/6/2018				0.0038 (J)			0.037 (J)	<0.025
11/7/2018		<0.025	<0.025		0.022 (J)	0.11		
3/6/2019						0.12		
8/27/2019		<0.025		0.002 (J)				
8/28/2019			<0.025		0.023 (J)	0.13	0.12	0.00082 (J)
10/15/2019				0.0019 (J)				
10/16/2019		<0.025	<0.025		0.021 (J)			<0.025
10/17/2019						0.12	0.096	
11/20/2019							0.12	
3/26/2020		<0.025						
3/27/2020			<0.025					<0.025
3/28/2020	0.078 (J)			<0.025	0.014 (J)	0.064	0.027 (J)	
6/16/2020	0.096 (J)							
10/12/2020								<0.025
10/13/2020		<0.025	<0.025	<0.025				
10/14/2020						0.11	0.039 (J)	
10/15/2020	0.093				0.57			
1/4/2021					0.043 (J)			
3/3/2021		<0.025	<0.025					<0.025
3/4/2021	0.094 (J)			<0.025	0.017 (J)	0.096 (J)	0.035 (J)	
9/14/2021	0.092	<0.025	<0.025	<0.025	0.042 (J)	0.084	0.035 (J)	0.0033 (J)

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0102 (J)	0.0112 (J)		<0.025				
10/25/2016					0.007 (J)			
11/30/2016	0.0106 (J)	<0.025		<0.025	0.0086 (J)			
2/15/2017	0.0115 (J)	0.0105 (J)		<0.025	0.0149 (J)			
5/31/2017	0.011 (J)	0.0106 (J)			0.019 (J)			
6/1/2017				<0.025				
6/2/2017			<0.025					
8/2/2017			<0.025					
8/15/2017	0.0123 (J)				0.016 (J)			
8/16/2017		0.0145 (J)						
8/17/2017			<0.025	<0.025				
4/4/2018			0.0015 (J)					
5/8/2018			0.0014 (J)					
6/19/2018	0.012 (J)	0.044 (J)	0.0016 (J)		0.021 (J)			
6/20/2018				<0.025				
9/25/2018	0.011 (J)	0.041 (J)						
9/26/2018			0.0018 (J)	0.00097	0.02 (J)			
11/6/2018		0.047 (J)			0.017 (J)			
11/7/2018	0.013 (J)		<0.025	<0.025				
8/26/2019		0.059						
8/27/2019	0.012 (J)		0.002 (J)	<0.025	0.023 (J)			
10/15/2019	0.012 (J)	0.056 (J)	0.0016 (J)					
10/16/2019				<0.025	0.024 (J)			
11/7/2019						0.0055 (J)	0.015 (J)	0.026 (J)
11/18/2019						<0.1 (o)		
11/19/2019							0.02 (J)	0.023 (J)
11/21/2019		0.052						
12/4/2019							0.016 (J)	0.019 (J)
12/5/2019						0.0042 (J)		
12/17/2019							0.018 (J)	
12/18/2019						0.0045 (J)		0.02 (J)
1/8/2020							0.022 (J)	0.024 (J)
1/9/2020						0.0041 (J)		
1/21/2020						<0.15 (o)	0.018 (J)	0.022 (J)
2/4/2020						<0.3 (o)	0.02 (J)	0.024 (J)
2/13/2020						0.004 (J)	0.018 (J)	0.021 (J)
3/27/2020	<0.025	0.052	<0.025	<0.025	0.033 (J)	<0.025	0.018 (J)	0.024 (J)
10/12/2020	0.011 (J)					<0.025		
10/13/2020		0.046 (J)	<0.025	<0.025	0.028 (J)		0.022 (J)	0.025 (J)
3/2/2021	<0.025	0.046 (J)	<0.025					
3/3/2021				<0.025	<0.025	<0.025	0.019 (J)	0.018 (J)
9/13/2021	0.01 (J)	0.047						
9/14/2021			<0.025	<0.025	0.035 (J)	<0.025	0.011 (J)	0.02 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.0002						
8/31/2016					<0.0002	<0.0002	<0.0002	
11/30/2016		<0.0002			<0.0002	<0.0002	<0.0002	
2/15/2017		<0.0002						
2/16/2017					<0.0002	<0.0002	<0.0002	
5/31/2017			<0.0002					<0.0002
6/1/2017		<0.0002		<0.0002				
6/2/2017					4.2E-05 (J)	<0.0002	<0.0002	
8/2/2017			<0.0002	<0.0002				<0.0002
8/15/2017								<0.0002
8/16/2017		<0.0002	<0.0002					
8/17/2017				<0.0002	<0.0002	<0.0002	<0.0002	
4/4/2018				<0.0002				<0.0002
4/5/2018			<0.0002					
5/8/2018				<0.0002				<0.0002
5/9/2018			<0.0002					
6/19/2018		<0.0002	<0.0002					<0.0002
6/20/2018				<0.0002	<0.0002	<0.0002		
6/21/2018							<0.0002	
9/25/2018								<0.0002
9/26/2018		3.6E-05	3.6E-05					
9/27/2018				<0.0002	<0.0002	<0.0002	<0.0002	
11/6/2018				0.00071			0.00067	0.0007
11/7/2018		<0.0002	<0.0002		<0.0002	<0.0002		
3/6/2019						<0.0002		
8/27/2019		<0.0002		<0.0002				
8/28/2019			<0.0002		<0.0002	<0.0002	<0.0002	<0.0002
3/26/2020		<0.0002						
3/27/2020			<0.0002					<0.0002
3/28/2020				<0.0002	<0.0002	<0.0002	<0.0002	
9/14/2021	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00016 (J)	<0.0002	<0.0002

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.0002	<0.0002		<0.0002				
10/25/2016					<0.0002			
11/30/2016	<0.0002	<0.0002		<0.0002	<0.0002			
2/15/2017	<0.0002	<0.0002		<0.0002	<0.0002			
5/31/2017	<0.0002	<0.0002			<0.0002			
6/1/2017				<0.0002				
6/2/2017			<0.0002					
8/2/2017			<0.0002					
8/15/2017	<0.0002				<0.0002			
8/16/2017		<0.0002						
8/17/2017			<0.0002	<0.0002				
4/4/2018			<0.0002					
5/8/2018			<0.0002					
6/19/2018	<0.0002	<0.0002	<0.0002		<0.0002			
6/20/2018				<0.0002				
9/25/2018	<0.0002	<0.0002						
9/26/2018			3.6E-05	3.6E-05	3.6E-05			
11/6/2018		0.00066			0.00064			
11/7/2018	<0.0002		<0.0002	<0.0002				
8/26/2019		<0.0002						
8/27/2019	<0.0002		<0.0002	<0.0002	<0.0002			
11/7/2019						<0.0002	<0.0002	<0.0002
11/18/2019						<0.0002		
11/19/2019							<0.0002	<0.0002
12/4/2019							<0.0002	<0.0002
12/5/2019						<0.0002		
12/17/2019							<0.0002	
12/18/2019						<0.0002		<0.0002
1/8/2020							<0.0002	<0.0002
1/9/2020						<0.0002		
1/21/2020						<0.0002	<0.0002	<0.0002
2/4/2020						<0.0002	<0.0002	<0.0002
2/13/2020						<0.0002	<0.0002	<0.0002
3/27/2020	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
9/13/2021	<0.0002	<0.0002						
9/14/2021			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.01						
8/31/2016					<0.01	<0.01	<0.01	
11/30/2016		<0.01			<0.01	<0.01	<0.01	
2/15/2017		<0.01						
2/16/2017					<0.01	<0.01	<0.01	
5/31/2017			<0.01					<0.01
6/1/2017		<0.01		<0.01				
6/2/2017					<0.01	<0.01	<0.01	
8/2/2017			<0.01	<0.01				<0.01
8/15/2017								<0.01
8/16/2017		<0.01	<0.01					
8/17/2017				<0.01	0.0012 (J)	0.0025 (J)	<0.01	
4/4/2018				<0.01				<0.01
4/5/2018			<0.01					
5/8/2018				<0.01				<0.01
5/9/2018			<0.01					
6/19/2018		<0.01	<0.01					<0.01
6/20/2018				<0.01	<0.01	<0.01		
6/21/2018							<0.01	
9/25/2018								<0.01
9/26/2018		0.0019	0.0019					
9/27/2018				<0.01	<0.01	<0.01	<0.01	
11/6/2018				<0.01			<0.01	<0.01
11/7/2018		<0.01	<0.01		<0.01	0.0024 (J)		
3/6/2019						<0.01		
8/27/2019		<0.01		<0.01				
8/28/2019			<0.01		<0.01	0.0017 (J)	<0.01	<0.01
10/15/2019				<0.01				
10/16/2019		<0.01	<0.01		<0.01			<0.01
10/17/2019						0.0017 (J)	<0.01	
3/26/2020		<0.01						
3/27/2020			<0.01					<0.01
3/28/2020				<0.01	<0.01	<0.01	<0.01	
9/14/2021	<0.01	<0.01	0.0008 (J)	<0.01	0.0099 (J)	<0.01	<0.01	<0.01

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.01	<0.01		<0.01				
10/25/2016					<0.01			
11/30/2016	<0.01	<0.01		<0.01	<0.01			
2/15/2017	<0.01	<0.01		<0.01	<0.01			
5/31/2017	<0.01	<0.01			<0.01			
6/1/2017				<0.01				
6/2/2017			<0.01					
8/2/2017			<0.01					
8/15/2017	<0.01				<0.01			
8/16/2017		<0.01						
8/17/2017			<0.01	<0.01				
4/4/2018			<0.01					
5/8/2018			0.002 (J)					
6/19/2018	<0.01	<0.01	<0.01		<0.01			
6/20/2018				<0.01				
9/25/2018	<0.01	<0.01						
9/26/2018			0.0019	0.0019	0.0019			
11/6/2018		<0.01			<0.01			
11/7/2018	<0.01 (D)		<0.01 (D)	<0.01				
8/26/2019		<0.01						
8/27/2019	<0.01		<0.01	<0.01	<0.01			
10/15/2019	<0.01	<0.01	<0.01					
10/16/2019				<0.01	<0.01			
11/7/2019						<0.01	<0.01	<0.01
11/18/2019						<0.01		
11/19/2019							<0.01	<0.01
12/4/2019							<0.01	<0.01
12/5/2019						<0.01		
12/17/2019							<0.01	
12/18/2019						<0.01		<0.01
1/8/2020							<0.01	<0.01
1/9/2020						<0.01		
1/21/2020						<0.01	<0.01	<0.01
2/4/2020						<0.01	<0.01	<0.01
2/13/2020						<0.01	<0.01	<0.01
3/27/2020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9/13/2021	<0.01	<0.01						
9/14/2021			0.0009 (J)	<0.01	<0.01	<0.01	<0.01	<0.01

Time Series

Constituent: pH, field (Std. Units) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		5.66						
8/31/2016					6.93	7.21	6.66	
11/30/2016		5.36			6.77	7.23	6.69	
2/15/2017		5.25						
2/16/2017					6.89	7.27	6.72	
5/31/2017			5.06					5.29
6/1/2017		5.59		5.68				
6/2/2017					6.83	7.18	6.53	
8/2/2017			5	5.2				5.19
8/15/2017								5.19
8/16/2017		5.58	4.98					
8/17/2017				5.31	6.76	7.15	6.28	
4/4/2018				4.74				5.19
4/5/2018			5.02					
5/8/2018				4.78				5.3
5/9/2018			4.96					
6/19/2018		5.51	5.02					5.15
6/20/2018				4.79	6.83	7.19		
6/21/2018							6.45	
9/25/2018								5.13
9/26/2018		5.32	5.06					
9/27/2018				5.14	6.64	7.21	6.48	
11/6/2018				4.9			6.18	5.08
11/7/2018		5.72	5.03		6.6	6.91		
3/24/2019					6.1	6.98	6.38	
3/25/2019		5.75	5.08	4.93				5.05
8/27/2019		5.58		5.05				
8/28/2019			4.99		6.69	6.87	6.35	4.87
10/15/2019				4.89				
10/16/2019		5.72	4.98		6.64			5.05
10/17/2019						6.86	6.4	
11/19/2019			5.11					
11/20/2019		5.77		5.03	6.58		6.27	
3/26/2020		5.45						
3/27/2020			5.12					5.09
3/28/2020	7.11			5.27	6.6	6.8	6.35	
6/16/2020	7.22							
10/12/2020								5
10/13/2020		5.69	5.03	5.25				
10/14/2020						6.93	6.32	
10/15/2020	7.08				6.53			
1/4/2021					6.66			
3/3/2021		5.81	5.06					5.07
3/4/2021	7.21			5.31	6.52	6.94	6.33	
9/14/2021	7.11	5.13	5.04	5.09	6.67	6.94	6.28	5.5

Time Series

Constituent: pH, field (Std. Units) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	6.49	7.04		5.18				
10/25/2016					6.95			
11/30/2016	6.5	7.13		4.96	6.95			
2/15/2017	6.51	7.02		5.13	6.85			
5/31/2017	6.45	7			6.96			
6/1/2017				4.99				
6/2/2017			5.31					
8/2/2017			5.05					
8/15/2017	6.41				6.99			
8/16/2017		6.88						
8/17/2017			5.52	4.68				
4/4/2018			5.45					
5/8/2018			5.54					
6/19/2018	6.32	6.78	5.6		6.91			
6/20/2018				4.77				
9/25/2018	6.31	6.75						
9/26/2018			5.17	4.65	6.81			
11/6/2018		6.92			5.99			
11/7/2018	6.3		5.47	4.99				
3/24/2019	6.4	6.59	5.4		6.62			
3/25/2019				5.13				
8/26/2019		6.62						
8/27/2019	6.24		5.35	4.88	6.23			
10/15/2019	6.19	6.58	5.32					
10/16/2019				4.89	6.54			
11/7/2019						4.25	5.21	3.79
11/18/2019						4.12		
11/19/2019							5.15	3.78
11/21/2019		6.67			6.44			
12/4/2019							5.28 (D)	3.87 (D)
12/5/2019						4.17 (D)		
1/8/2020							5.04	3.77
1/9/2020						4.19		
1/21/2020						4.28	5.1	3.73
2/4/2020						4.26	5.15	3.72
2/13/2020						4.2	5.07	3.75
3/27/2020	6.33	6.59	5.3	5.12	6.93	4.34	5.14	3.81
10/12/2020	6.35					4.29		
10/13/2020		6.56	5.02	5.17	6.34		5.04	3.72
3/2/2021	6.34	6.55	5.16					
3/3/2021				5.71	6.58	4.37	5.1	3.36
9/13/2021	6.24	6.3						
9/14/2021			5.39	4.69	6.77	4.28	5.31	3.72

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.02						
8/31/2016					0.002 (J)	0.0015 (J)	0.0021 (J)	
11/30/2016		0.0011 (J)			0.0023 (J)	0.0054 (J)	<0.02	
2/15/2017		<0.02						
2/16/2017					0.002 (J)	0.0022 (J)	0.0025 (J)	
5/31/2017			<0.02					<0.02
6/1/2017		<0.02		<0.02				
6/2/2017					<0.02	<0.02	<0.02	
8/2/2017			<0.02	<0.02				<0.02
8/15/2017								<0.02
8/16/2017		<0.02	<0.02					
8/17/2017				<0.02	<0.02	0.002 (J)	0.0033 (J)	
4/4/2018				<0.02				<0.02
4/5/2018			<0.02					
5/8/2018				<0.02				<0.02
5/9/2018			<0.02					
6/19/2018		<0.02	<0.02					<0.02
6/20/2018				<0.02	<0.02	<0.02		
6/21/2018							<0.02	
9/25/2018								<0.02
9/26/2018		0.0014	0.0014					
9/27/2018				<0.02	<0.02	<0.02	0.0023 (J)	
11/6/2018				0.0025 (J)			0.0048 (J)	<0.02
11/7/2018		<0.02	<0.02		<0.02	0.0075 (J)		
3/6/2019						0.0024 (J)		
3/25/2019								<0.02
8/27/2019		<0.02		<0.02				
8/28/2019			<0.02		<0.02	0.0014 (J)	0.0019 (J)	<0.02
10/15/2019				<0.02				
10/16/2019		<0.02	<0.02		<0.02			<0.02
10/17/2019						0.0066 (J)	0.0049 (J)	
3/26/2020		<0.02						
3/27/2020			<0.02					<0.02
3/28/2020				<0.02	<0.02	<0.02	<0.02	
10/12/2020								<0.02
10/13/2020		<0.02	<0.02	<0.02				
10/14/2020						<0.02	<0.02	
10/15/2020	<0.02				0.0028 (J)			
1/4/2021					<0.02			
3/3/2021		<0.02	<0.02					<0.02
3/4/2021	<0.02			0.00038 (J)	<0.02	<0.02	<0.02	
9/14/2021	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0011 (J)	<0.02		<0.02				
10/25/2016					0.003 (J)			
11/30/2016	0.0023 (J)	<0.02		0.0011 (J)	0.0087 (J)			
2/15/2017	0.0021 (J)	0.0014 (J)		<0.02	0.0067 (J)			
5/31/2017	<0.02	<0.02			0.0018 (J)			
6/1/2017				<0.02				
6/2/2017			<0.02					
8/2/2017			<0.02					
8/15/2017	0.0021 (J)				0.0025 (J)			
8/16/2017		0.0018 (J)						
8/17/2017			<0.02	<0.02				
4/4/2018			<0.02					
5/8/2018			0.0016 (J)					
6/19/2018	0.0017 (J)	<0.02	0.0022 (J)		<0.02			
6/20/2018				<0.02				
9/25/2018	0.002 (J)	0.0019 (J)						
9/26/2018			0.0015 (J)	0.0014	0.0016 (J)			
11/6/2018		0.0057 (J)			<0.02			
11/7/2018	<0.02		<0.02	<0.02				
8/26/2019		0.0025 (J)						
8/27/2019	0.0019 (J)		0.0018 (J)	<0.02	0.0018 (J)			
10/15/2019	<0.02	0.003 (J)	<0.02					
10/16/2019				<0.02	<0.02			
11/7/2019						0.036	0.063	0.12
11/18/2019						<0.02		
11/19/2019							0.039 (J)	0.047 (J)
12/4/2019							0.12	0.11
12/5/2019						0.032		
12/17/2019							0.031 (J)	
12/18/2019						0.01		0.032 (J)
1/8/2020							0.066	0.044 (J)
1/9/2020						0.01		
1/21/2020						0.023 (J)	0.13	0.089
2/4/2020						0.017 (J)	0.065 (J)	0.049 (J)
2/13/2020						0.015	0.15	0.11
3/27/2020	<0.02	<0.02	<0.02	<0.02	<0.02	0.0034 (J)	0.013	0.012
10/12/2020	<0.02					<0.02		
10/13/2020		<0.02	<0.02	<0.02	<0.02		0.0076 (J)	0.0056 (J)
3/2/2021	<0.02	<0.02	<0.02					
3/3/2021				<0.02	<0.02	0.0012 (J)	0.013 (J)	0.0094 (J)
9/13/2021	<0.02	<0.02						
9/14/2021			<0.02	<0.02	0.0021	<0.02	0.0022 (J)	0.0018 (J)

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		17						
8/31/2016					37	21	290	
11/30/2016		33			63	19	240	
2/15/2017		83						
2/16/2017					90	22	220	
5/31/2017			46					40
6/1/2017		51		42				
6/2/2017					210	28	500	
8/2/2017			43	120				34
8/15/2017								24
8/16/2017		36	41					
8/17/2017				110	80	69	510	
4/4/2018				70.6				33.9
4/5/2018			33.4					
5/8/2018				61.4				35.7
5/9/2018			36					
6/19/2018		50.3	35.5					23.7
6/20/2018				25.3	46 (J)	33		
6/21/2018							481	
9/25/2018								25.6
9/26/2018		54.1	39.6					
9/27/2018				63.4	58.5 (J)	29.4 (D)	777 (D)	
11/6/2018				136			926	25.2
11/7/2018		45.6	35.8		41.3 (J)	734		
3/6/2019						1220 (J)		
3/24/2019					131	413	1070	
3/25/2019		43	34.2	137				24.9
10/15/2019				105				
10/16/2019		31.9	24.4		122.5 (D)			17.4
10/17/2019						507	1230	
11/20/2019					132		1550	
3/26/2020		36.2						
3/27/2020			28.6					23.4
3/28/2020				86.6	63.8	701	1090	
4/23/2020	936							
6/16/2020	970							
10/12/2020								19.3
10/13/2020		32.3	27.6	92.3				
10/14/2020						510	904	
10/15/2020	1060				147			
1/4/2021					262			
3/3/2021		33.8	27.6					19.9
3/4/2021	1060			99.1	82.2	596	982	
9/14/2021	971	34.2	30.4	96.2 (M1)	459	490	819	33.1

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	4.3	6.4		24				
10/25/2016					84			
11/30/2016	7.6	4.5		26	52			
2/15/2017	3	37		30	190			
5/31/2017	2.5	61			260			
6/1/2017				24				
6/2/2017			13					
8/2/2017			14					
8/15/2017	3.2				210			
8/16/2017		130						
8/17/2017			14	26				
4/4/2018			13.4					
5/8/2018			14.8					
6/19/2018	1.6	498	15.5		218			
6/20/2018				31.2				
9/25/2018	1	790						
9/26/2018			23	36.8	333 (D)			
11/6/2018		875			182			
11/7/2018	0.41 (J)		22.2	35				
3/24/2019	1.5	1170			413			
3/25/2019			22.4	40.1				
10/15/2019	0.54 (J)	<1	17.9					
10/16/2019				28.5	312.5 (D)			
11/7/2019						379	832	1010
11/18/2019						737		
11/19/2019							795	1140
11/21/2019		1070			428			
12/4/2019							810	1020
12/5/2019						351		
12/17/2019							535	
12/18/2019								8.1
1/8/2020							603	747
1/9/2020						254		
1/21/2020						254	611	798
2/4/2020						432	599	1120
2/13/2020						300	761	833
3/27/2020	<1	899	14.6	31.2	504	219	836	700
10/12/2020	<1					191		
10/13/2020		695	7.6	26.8	378		609	638
3/2/2021	1.2	97.5	8					
3/3/2021				30.5	420	171	<1	743
9/13/2021	<1	680						
9/14/2021			16.7	24.4	460	134	995	659

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		<0.002						
8/31/2016					<0.002	<0.002	<0.002	
11/30/2016		<0.002			<0.002	<0.002	<0.002	
2/15/2017		<0.002						
2/16/2017					<0.002	<0.002	<0.002	
5/31/2017			<0.002					<0.002
6/1/2017		<0.002		<0.002				
6/2/2017					<0.002	<0.002	<0.002	
8/2/2017			<0.002	<0.002				<0.002
8/15/2017								<0.002
8/16/2017		<0.002	<0.002					
8/17/2017				<0.002	<0.002	<0.002	<0.002	
4/4/2018				<0.002				<0.002
4/5/2018			<0.002					
5/8/2018				<0.002				<0.002
5/9/2018			<0.002					
6/19/2018		<0.002	<0.002					<0.002
6/20/2018				<0.002	<0.002	<0.002		
6/21/2018							<0.002	
9/25/2018								<0.002
9/26/2018		0.00014	0.00014					
9/27/2018				<0.002	<0.002	<0.002	<0.002	
11/6/2018				<0.002			<0.002	<0.002
11/7/2018		<0.002	<0.002		<0.002	<0.002		
3/6/2019						<0.002		
8/27/2019		<0.002		<0.002				
8/28/2019			<0.002		<0.002	<0.002	<0.002	<0.002
10/15/2019				<0.002				
10/16/2019		<0.002	<0.002		<0.002			<0.002
10/17/2019						7.6E-05 (J)	<0.002	
3/26/2020		<0.002						
3/27/2020			<0.002					<0.002
3/28/2020				<0.002	<0.002	<0.002	<0.002	
9/14/2021	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.002	<0.002		<0.002				
10/25/2016					<0.002			
11/30/2016	<0.002	<0.002		<0.002	<0.002			
2/15/2017	<0.002	<0.002		<0.002	<0.002			
5/31/2017	<0.002	<0.002			<0.002			
6/1/2017				6E-05 (J)				
6/2/2017			<0.002					
8/2/2017			<0.002					
8/15/2017	<0.002				<0.002			
8/16/2017		<0.002						
8/17/2017			<0.002	7E-05 (J)				
4/4/2018			<0.002					
5/8/2018			<0.002					
6/19/2018	<0.002	<0.002	<0.002		<0.002			
6/20/2018				<0.002				
9/25/2018	<0.002	<0.002						
9/26/2018			0.00014	0.00014	0.00014			
11/6/2018		<0.002			<0.002			
11/7/2018	<0.002		<0.002	<0.002				
8/26/2019		<0.002						
8/27/2019	<0.002		<0.002	6.6E-05 (J)	<0.002			
10/15/2019	<0.002	<0.002	<0.002					
10/16/2019				<0.002	<0.002			
11/7/2019						<0.002	<0.002	<0.002
11/18/2019						<0.002		
11/19/2019							<0.002	<0.002
12/4/2019							<0.002	<0.002
12/5/2019						<0.002		
12/17/2019							<0.002	
12/18/2019						<0.002		<0.002
1/8/2020							<0.002	<0.002
1/9/2020						<0.002		
1/21/2020						<0.002	<0.002	<0.002
2/4/2020						<0.002	<0.002	<0.002
2/13/2020						<0.002	<0.002	<0.002
3/27/2020	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
9/13/2021	<0.002	<0.002						
9/14/2021			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)
8/30/2016		86						
8/31/2016					3620	4160	5100	
11/30/2016		131			4030	3950	4680	
2/15/2017		212						
2/16/2017					4080	4600	5080	
5/31/2017			123					257
6/1/2017		103		97				
6/2/2017					5560	4470	8000	
8/2/2017			136	538				183
8/15/2017								90
8/16/2017		65	124					
8/17/2017				445	4620	5450	8320	
4/4/2018				365				197
4/5/2018			128					
5/8/2018				304				225
5/9/2018			127					
6/19/2018		142	143					112
6/20/2018				114	3370	4940		
6/21/2018							7500	
9/25/2018								137
9/26/2018		133	132					
9/27/2018				255	2360	4480	10200	
11/6/2018				388			11000	89
11/7/2018		121	134		2230	15100		
3/6/2019						19000		
3/24/2019					1450	13700	13700	
3/25/2019		116	111	327				74
10/15/2019				237				
10/16/2019		104	96		2860			82
10/17/2019						16100	13200	
11/20/2019					2640		16700	
3/26/2020		114						
3/27/2020			119					87
3/28/2020				284	1470	18800	18300	
6/16/2020	20100							
10/12/2020								94
10/13/2020		113	118	<25				
10/14/2020						15200	18400	
10/15/2020	19300				5100			
1/4/2021					7750			
3/3/2021		99	84					66
3/4/2021	19000			285	1700	14200	17100	
9/14/2021	16400	66	76	193	8020	11800	13400	191

Time Series

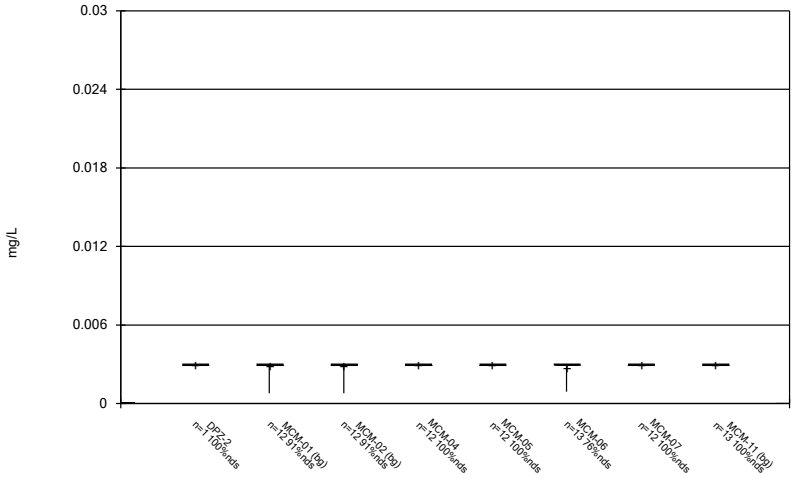
Constituent: Total Dissolved Solids (mg/L) Analysis Run 12/29/2021 3:10 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-12	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	1910	1310		99				
10/25/2016					2900			
11/30/2016	1910	1050		111	3970			
2/15/2017	1870	1440		170	3820			
5/31/2017	1920	1740			5050			
6/1/2017				98				
6/2/2017			69					
8/2/2017			35					
8/15/2017	1840				4820			
8/16/2017		3010						
8/17/2017			51	84				
4/4/2018			90					
5/8/2018			89					
6/19/2018	1820	8630	110		5640			
6/20/2018				123				
9/25/2018	1760	10700						
9/26/2018			124	117	6920			
11/6/2018		11100			4160			
11/7/2018	1800		125	120				
3/24/2019	1770	14200			6840			
3/25/2019			98	101				
10/15/2019	1730	15400	107					
10/16/2019				95	7740			
11/7/2019						4140	10900	13500
11/18/2019						4030		
11/19/2019							10000	13300
11/21/2019		15800			7720			
12/4/2019							11000	13200
12/5/2019						3840		
12/17/2019							9860	
12/18/2019						3880		12500
1/8/2020							9760	12300
1/9/2020						3520		
1/21/2020						3280	10100	12000
2/4/2020						3220	10600	12300
2/13/2020						3580	10900	12400
3/27/2020	1970	16400	110	110	10200	3090	14300	14600
10/12/2020	1560					2920		
10/13/2020		15600	63	115	8750		6600	13900
3/2/2021	1430	12000	40					
3/3/2021				122	8830	2620	11000	11400
9/13/2021	1450	11400						
9/14/2021			96	<25	8820	2190	14600	10300

FIGURE B.

Box & Whiskers Plot

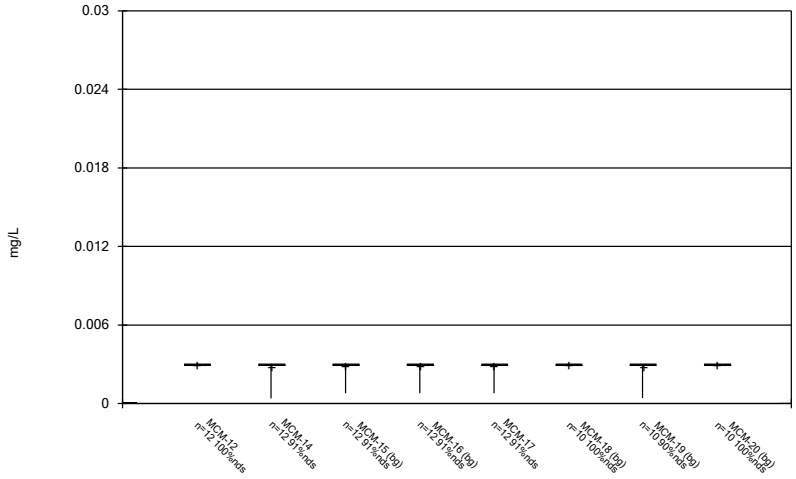


Constituent: Antimony Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

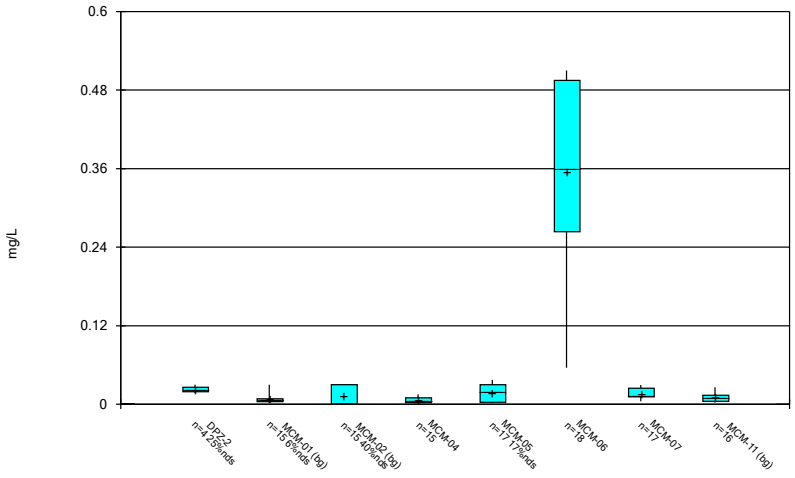


Constituent: Antimony Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

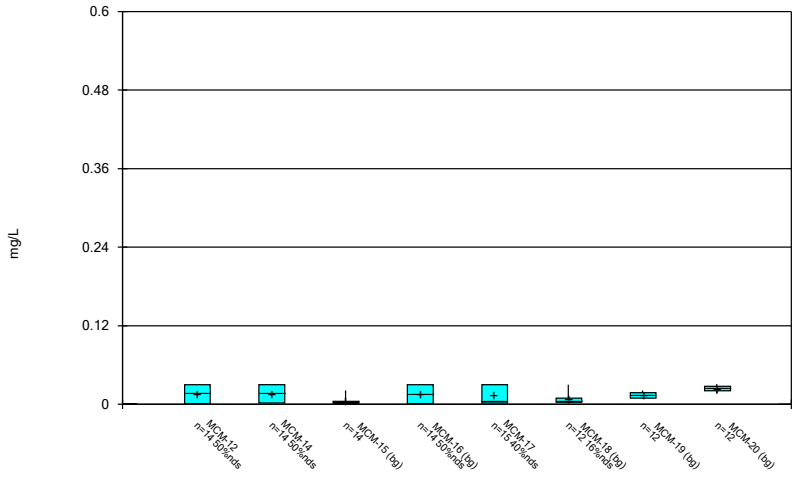


Constituent: Arsenic Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

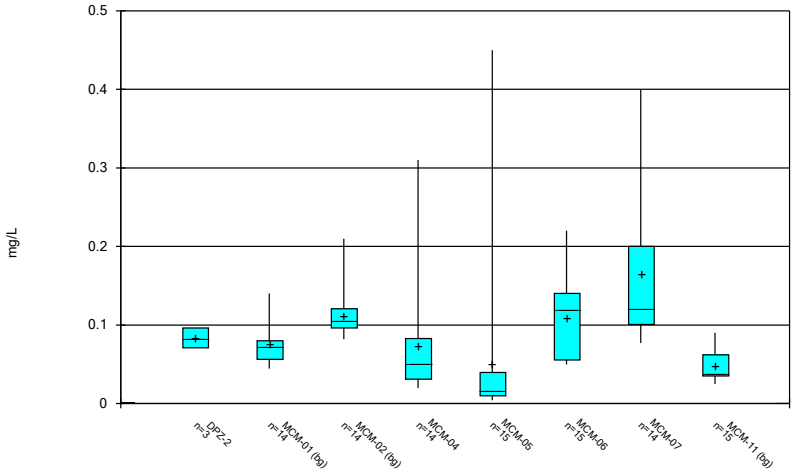
Box & Whiskers Plot



Constituent: Arsenic Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

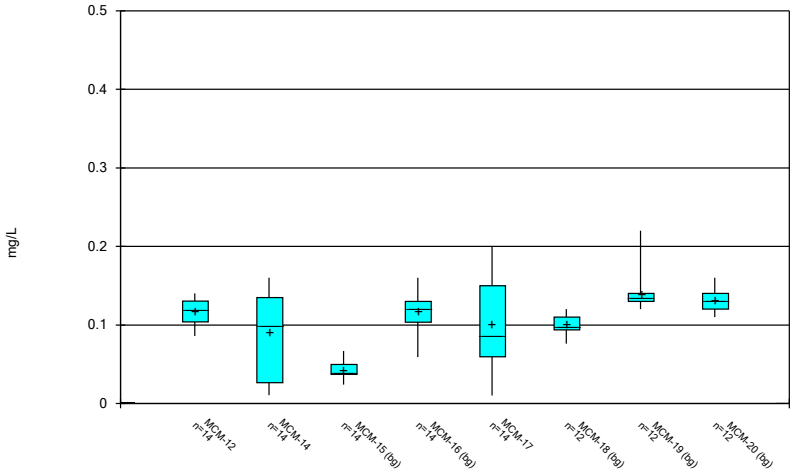


Constituent: Barium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

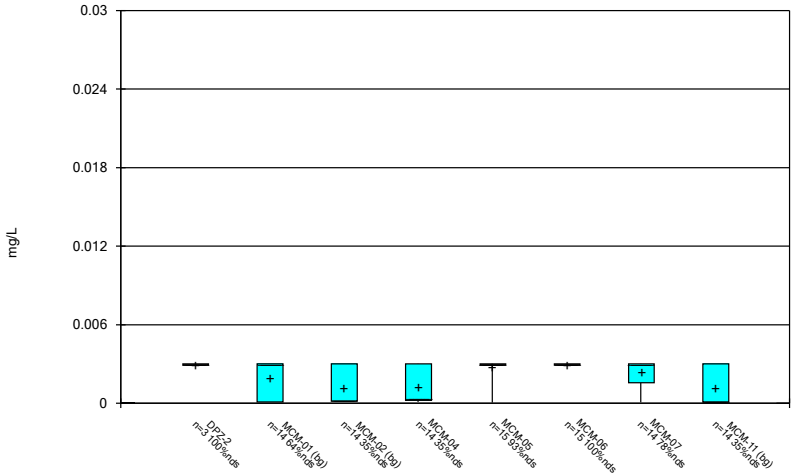


Constituent: Barium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

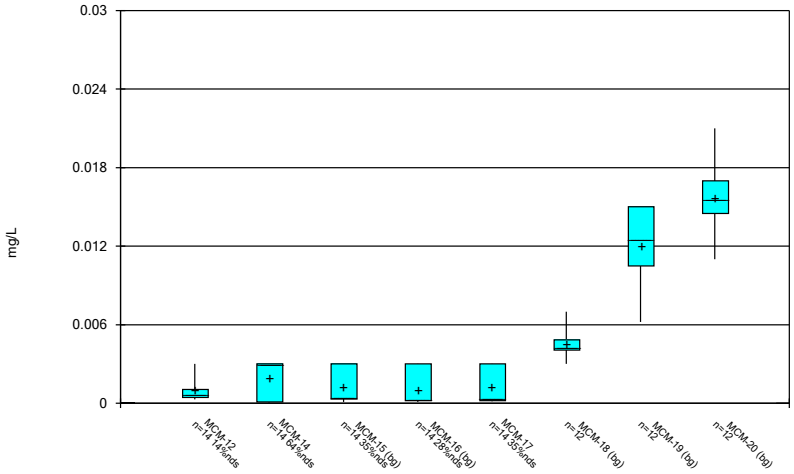


Constituent: Beryllium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot



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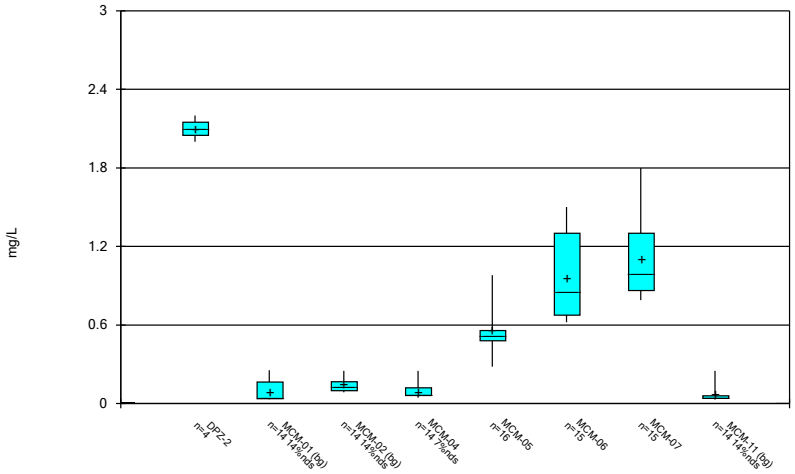
Box & Whiskers Plot

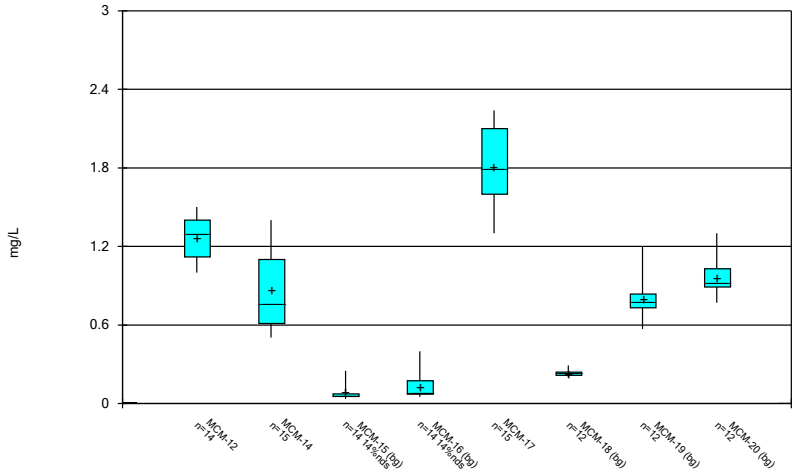


Constituent: Boron Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Boron Analysis Run 12/29/2021 3:11 PM

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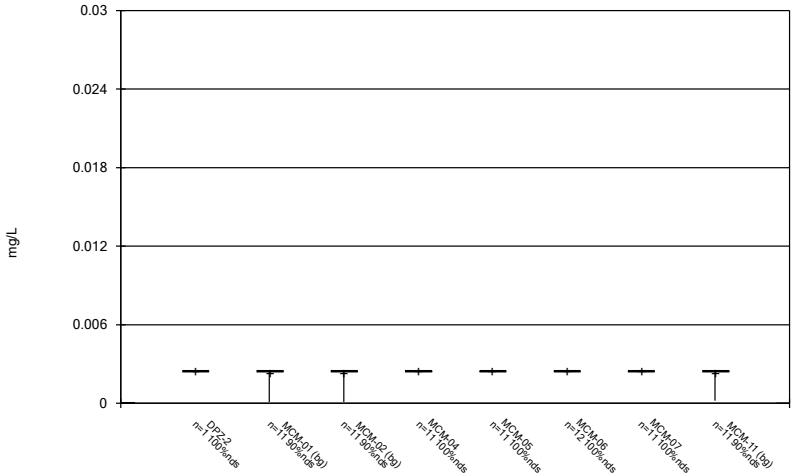
Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

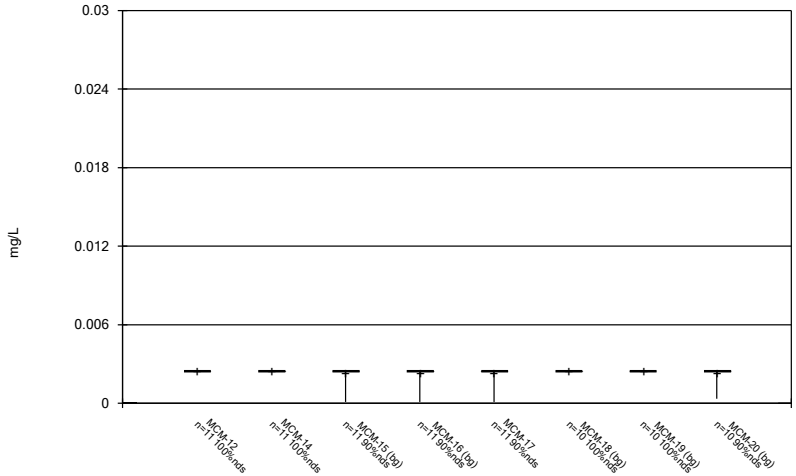


Constituent: Cadmium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

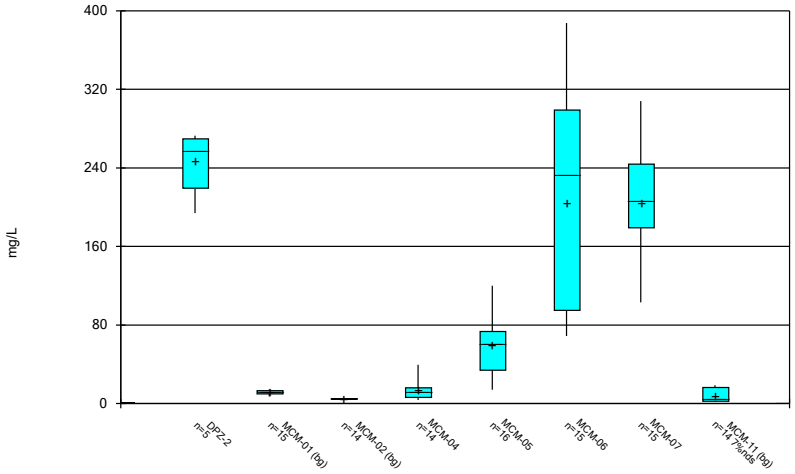
Box & Whiskers Plot



Constituent: Cadmium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

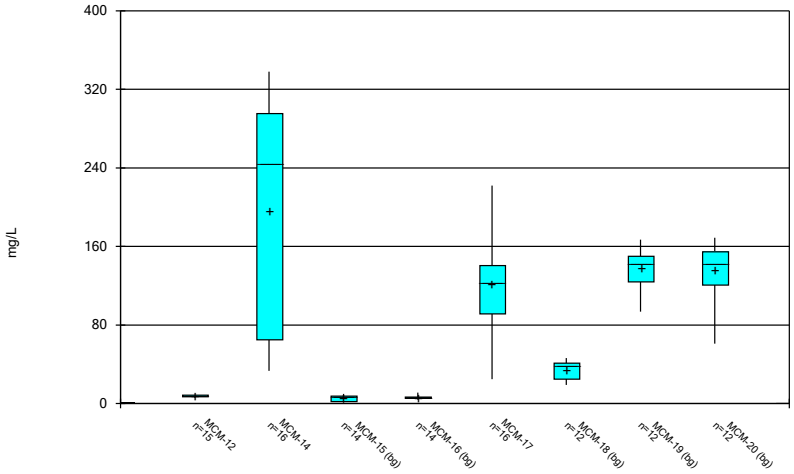


Constituent: Calcium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

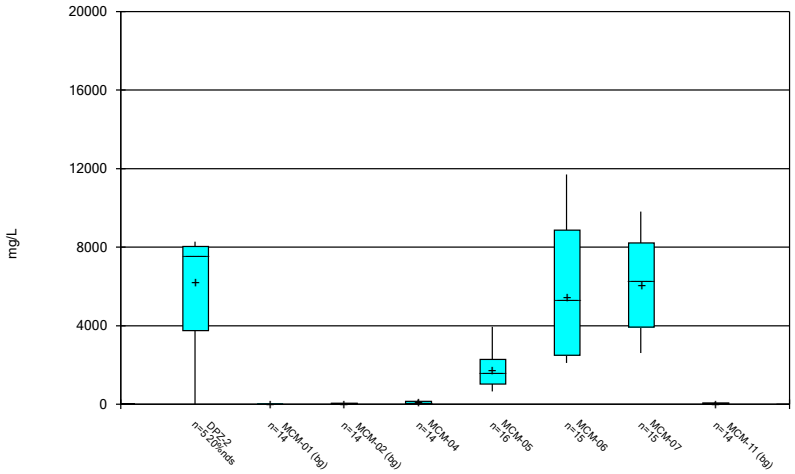


Constituent: Calcium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

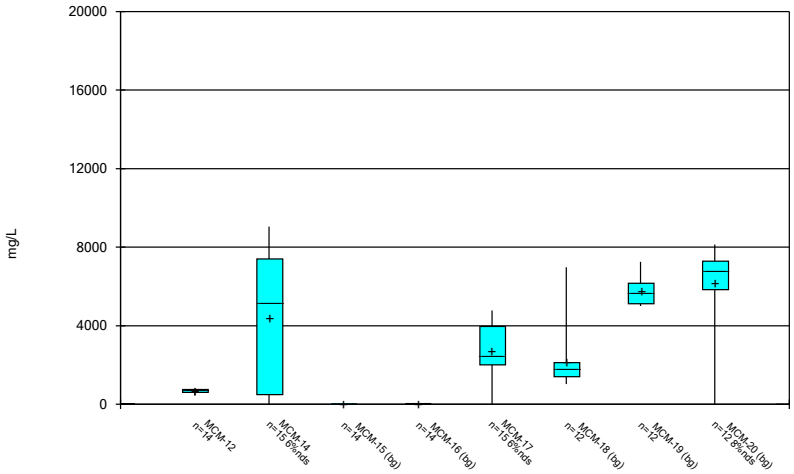


Constituent: Chloride Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

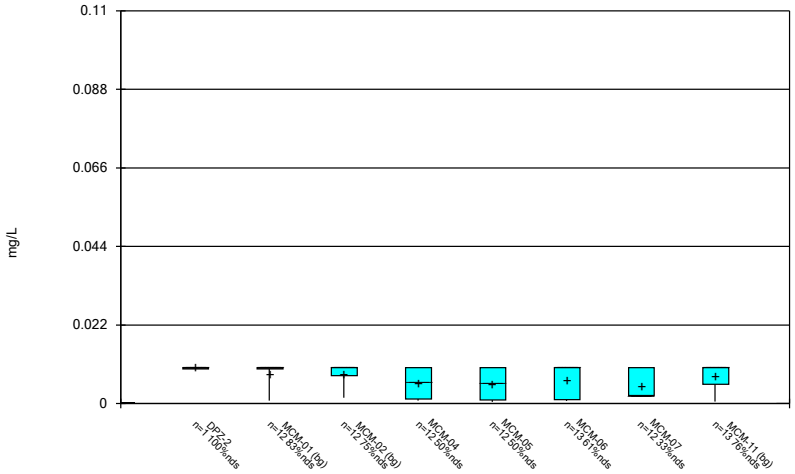
Box & Whiskers Plot



Constituent: Chloride Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

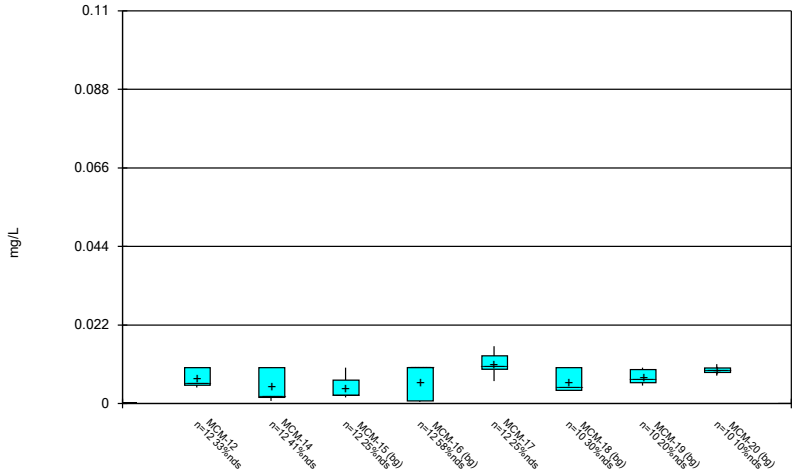


Constituent: Chromium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

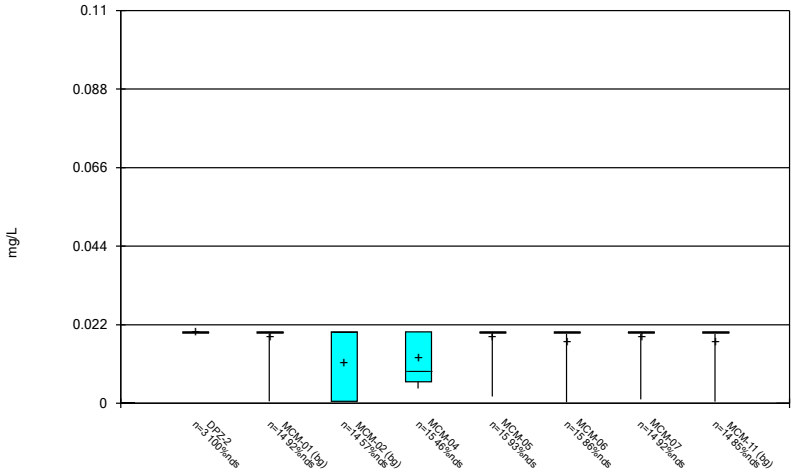


Constituent: Chromium Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

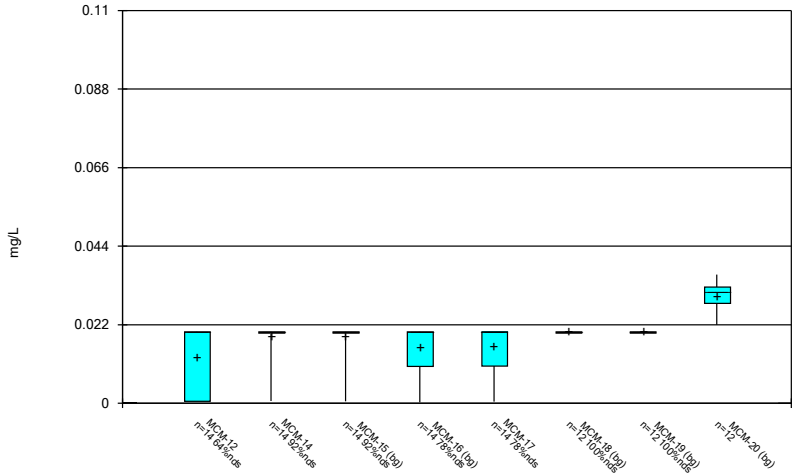


Constituent: Cobalt Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

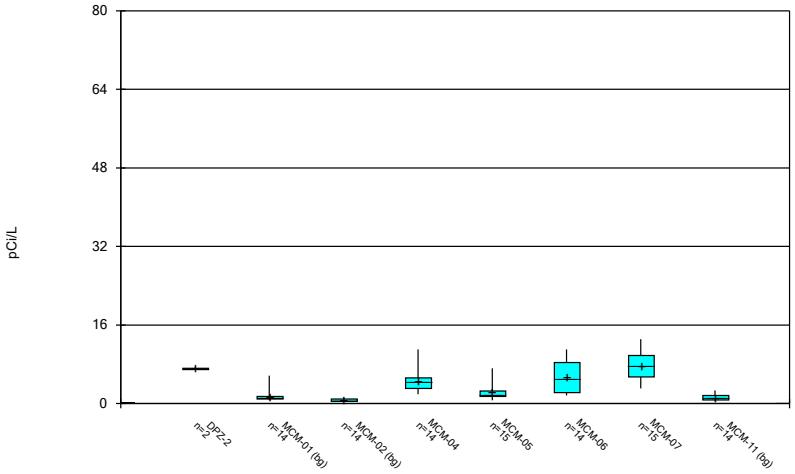
Box & Whiskers Plot



Constituent: Cobalt Analysis Run 12/29/2021 3:11 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

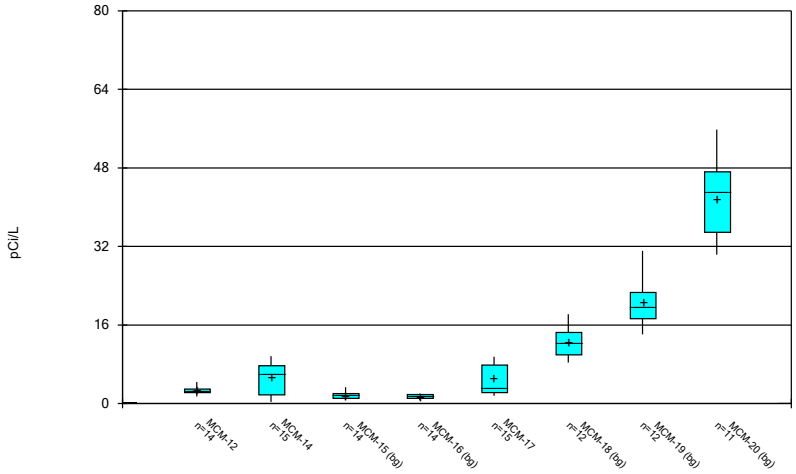
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 12/29/2021 3:11 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

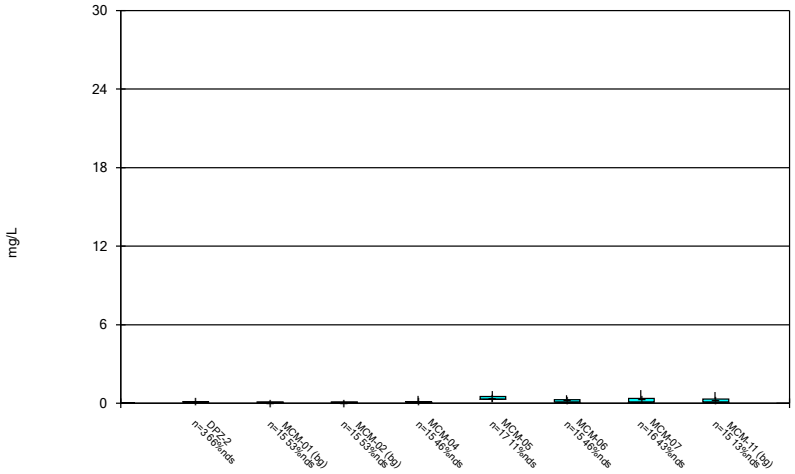
Box & Whiskers Plot



Constituent: Combined Radium 226 + 228 Analysis Run 12/29/2021 3:11 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

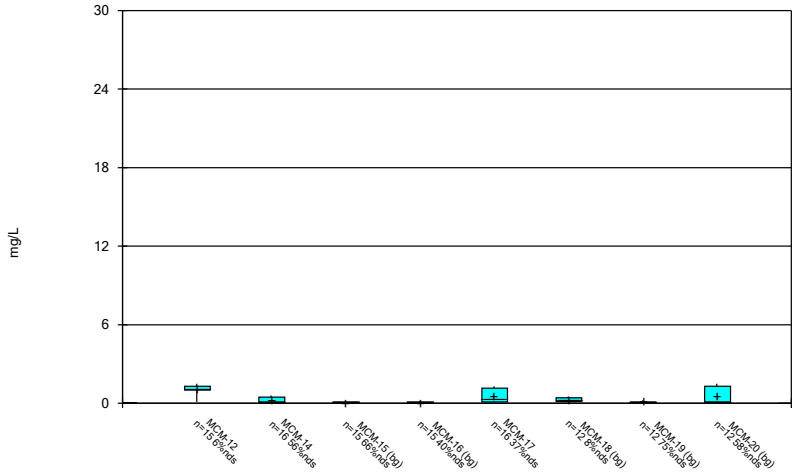
Box & Whiskers Plot



Constituent: Fluoride Analysis Run 12/29/2021 3:11 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

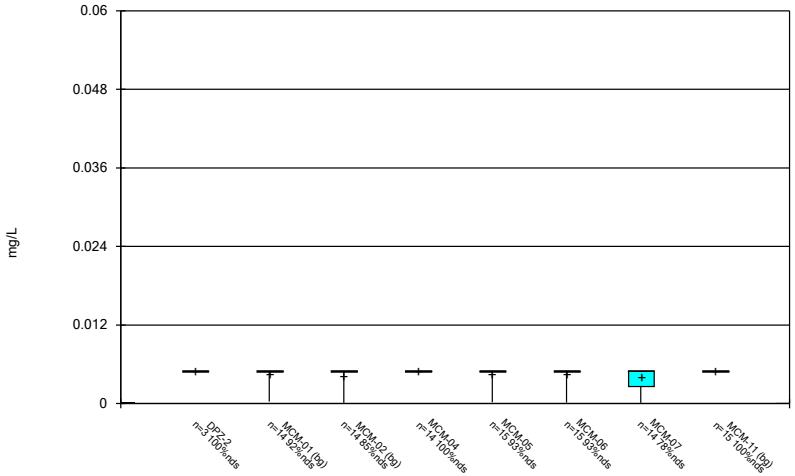
Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Fluoride Analysis Run 12/29/2021 3:11 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

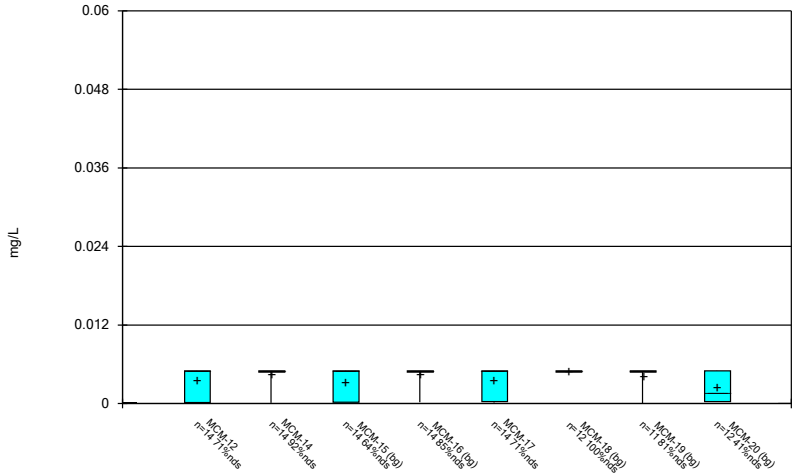


Constituent: Lead Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

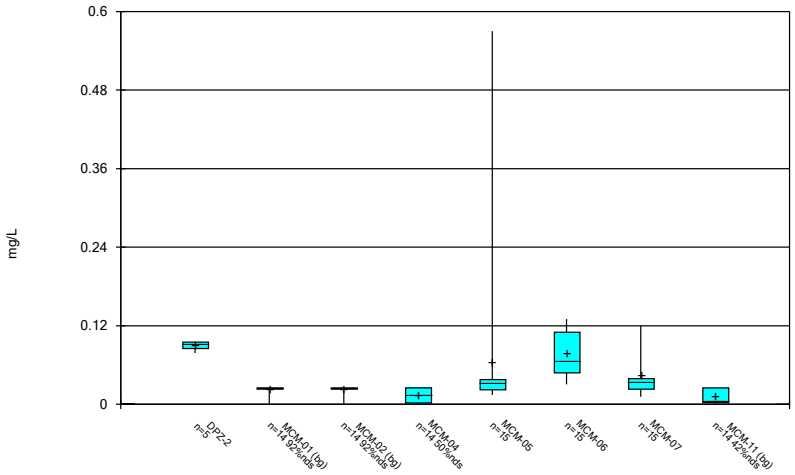


Constituent: Lead Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

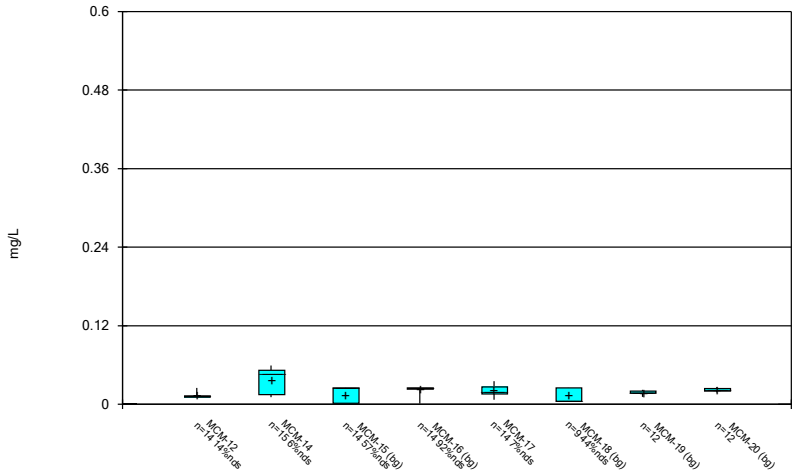


Constituent: Lithium Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

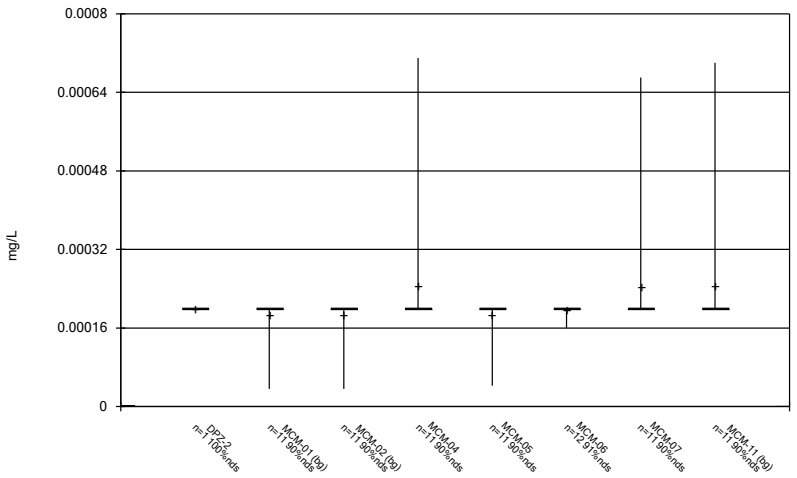
Box & Whiskers Plot



Constituent: Lithium Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

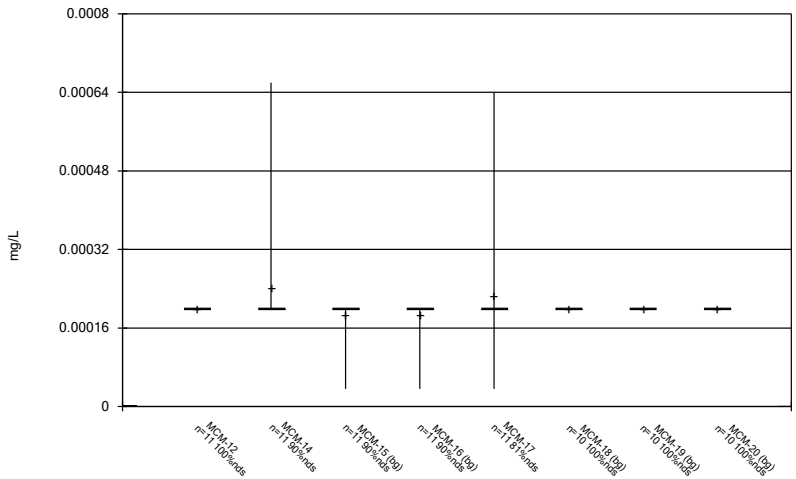


Constituent: Mercury Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

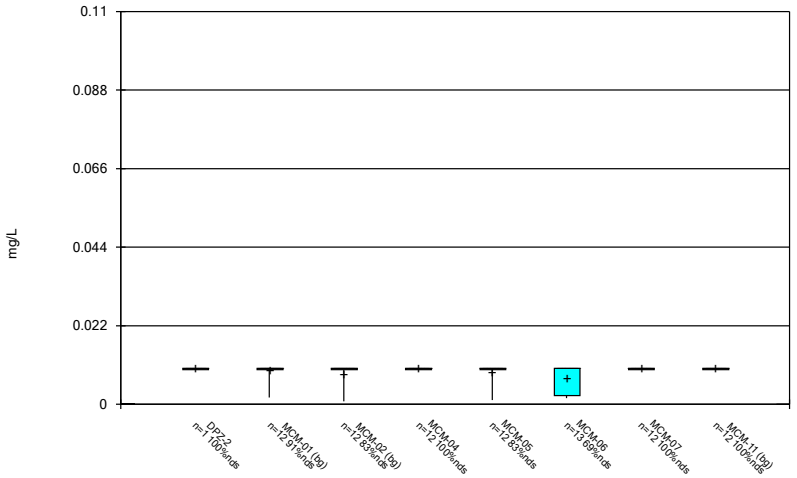


Constituent: Mercury Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

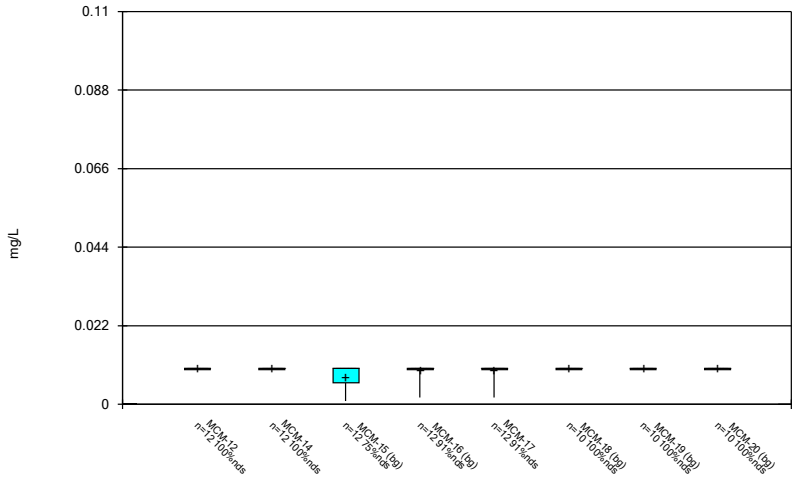


Constituent: Molybdenum Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

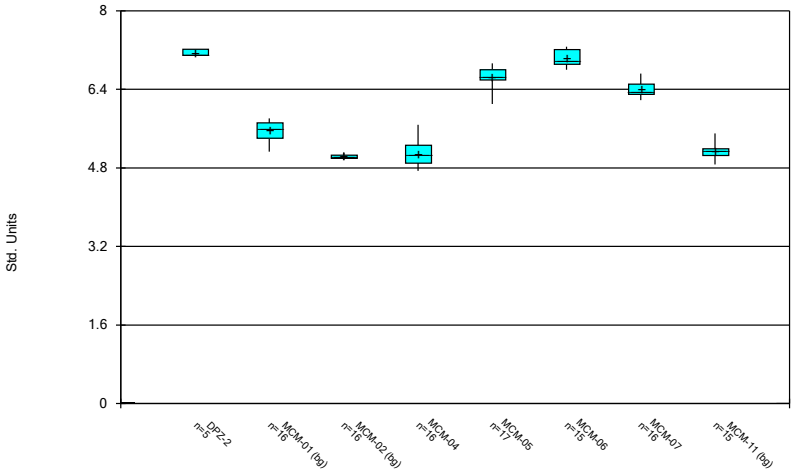
Box & Whiskers Plot



Constituent: Molybdenum Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

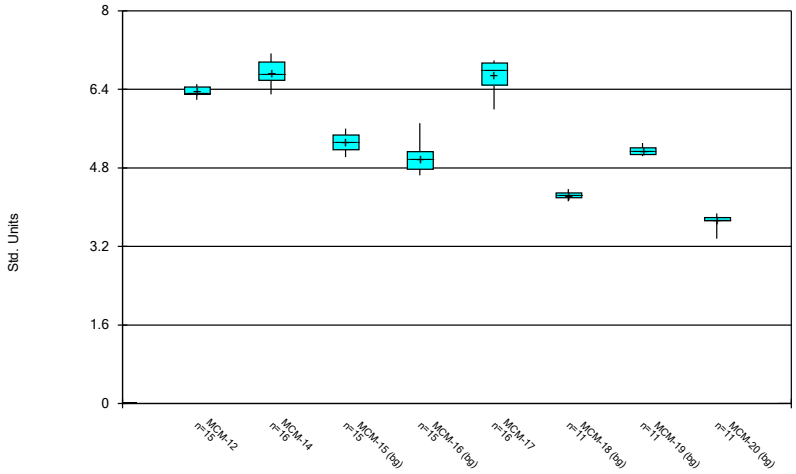


Constituent: pH, field Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

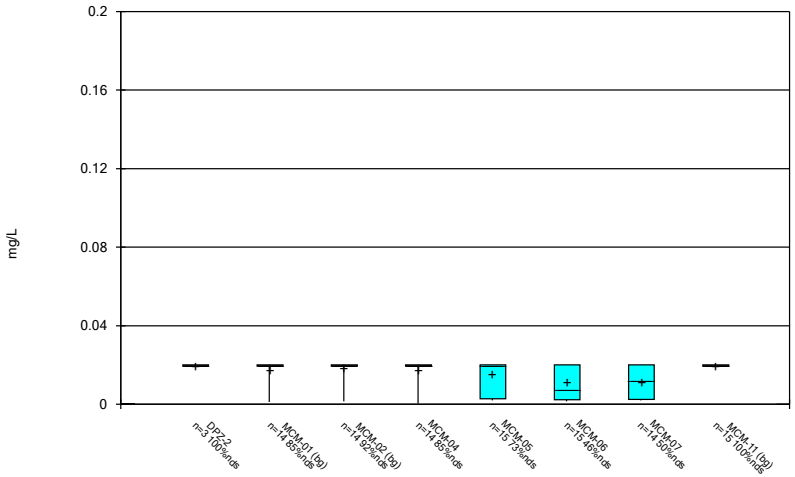


Constituent: pH, field Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

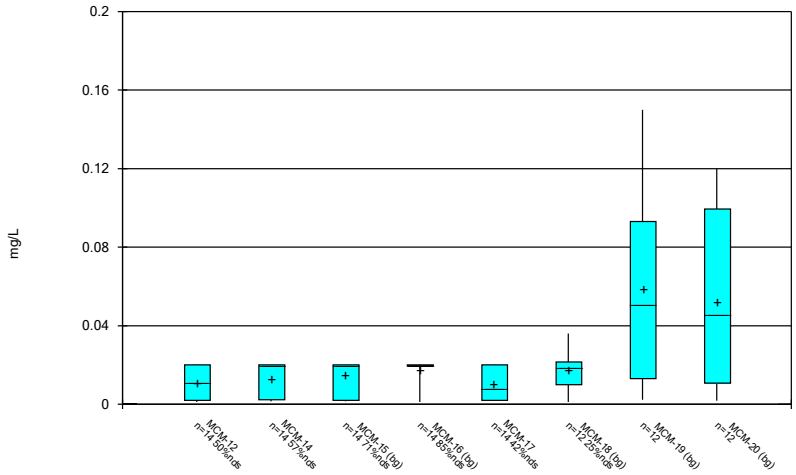


Constituent: Selenium Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

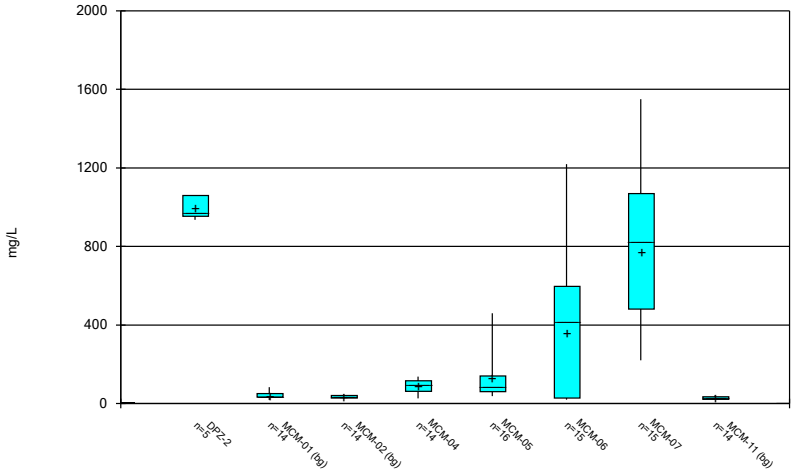
Box & Whiskers Plot



Constituent: Selenium Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

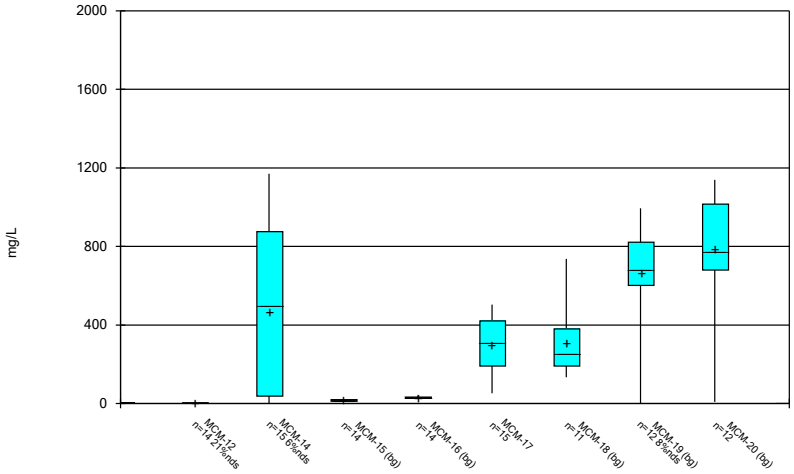


Constituent: Sulfate Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

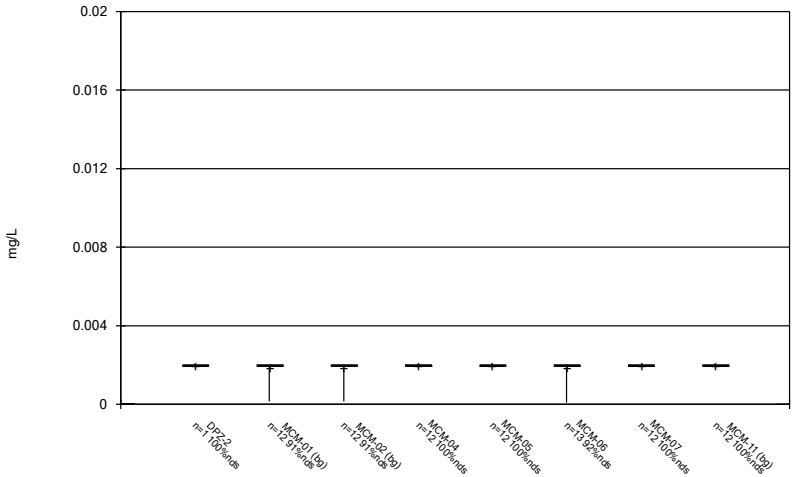


Constituent: Sulfate Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot

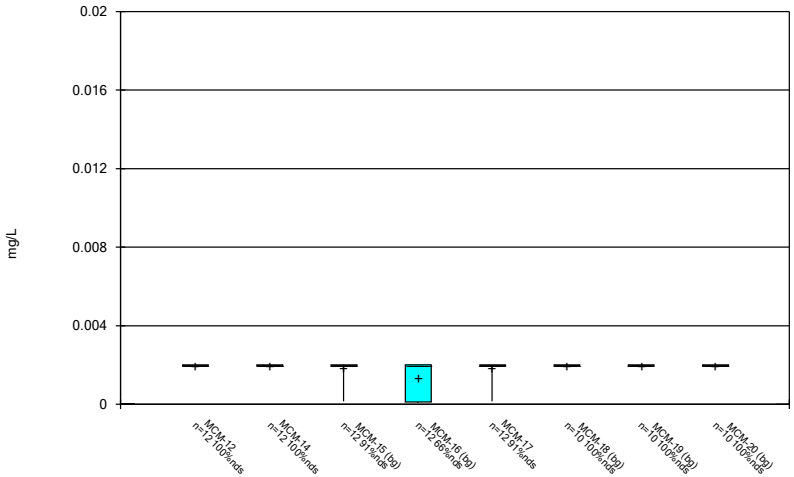


Constituent: Thallium Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

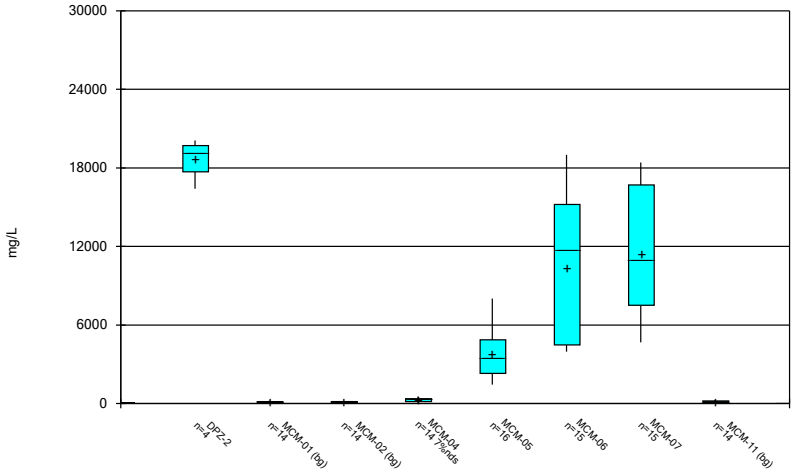
Box & Whiskers Plot



Constituent: Thallium Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot

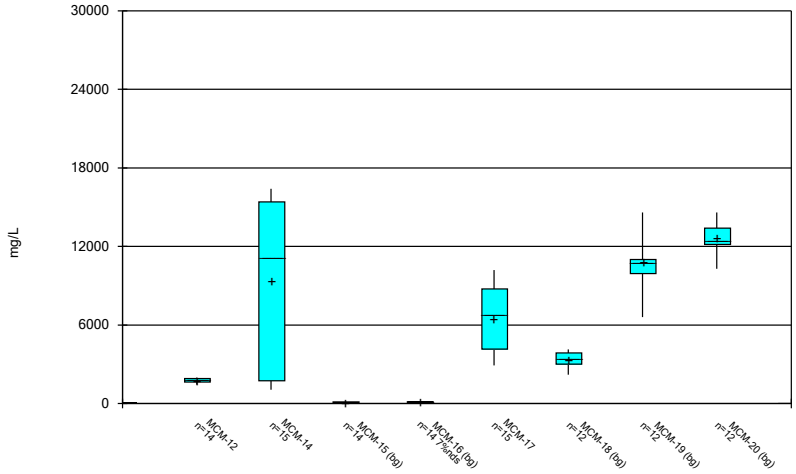


Constituent: Total Dissolved Solids Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 12/29/2021 3:12 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

FIGURE C.

Outlier Summary

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/10/2021, 5:00 PM

	MCM-20 Combined Radium 226 + 228 (pCi/L)	MCM-06 Fluoride (mg/L)	MCM-19 Lead (mg/L)	MCM-18 Lithium (mg/L)
11/7/2018		10.3 (o)		
11/18/2019				<0.1 (o)
1/21/2020				<0.15 (o)
2/4/2020				<0.3 (o)
2/13/2020	76.3 (o)		<0.025 (o)	

FIGURE D.

Appendix III Interwell Prediction Limits - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/1/2021, 11:29 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	**MCM-07**	**1.3**	**n/a**	**9/14/2021**	**1.5**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**MCM-12**	**1.3**	**n/a**	**9/13/2021**	**1.4**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**MCM-17**	**1.3**	**n/a**	**9/14/2021**	**2.1**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-06**	**169**	**n/a**	**9/14/2021**	**299**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-07**	**169**	**n/a**	**9/14/2021**	**225**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-17**	**169**	**n/a**	**9/14/2021**	**190**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-05**	**5.81**	**3.36**	**9/14/2021**	**6.67**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-06**	**5.81**	**3.36**	**9/14/2021**	**6.94**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-07**	**5.81**	**3.36**	**9/14/2021**	**6.28**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-12**	**5.81**	**3.36**	**9/13/2021**	**6.24**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-14**	**5.81**	**3.36**	**9/13/2021**	**6.3**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-17**	**5.81**	**3.36**	**9/14/2021**	**6.77**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**

Appendix III Interwell Prediction Limits - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/1/2021, 11:29 AM

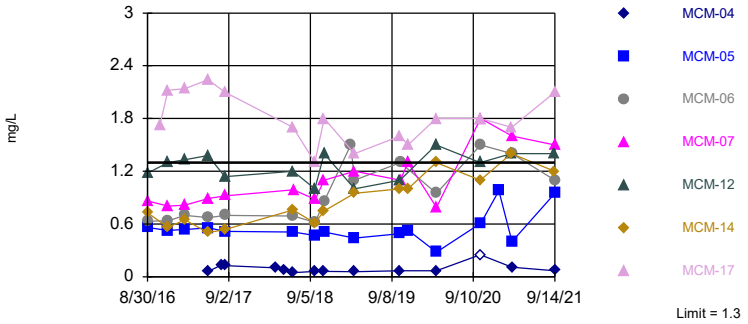
Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	%NDs	Transform	Alpha	Method
Boron (mg/L)	MCM-04	1.3	n/a	9/14/2021	0.07J	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-05	1.3	n/a	9/14/2021	0.95J	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-06	1.3	n/a	9/14/2021	1.1	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	**MCM-07**	**1.3**	**n/a**	**9/14/2021**	**1.5**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	**MCM-12**	**1.3**	**n/a**	**9/13/2021**	**1.4**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Boron (mg/L)	MCM-14	1.3	n/a	9/13/2021	1.2	No	106	9.434	n/a	0.0001759	NP Inter (normality) 1 of 2
Boron (mg/L)	**MCM-17**	**1.3**	**n/a**	**9/14/2021**	**2.1**	**Yes**	**106**	**9.434**	**n/a**	**0.0001759**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MCM-04	169	n/a	9/14/2021	12.5	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	9/14/2021	13.9	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MCM-06**	**169**	**n/a**	**9/14/2021**	**299**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	**MCM-07**	**169**	**n/a**	**9/14/2021**	**225**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Calcium (mg/L)	MCM-12	169	n/a	9/13/2021	6	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	9/13/2021	165	No	107	0.9346	n/a	0.000173	NP Inter (normality) 1 of 2
Calcium (mg/L)	**MCM-17**	**169**	**n/a**	**9/14/2021**	**190**	**Yes**	**107**	**0.9346**	**n/a**	**0.000173**	**NP Inter (normality) 1 of 2**
Chloride (mg/L)	MCM-04	8130	n/a	9/14/2021	28.5	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	9/14/2021	3940	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-06	8130	n/a	9/14/2021	5360	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-07	8130	n/a	9/14/2021	6300	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-12	8130	n/a	9/13/2021	433	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-14	8130	n/a	9/13/2021	5010	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-17	8130	n/a	9/14/2021	4090	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-04	1.5	n/a	9/14/2021	0.05	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-06	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-07	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-12	1.5	n/a	9/13/2021	1.4	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-14	1.5	n/a	9/13/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-17	1.5	n/a	9/14/2021	0.1ND	No	111	45.95	n/a	0.0001613	NP Inter (normality) 1 of 2
pH, field (Std. Units)	MCM-04	5.81	3.36	9/14/2021	5.09	No	110	0	n/a	0.0003284	NP Inter (normality) 1 of 2
pH, field (Std. Units)	**MCM-05**	**5.81**	**3.36**	**9/14/2021**	**6.67**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-06**	**5.81**	**3.36**	**9/14/2021**	**6.94**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-07**	**5.81**	**3.36**	**9/14/2021**	**6.28**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-12**	**5.81**	**3.36**	**9/13/2021**	**6.24**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-14**	**5.81**	**3.36**	**9/13/2021**	**6.3**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
pH, field (Std. Units)	**MCM-17**	**5.81**	**3.36**	**9/14/2021**	**6.77**	**Yes**	**110**	**0**	**n/a**	**0.0003284**	**NP Inter (normality) 1 of 2**
Sulfate (mg/L)	MCM-04	1140	n/a	9/14/2021	96.2	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	9/14/2021	459	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-06	1140	n/a	9/14/2021	490	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-07	1140	n/a	9/14/2021	819	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-12	1140	n/a	9/13/2021	0.5ND	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-14	1140	n/a	9/13/2021	680	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-17	1140	n/a	9/14/2021	460	No	105	0.9524	n/a	0.0001788	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-04	14600	n/a	9/14/2021	193	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-05	14600	n/a	9/14/2021	8020	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-06	14600	n/a	9/14/2021	11800	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-07	14600	n/a	9/14/2021	13400	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-12	14600	n/a	9/13/2021	1450	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-14	14600	n/a	9/13/2021	11400	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-17	14600	n/a	9/14/2021	8820	No	106	0.9434	n/a	0.0001759	NP Inter (normality) 1 of 2

Sanitas™ v.9.6.31 Sanitas software utilized by Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Exceeds Limit: MCM-07, MCM-12, MCM-17

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 106 background values. 9.434% NDs. Annual per-constituent alpha = 0.001757. Individual comparison alpha = 0.0001759 (1 of 2). Comparing 7 points to limit.

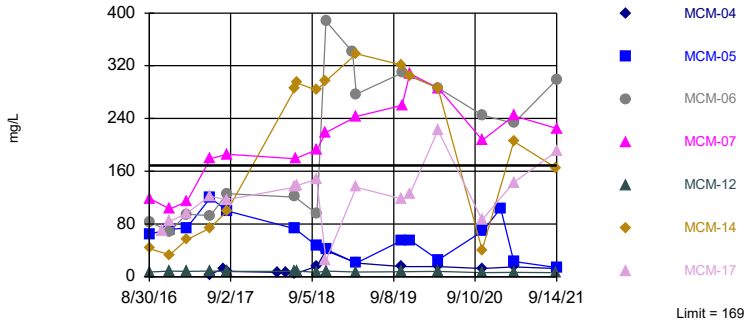
Constituent: Boron Analysis Run 11/1/2021 11:26 AM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limit: MCM-06, MCM-07, MCM-17

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 107 background values. 0.9346% NDs. Annual per-constituent alpha = 0.001728. Individual comparison alpha = 0.000173 (1 of 2). Comparing 7 points to limit.

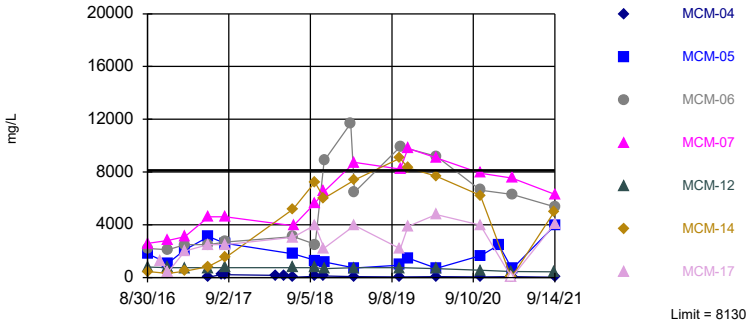
Constituent: Calcium Analysis Run 11/1/2021 11:26 AM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 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 Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 106 background values. 0.9434% NDs. Annual per-constituent alpha = 0.001757. Individual comparison alpha = 0.0001759 (1 of 2). Comparing 7 points to limit.

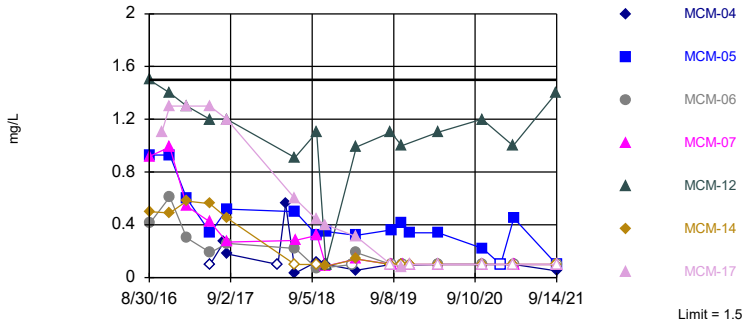
Constituent: Chloride Analysis Run 11/1/2021 11:26 AM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 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 Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 111 background values. 45.95% NDs. Annual per-constituent alpha = 0.001612. Individual comparison alpha = 0.0001613 (1 of 2). Comparing 7 points to limit.

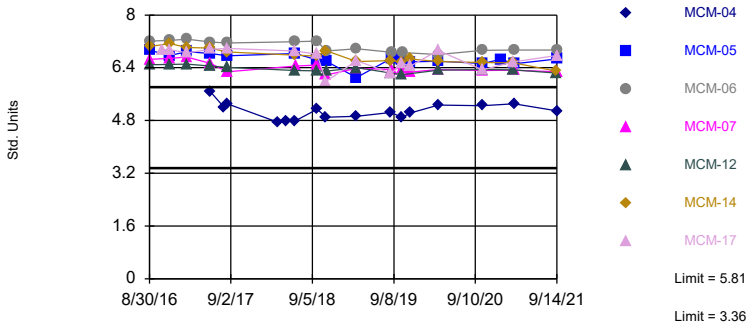
Constituent: Fluoride Analysis Run 11/1/2021 11:26 AM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Sanitas software utilized by Groundwater Stats Consulting. UG

Exceeds Limits: MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, MCM-17

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 110 background values. Annual per-constituent alpha = 0.003282. Individual comparison alpha = 0.0003284 (1 of 2). Comparing 7 points to limit.

Constituent: pH, field Analysis Run 11/1/2021 11:26 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

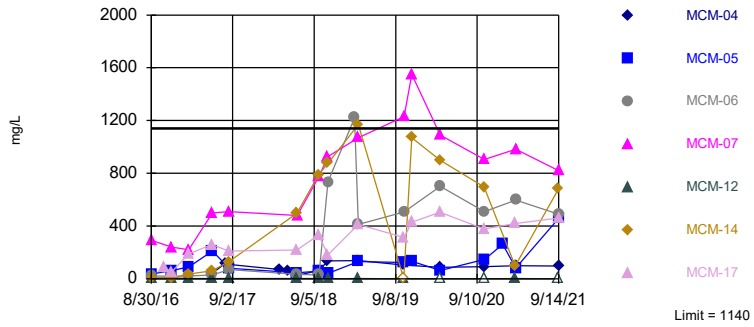
Sanitas™ v.9.6.31 Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 105 background values. 0.9524% NDs. Annual per-constituent alpha = 0.001787. Individual comparison alpha = 0.0001788 (1 of 2). Comparing 7 points to limit.

Constituent: Sulfate Analysis Run 11/1/2021 11:26 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

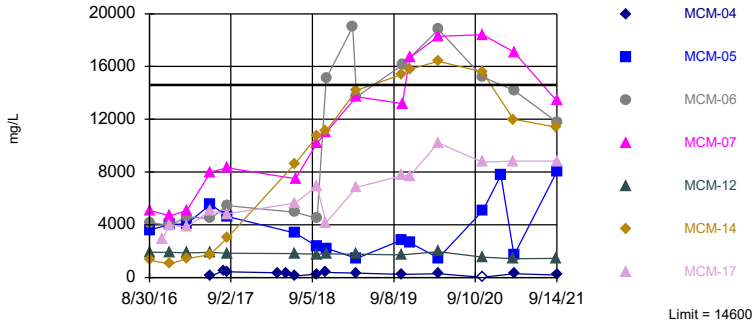
Sanitas™ v.9.6.31 Sanitas software utilized by Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Within Limit

Prediction Limit

Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 106 background values. 0.9434% NDs. Annual per-constituent alpha = 0.001757. Individual comparison alpha = 0.0001759 (1 of 2). Comparing 7 points to limit.

Constituent: Total Dissolved Solids Analysis Run 11/1/2021 11:26 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-11 (bg)
8/30/2016	0.0325 (J)	1.18	0.726	0.0972 (J)					
8/31/2016					0.632	0.863	0.56		
10/25/2016								1.73	
11/30/2016	0.0334 (J)	1.3	0.565	0.0964	0.637	0.804	0.529	2.12	
2/15/2017	0.254	1.33	0.647	0.398				2.14	
2/16/2017					0.698	0.815	0.539		
5/31/2017		1.38	0.503					2.24	0.0521
6/1/2017	0.0564			0.0776					
6/2/2017					0.674	0.891	0.555		
8/2/2017									0.0392 (J)
8/15/2017		1.14						2.1	0.0448
8/16/2017	0.0435		0.539						
8/17/2017				0.0853	0.7	0.922	0.516		
4/4/2018									0.046
4/5/2018									
5/8/2018									0.048
5/9/2018									
6/19/2018	0.04 (J)	1.2	0.76					1.7	0.04
6/20/2018				0.079	0.69		0.51		
6/21/2018						0.99			
9/25/2018		1	0.61						0.043
9/26/2018	0.038 (J)			0.072				1.3	
9/27/2018					0.62	0.88	0.47		
11/6/2018			0.75			1.1		1.8	0.046
11/7/2018	0.037 (J)	1.4		0.074	0.86		0.51		
3/6/2019					1.5				
3/24/2019		1	0.95		1.1	1.2	0.44	1.4	
3/25/2019	0.038 (J)			0.067					0.03 (J)
10/15/2019		1.1	1						
10/16/2019	0.036 (J)			0.051			0.49	1.6	0.032 (J)
10/17/2019					1.3	1.1			
11/7/2019									
11/18/2019									
11/19/2019									
11/20/2019						1.3	0.53		
11/21/2019			1					1.5	
12/4/2019									
12/5/2019									
12/17/2019									
12/18/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	0.064 (J)								
3/27/2020		1.5	1.3	0.088 (J)				1.8	0.058 (J)
3/28/2020					0.95	0.79	0.28 (J)		
10/12/2020		1.3							<0.5
10/13/2020	<0.5		1.1	<0.5				1.8	
10/14/2020					1.5	1.8			
10/15/2020							0.61		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-11 (bg)
1/4/2021							0.98		
3/2/2021		1.4 (J)	1.4 (J)						
3/3/2021	<0.5			<0.5				1.7 (J)	<0.5
3/4/2021					1.4 (J)	1.6 (J)	0.4 (J)		
9/13/2021		1.4 (M1)	1.2						
9/14/2021	0.079 (J)			0.071 (J)	1.1	1.5	0.95 (J)	2.1 (M1)	0.06 (J)

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	0.161					
6/1/2017		0.0608				
6/2/2017			0.0495			
8/2/2017	0.158	0.137	0.0333 (J)			
8/15/2017						
8/16/2017	0.148					
8/17/2017		0.128	0.0593			
4/4/2018		0.1	0.065			
4/5/2018	0.13					
5/8/2018		0.074	0.062			
5/9/2018	0.12					
6/19/2018	0.13		0.064			
6/20/2018		0.045				
6/21/2018						
9/25/2018						
9/26/2018	0.1		0.06			
9/27/2018		0.06				
11/6/2018		0.06				
11/7/2018	0.1		0.062 (J)			
3/6/2019						
3/24/2019						
3/25/2019	0.091	0.058	0.057			
10/15/2019		0.068	0.046			
10/16/2019	0.085					
10/17/2019						
11/7/2019				1.1	0.84	0.27
11/18/2019						0.29 (J)
11/19/2019				1.3	0.83	
11/20/2019						
11/21/2019						
12/4/2019				0.81	0.68	
12/5/2019						0.23
12/17/2019					0.57	
12/18/2019				0.77		0.23
1/8/2020				0.9	0.73	
1/9/2020						0.2
1/21/2020				0.94	0.75	0.24 (J)
2/4/2020				0.96 (J)	0.79 (J)	0.24 (J)
2/13/2020				0.88	0.74	0.22
3/26/2020						
3/27/2020	0.17 (J)		0.076 (J)	0.94	0.96	0.24 (J)
3/28/2020		0.067 (J)				
10/12/2020						0.24 (J)
10/13/2020	<0.5	<0.5	<0.5	1.1	0.73	
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
1/4/2021						
3/2/2021			<0.5			
3/3/2021	<0.5			0.91 (J)	0.79 (J)	0.21 (J)
3/4/2021		0.11 (J)				
9/13/2021						
9/14/2021	0.093 (J)	0.07 (J)	0.068 (J)	0.91 (J)	1.2	0.2 (J)

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-16 (bg)	MCM-14	MCM-05	MCM-06	MCM-07	MCM-17	MCM-11 (bg)
8/30/2016	7.3	7.05	4.02	42.8					
8/31/2016					65	82.8	119		
10/25/2016								69.4	
11/30/2016	10.8	8.69	4.87	33.2	71.7	68.7	103	83.9	
2/15/2017	14.3	8.34	6.61	56.1				96.3	
2/16/2017					74	94.8	114		
5/31/2017		8.85		73.6				122	18.6
6/1/2017	12.7 (J)		6.42						
6/2/2017					120	92.5	179		
8/2/2017									18.5
8/15/2017		8.05						117	4.09
8/16/2017	8.7			99.6					
8/17/2017			5.62		100	126	186		
4/4/2018									<25
4/5/2018									
5/8/2018									18.4 (J)
5/9/2018									
6/19/2018	11.6 (J)	8.3		285				136	4.3
6/20/2018			5.7		72.8	121			
6/21/2018							179		
6/28/2018	13	8.9		294				138	
9/25/2018		6.8		283					6.2 (D)
9/26/2018	12.8 (J)		5.3					148	
9/27/2018					46.6	95.1	193		
11/6/2018				297			219	24.7	1.8
11/7/2018	11.9	8.5	5.3		41.8	387.5 (D)			
3/6/2019						341			
3/24/2019		7.4		338	20.9 (J)	277	243	136	
3/25/2019	12.6 (J)		5.7						2.5 (D)
10/15/2019		7.9		321					
10/16/2019	13.6		4.8		55.2			118	2.2
10/17/2019						309	260		
11/7/2019									
11/18/2019									
11/19/2019									
11/20/2019					55.8		308		
11/21/2019				305				125	
12/4/2019									
12/5/2019									
12/17/2019									
12/18/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	10.1								
3/27/2020		8.3	5.4	286				222	3.3
3/28/2020					25.8	286	286		
10/12/2020		6.1							2.8
10/13/2020	9.8		5.7	40.9				86.4	
10/14/2020						245	207		

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-16 (bg)	MCM-14	MCM-05	MCM-06	MCM-07	MCM-17	MCM-11 (bg)
10/15/2020					69.1				
1/4/2021					104				
3/3/2021	14								
3/4/2021		6.5	11.2	205	23.4	233	244	143	2.1
9/13/2021		6		165					
9/14/2021	9.6		6.5		13.9	299	225	190	14

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	5.9					
6/1/2017		3.65				
6/2/2017			2.77			
8/2/2017	4.69	12.4	1.27			
8/15/2017						
8/16/2017	5.25					
8/17/2017		8.17	5.53			
4/4/2018		6.8	6.5			
4/5/2018	5					
5/8/2018		5.7	6.7			
5/9/2018	4.7					
6/19/2018	4.8		7.4			
6/20/2018		4.3				
6/21/2018						
6/28/2018						
9/25/2018						
9/26/2018	4.6		8.5 (J)			
9/27/2018		16.4 (J)				
11/6/2018		39.5				
11/7/2018	4.6		9.8			
3/6/2019						
3/24/2019						
3/25/2019	4.7	20.8 (J)	7.8			
10/15/2019		15.5	6.7			
10/16/2019	4.9					
10/17/2019						
11/7/2019				46.2	158	163
11/18/2019				41.8		
11/19/2019					152	169
11/20/2019						
11/21/2019						
12/4/2019					142	140
12/5/2019				40.5		
12/17/2019					136	
12/18/2019				42		145
1/8/2020					147	157
1/9/2020				37.1		
1/21/2020				40.1	167	152
2/4/2020				36.2	142	139
2/13/2020				38.9	148	146
3/26/2020						
3/27/2020	4.9		5.9	23.2	122	113
3/28/2020		15.5				
10/12/2020				19.1		
10/13/2020	3.8	12.5	0.83		125	128
10/14/2020						

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
10/15/2020						
1/4/2021						
3/3/2021	4					
3/4/2021		15.1	1.4	26	123	110
9/13/2021						
9/14/2021	4.2	12.5	6.7	18.8	93.6	61.1

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-11 (bg)
8/30/2016	9.7	800	450	26					
8/31/2016					2200	2600	1800		
10/25/2016								1300	
11/30/2016	19	760	310	27	2100	2800	1100	400	
2/15/2017	21	740	490	30				2000	
2/16/2017					2500	3100	2100		
5/31/2017		740	820					2500	98
6/1/2017	12			27					
6/2/2017					2500	4600	3100		
8/2/2017									57
8/15/2017		750						2500	15
8/16/2017	14		1500						
8/17/2017				32	2700	4600	2600		
4/4/2018									69
4/5/2018									
5/8/2018									72.3
5/9/2018									
6/19/2018	24.4	760	5180					3050	17.3
6/20/2018				30	3100		1800		
6/21/2018						3920			
9/25/2018		752 (D)	7220						31.3
9/26/2018	23.4			28.4				3965 (D)	
9/27/2018					2510 (D)	5660 (D)	1300		
11/6/2018			6020			6520		2230	9.8
11/7/2018	21.8	665		25.1	8860		1180		
3/6/2019					11700				
3/24/2019		744	7400		6470	8720	717	3960	
3/25/2019	19.4			21.8					12.9
10/15/2019		744	9050						
10/16/2019	21.4			20			941 (D)	2181.5 (D)	12.2
10/17/2019					9930	8210			
11/7/2019									
11/18/2019									
11/19/2019									
11/20/2019						9810	1480		
11/21/2019			8330					3890	
12/4/2019									
12/5/2019									
12/17/2019									
12/18/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	23								
3/27/2020		675	7680	23.6				4770	14.5
3/28/2020					9190	9070	693		
10/12/2020		552							13.9
10/13/2020	13.5		6230	23.3				3980	
10/14/2020					6630	7910			
10/15/2020							1660		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-11 (bg)
1/4/2021							2460		
3/2/2021		459	<1						
3/3/2021	13.6			27.6				<1	9.4
3/4/2021					6310	7540	652		
9/13/2021		433	5010						
9/14/2021	16.7			30	5360	6300	3940	4090	62.8

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	39					
6/1/2017		22				
6/2/2017			11			
8/2/2017	42	230	3.2			
8/15/2017						
8/16/2017	41					
8/17/2017		210	12			
4/4/2018		156	13.4			
4/5/2018	40.2					
5/8/2018		140	13.2			
5/9/2018	40.6					
6/19/2018	37.7		13.7			
6/20/2018		27.5				
6/21/2018						
9/25/2018						
9/26/2018	33.4		18.5			
9/27/2018		101				
11/6/2018		107				
11/7/2018	30.7		20.2			
3/6/2019						
3/24/2019						
3/25/2019	33.5	78.5	19.7			
10/15/2019		46	17.1			
10/16/2019	33.1					
10/17/2019						
11/7/2019				7880	6170	2360
11/18/2019						6970
11/19/2019				8130	5650	
11/20/2019						
11/21/2019						
12/4/2019				7410	6100	
12/5/2019						2130
12/17/2019					5660	
12/18/2019				7170		2090
1/8/2020				6480	5070	
1/9/2020						1750
1/21/2020				6000	5010	1630
2/4/2020				5700	5030	1760
2/13/2020				7060	6140	1850
3/26/2020						
3/27/2020	32.9		14.1	7110	6870	1450
3/28/2020		71.4				
10/12/2020						1340
10/13/2020	25.7	54.4	3.8	5980	5260	
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
1/4/2021						
3/2/2021			4.2			
3/3/2021	20.5			<1	5170	1230
3/4/2021		69.6				
9/13/2021						
9/14/2021	21.8	28.5	13.6	5100	7250	1020

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (bg)
8/30/2016	0.03 (J)	1.5	0.5	0.04 (J)					
8/31/2016					0.41	0.92	0.93		
10/25/2016								1.1	
11/30/2016	0.04 (J)	1.4	0.49	0.18 (J)	0.61	0.99	0.93	1.3	
2/15/2017	0.007 (J)	1.3	0.58	0.02 (J)				1.3	
2/16/2017					0.3 (J)	0.54	0.6		
5/31/2017		1.2	0.56					1.3	0.01 (J)
6/1/2017	<0.1			0.005 (J)					
6/2/2017					0.19 (J)	0.42	0.34		
8/2/2017									0.14 (J)
8/15/2017		1.2						1.2	
8/16/2017	0.03 (J)		0.45						0.13 (J)
8/17/2017				0.04 (J)	0.26 (J)	0.27 (J)	0.52		
4/4/2018									
4/5/2018									<0.1
5/8/2018									
5/9/2018									<0.1
6/19/2018	<0.1	0.91	<0.1					0.6	0.065 (J)
6/20/2018				0.038 (J)	0.22 (J)		0.5		
6/21/2018						0.28 (J)			
9/25/2018		1.1	<0.1						
9/26/2018	0.12 (J)			0.029				0.44 (D)	0.029
9/27/2018					0.068 (J)	0.32 (D)	0.32		
11/6/2018			0.084 (J)			0.086 (J)		0.4	
11/7/2018	<0.1	<0.1		<0.1	10.3 (o)		0.35		<0.1
3/6/2019					<0.1				
3/24/2019		0.99	0.14 (J)		0.19 (J)	0.14 (J)	0.32	0.31	
3/25/2019	0.038 (J)			0.041 (J)					0.039 (J)
8/26/2019			<0.1						
8/27/2019	<0.1	1.1		<0.1				<0.1	
8/28/2019					<0.1	<0.1	0.36		<0.1
10/15/2019		1	<0.1						
10/16/2019	0.046 (JD)			0.044 (J)			0.41	0.083 (J)	0.044 (JD)
10/17/2019					<0.1	<0.1			
11/7/2019									
11/18/2019									
11/19/2019									
11/20/2019						<0.1	0.34		
11/21/2019			<0.1					<0.1	
12/4/2019									
12/5/2019									
12/17/2019									
12/18/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	<0.1								
3/27/2020		1.1	<0.1	<0.1				<0.1	<0.1
3/28/2020					<0.1	<0.1	0.34		
10/12/2020		1.2							

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (bg)
10/13/2020	<0.1		<0.1	<0.1				<0.1	<0.1
10/14/2020					<0.1	<0.1			
10/15/2020							0.22		
1/4/2021							<0.1		
3/2/2021		1	<0.1						
3/3/2021	<0.1			<0.1				<0.1	<0.1
3/4/2021					<0.1	<0.1	0.45		
9/13/2021		1.4	<0.1						
9/14/2021	<0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-18 (bg)	MCM-19 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	0.85					
6/1/2017		<0.1				
6/2/2017			<0.1			
8/2/2017	0.69	0.27 (J)	0.05 (J)			
8/15/2017	0.29 (J)					
8/16/2017						
8/17/2017		0.18 (J)	<0.1			
4/4/2018	0.32	<0.1	<0.1			
4/5/2018						
5/8/2018	0.63	0.56	<0.1			
5/9/2018						
6/19/2018	0.17 (J)		0.057 (J)			
6/20/2018		0.033 (J)				
6/21/2018						
9/25/2018	0.15 (J)					
9/26/2018			0.029			
9/27/2018		0.12 (J)				
11/6/2018	<0.1	<0.1				
11/7/2018			<0.1			
3/6/2019						
3/24/2019						
3/25/2019	0.12 (J)	0.055 (J)	0.036 (J)			
8/26/2019						
8/27/2019		<0.1	<0.1			
8/28/2019	0.068 (J)					
10/15/2019		0.095 (J)	0.14 (J)			
10/16/2019	0.1 (J)					
10/17/2019						
11/7/2019				1.4	0.49	<0.1
11/18/2019					0.52	
11/19/2019				1.2		0.033 (J)
11/20/2019						
11/21/2019						
12/4/2019				1.4		0.22 (J)
12/5/2019					0.5	
12/17/2019						<0.1
12/18/2019				1.5	0.33	
1/8/2020				<0.1		<0.1
1/9/2020					0.12 (J)	
1/21/2020				0.53	0.13 (J)	0.11 (J)
2/4/2020				<0.1	0.18 (J)	<0.1
2/13/2020				<0.1	0.077 (J)	<0.1
3/26/2020						
3/27/2020	0.066 (J)		<0.1	<0.1	0.06 (J)	<0.1
3/28/2020		<0.1				
10/12/2020	<0.1				0.34	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-18 (bg)	MCM-19 (bg)
10/13/2020		<0.1	<0.1	<0.1		<0.1
10/14/2020						
10/15/2020						
1/4/2021						
3/2/2021			<0.1			
3/3/2021	0.082 (J)			<0.1	0.32	<0.1
3/4/2021		<0.1				
9/13/2021						
9/14/2021	0.18	0.05	<0.1	<0.1	<0.1	<0.1

Prediction Limit

Constituent: pH, field (Std. Units) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-12	MCM-14	MCM-05	MCM-06	MCM-07	MCM-17	MCM-02 (bg)
8/30/2016	5.66	5.18	6.49	7.04					
8/31/2016					6.93	7.21	6.66		
10/25/2016								6.95	
11/30/2016	5.36	4.96	6.5	7.13	6.77	7.23	6.69	6.95	
2/15/2017	5.25	5.13	6.51	7.02				6.85	
2/16/2017					6.89	7.27	6.72		
5/31/2017			6.45	7				6.96	5.06
6/1/2017	5.59	4.99							
6/2/2017					6.83	7.18	6.53		
8/2/2017									5
8/15/2017			6.41					6.99	
8/16/2017	5.58			6.88					4.98
8/17/2017		4.68			6.76	7.15	6.28		
4/4/2018									
4/5/2018									5.02
5/8/2018									
5/9/2018									4.96
6/19/2018	5.51		6.32	6.78				6.91	5.02
6/20/2018		4.77			6.83	7.19			
6/21/2018							6.45		
9/25/2018			6.31	6.75					
9/26/2018	5.32	4.65						6.81	5.06
9/27/2018					6.64	7.21	6.48		
11/6/2018				6.92			6.18	5.99	
11/7/2018	5.72	4.99	6.3		6.6	6.91			5.03
3/24/2019			6.4	6.59	6.1	6.98	6.38	6.62	
3/25/2019	5.75	5.13							5.08
8/26/2019				6.62					
8/27/2019	5.58	4.88	6.24					6.23	
8/28/2019					6.69	6.87	6.35		4.99
10/15/2019			6.19	6.58					
10/16/2019	5.72	4.89			6.64			6.54	4.98
10/17/2019						6.86	6.4		
11/7/2019									
11/18/2019									
11/19/2019									5.11
11/20/2019	5.77				6.58		6.27		
11/21/2019				6.67				6.44	
12/4/2019									
12/5/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	5.45								
3/27/2020		5.12	6.33	6.59				6.93	5.12
3/28/2020					6.6	6.8	6.35		
10/12/2020			6.35						
10/13/2020	5.69	5.17		6.56				6.34	5.03
10/14/2020						6.93	6.32		
10/15/2020					6.53				

Prediction Limit

Constituent: pH, field (Std. Units) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-12	MCM-14	MCM-05	MCM-06	MCM-07	MCM-17	MCM-02 (bg)
1/4/2021					6.66				
3/2/2021			6.34	6.55					
3/3/2021	5.81	5.71						6.58	5.06
3/4/2021					6.52	6.94	6.33		
9/13/2021			6.24	6.3					
9/14/2021	5.13	4.69			6.67	6.94	6.28	6.77	5.04

Prediction Limit

Constituent: pH, field (Std. Units) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	5.29					
6/1/2017		5.68				
6/2/2017			5.31			
8/2/2017	5.19	5.2	5.05			
8/15/2017	5.19					
8/16/2017						
8/17/2017		5.31	5.52			
4/4/2018	5.19	4.74	5.45			
4/5/2018						
5/8/2018	5.3	4.78	5.54			
5/9/2018						
6/19/2018	5.15		5.6			
6/20/2018		4.79				
6/21/2018						
9/25/2018	5.13					
9/26/2018			5.17			
9/27/2018		5.14				
11/6/2018	5.08	4.9				
11/7/2018			5.47			
3/24/2019			5.4			
3/25/2019	5.05	4.93				
8/26/2019						
8/27/2019		5.05	5.35			
8/28/2019	4.87					
10/15/2019		4.89	5.32			
10/16/2019	5.05					
10/17/2019						
11/7/2019				3.79	5.21	4.25
11/18/2019						4.12
11/19/2019				3.78	5.15	
11/20/2019		5.03				
11/21/2019						
12/4/2019				3.87 (D)	5.28 (D)	
12/5/2019						4.17 (D)
1/8/2020				3.77	5.04	
1/9/2020						4.19
1/21/2020				3.73	5.1	4.28
2/4/2020				3.72	5.15	4.26
2/13/2020				3.75	5.07	4.2
3/26/2020						
3/27/2020	5.09		5.3	3.81	5.14	4.34
3/28/2020		5.27				
10/12/2020	5					4.29
10/13/2020		5.25	5.02	3.72	5.04	
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: pH, field (Std. Units) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
1/4/2021						
3/2/2021			5.16			
3/3/2021	5.07			3.36	5.1	4.37
3/4/2021		5.31				
9/13/2021						
9/14/2021	5.5	5.09	5.39	3.72	5.31	4.28

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (bg)
8/30/2016	17	4.3	6.4	24					
8/31/2016					21	290	37		
10/25/2016								84	
11/30/2016	33	7.6	4.5	26	19	240	63	52	
2/15/2017	83	3	37	30				190	
2/16/2017					22	220	90		
5/31/2017		2.5	61					260	46
6/1/2017	51			24					
6/2/2017					28	500	210		
8/2/2017									43
8/15/2017		3.2						210	
8/16/2017	36		130						41
8/17/2017				26	69	510	80		
4/4/2018									
4/5/2018									33.4
5/8/2018									
5/9/2018									36
6/19/2018	50.3	1.6	498					218	35.5
6/20/2018				31.2	33		46 (J)		
6/21/2018						481			
9/25/2018		1	790						
9/26/2018	54.1			36.8				333 (D)	39.6
9/27/2018					29.4 (D)	777 (D)	58.5 (J)		
11/6/2018			875			926		182	
11/7/2018	45.6	0.41 (J)		35	734		41.3 (J)		35.8
3/6/2019					1220 (J)				
3/24/2019		1.5	1170		413	1070	131	413	
3/25/2019	43			40.1					34.2
10/15/2019		0.54 (J)	<1						
10/16/2019	31.9			28.5			122.5 (D)	312.5 (D)	24.4
10/17/2019					507	1230			
11/7/2019									
11/18/2019									
11/19/2019									
11/20/2019						1550	132		
11/21/2019			1070					428	
12/4/2019									
12/5/2019									
12/17/2019									
12/18/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	36.2								
3/27/2020		<1	899	31.2				504	28.6
3/28/2020					701	1090	63.8		
10/12/2020		<1							
10/13/2020	32.3		695	26.8				378	27.6
10/14/2020					510	904			
10/15/2020							147		

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (bg)
1/4/2021							262		
3/2/2021		1.2	97.5						
3/3/2021	33.8			30.5				420	27.6
3/4/2021					596	982	82.2		
9/13/2021		<1	680						
9/14/2021	34.2			24.4	490	819	459	460	30.4

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-18 (bg)	MCM-19 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	40					
6/1/2017		42				
6/2/2017			13			
8/2/2017	34	120	14			
8/15/2017	24					
8/16/2017						
8/17/2017		110	14			
4/4/2018	33.9	70.6	13.4			
4/5/2018						
5/8/2018	35.7	61.4	14.8			
5/9/2018						
6/19/2018	23.7		15.5			
6/20/2018		25.3				
6/21/2018						
9/25/2018	25.6					
9/26/2018			23			
9/27/2018		63.4				
11/6/2018	25.2	136				
11/7/2018			22.2			
3/6/2019						
3/24/2019						
3/25/2019	24.9	137	22.4			
10/15/2019		105	17.9			
10/16/2019	17.4					
10/17/2019						
11/7/2019				1010	379	832
11/18/2019					737	
11/19/2019				1140		795
11/20/2019						
11/21/2019						
12/4/2019				1020		810
12/5/2019					351	
12/17/2019						535
12/18/2019				8.1		
1/8/2020				747		603
1/9/2020					254	
1/21/2020				798	254	611
2/4/2020				1120	432	599
2/13/2020				833	300	761
3/26/2020						
3/27/2020	23.4		14.6	700	219	836
3/28/2020		86.6				
10/12/2020	19.3				191	
10/13/2020		92.3	7.6	638		609
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-18 (bg)	MCM-19 (bg)
1/4/2021						
3/2/2021			8			
3/3/2021	19.9			743	171	<1
3/4/2021		99.1				
9/13/2021						
9/14/2021	33.1	96.2 (M1)	16.7	659	134	995

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-11 (bg)
8/30/2016	86	1910	1310	99					
8/31/2016					4160	5100	3620		
10/25/2016								2900	
11/30/2016	131	1910	1050	111	3950	4680	4030	3970	
2/15/2017	212	1870	1440	170				3820	
2/16/2017					4600	5080	4080		
5/31/2017		1920	1740					5050	257
6/1/2017	103			98					
6/2/2017					4470	8000	5560		
8/2/2017									183
8/15/2017		1840						4820	90
8/16/2017	65		3010						
8/17/2017				84	5450	8320	4620		
4/4/2018									197
4/5/2018									
5/8/2018									225
5/9/2018									
6/19/2018	142	1820	8630					5640	112
6/20/2018				123	4940		3370		
6/21/2018						7500			
9/25/2018		1760	10700						137
9/26/2018	133			117				6920	
9/27/2018					4480	10200	2360		
11/6/2018			11100			11000		4160	89
11/7/2018	121	1800		120	15100		2230		
3/6/2019					19000				
3/24/2019		1770	14200		13700	13700	1450	6840	
3/25/2019	116			101					74
10/15/2019		1730	15400						
10/16/2019	104			95			2860	7740	82
10/17/2019					16100	13200			
11/7/2019									
11/18/2019									
11/19/2019									
11/20/2019						16700	2640		
11/21/2019			15800					7720	
12/4/2019									
12/5/2019									
12/17/2019									
12/18/2019									
1/8/2020									
1/9/2020									
1/21/2020									
2/4/2020									
2/13/2020									
3/26/2020	114								
3/27/2020		1970	16400	110				10200	87
3/28/2020					18800	18300	1470		
10/12/2020		1560							94
10/13/2020	113		15600	115				8750	
10/14/2020					15200	18400			
10/15/2020							5100		

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-11 (bg)
1/4/2021							7750		
3/2/2021		1430	12000						
3/3/2021	99			122				8830	66
3/4/2021					14200	17100	1700		
9/13/2021		1450	11400						
9/14/2021	66			<25	11800	13400	8020	8820	191

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016						
8/31/2016						
10/25/2016						
11/30/2016						
2/15/2017						
2/16/2017						
5/31/2017	123					
6/1/2017		97				
6/2/2017			69			
8/2/2017	136	538	35			
8/15/2017						
8/16/2017	124					
8/17/2017		445	51			
4/4/2018		365	90			
4/5/2018	128					
5/8/2018		304	89			
5/9/2018	127					
6/19/2018	143		110			
6/20/2018		114				
6/21/2018						
9/25/2018						
9/26/2018	132		124			
9/27/2018		255				
11/6/2018		388				
11/7/2018	134		125			
3/6/2019						
3/24/2019						
3/25/2019	111	327	98			
10/15/2019		237	107			
10/16/2019	96					
10/17/2019						
11/7/2019				13500	10900	4140
11/18/2019						4030
11/19/2019				13300	10000	
11/20/2019						
11/21/2019						
12/4/2019				13200	11000	
12/5/2019						3840
12/17/2019					9860	
12/18/2019				12500		3880
1/8/2020				12300	9760	
1/9/2020						3520
1/21/2020				12000	10100	3280
2/4/2020				12300	10600	3220
2/13/2020				12400	10900	3580
3/26/2020						
3/27/2020	119		110	14600	14300	3090
3/28/2020		284				
10/12/2020						2920
10/13/2020	118	<25	63	13900	6600	
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 11/1/2021 11:29 AM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
1/4/2021						
3/2/2021			40			
3/3/2021	84			11400	11000	2620
3/4/2021		285				
9/13/2021						
9/14/2021	76	193	96	10300	14600	2190

FIGURE E.

Appendix III Trend Tests - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/30/2021, 10:06 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	**MCM-07**	**0.1515**	**64**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MCM-07**	**35.39**	**70**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MCM-18 (bg)**	**-19.45**	**-52**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	**MCM-20 (bg)**	**-47.21**	**-46**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-05**	**-0.06323**	**-73**	**-63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-06**	**-0.07919**	**-57**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-07**	**-0.07594**	**-64**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-12**	**-0.05115**	**-56**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-14**	**-0.1384**	**-101**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**

Appendix III Trend Tests - All Results

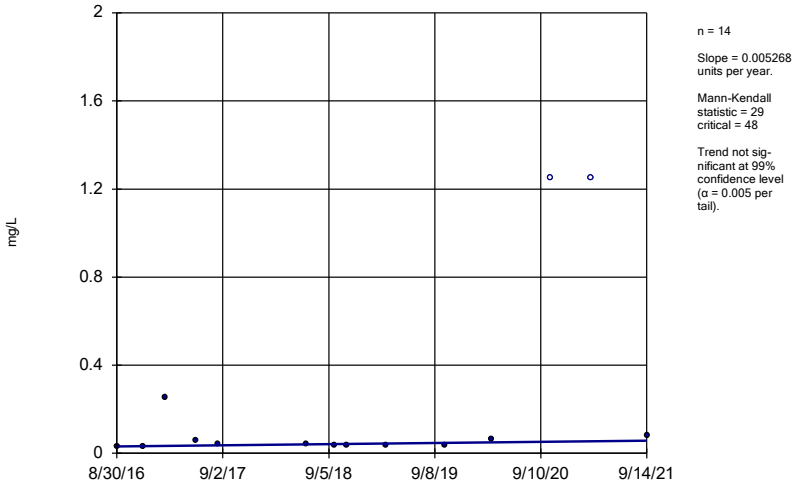
Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 11/30/2021, 10:06 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-01 (bg)	0.005268	29	48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-02 (bg)	-0.01422	-18	-48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	**MCM-07**	**0.1515**	**64**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Boron (mg/L)	MCM-11 (bg)	0.004391	25	48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-12	0.0235	20	48	No	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-15 (bg)	0.007968	39	48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-16 (bg)	-0.005194	-22	-48	No	14	14.29	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-17	-0.04304	-18	-53	No	15	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-18 (bg)	-0.02454	-24	-38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-19 (bg)	0.1284	14	38	No	12	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-20 (bg)	0	-1	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-01 (bg)	0.2793	5	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-02 (bg)	-0.2586	-42	-48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-06	44.92	51	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MCM-07**	**35.39**	**70**	**53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	MCM-11 (bg)	-1.659	-41	-48	No	14	7.143	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-15 (bg)	0.1417	10	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-16 (bg)	0.2144	23	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-17	16.77	53	58	No	16	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MCM-18 (bg)**	**-19.45**	**-52**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
Calcium (mg/L)	MCM-19 (bg)	-30.87	-37	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	**MCM-20 (bg)**	**-47.21**	**-46**	**-38**	**Yes**	**12**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	MCM-01 (bg)	0.03493	24	58	No	16	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-02 (bg)	0.01474	34	58	No	16	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	**MCM-05**	**-0.06323**	**-73**	**-63**	**Yes**	**17**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-06**	**-0.07919**	**-57**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-07**	**-0.07594**	**-64**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	MCM-11 (bg)	-0.05853	-45	-53	No	15	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	**MCM-12**	**-0.05115**	**-56**	**-53**	**Yes**	**15**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	**MCM-14**	**-0.1384**	**-101**	**-58**	**Yes**	**16**	**0**	**n/a**	**n/a**	**0.01**	**NP**
pH, field (Std. Units)	MCM-15 (bg)	-0.07157	-27	-53	No	15	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-16 (bg)	0.01093	5	53	No	15	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-17	-0.09795	-47	-58	No	16	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-18 (bg)	0.1318	32	34	No	11	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-19 (bg)	-0.04282	-8	-34	No	11	0	n/a	n/a	0.01	NP
pH, field (Std. Units)	MCM-20 (bg)	-0.1177	-30	-34	No	11	0	n/a	n/a	0.01	NP

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-01 (bg)



n = 14

Slope = 0.005268 units per year.

Mann-Kendall statistic = 29
critical = 48

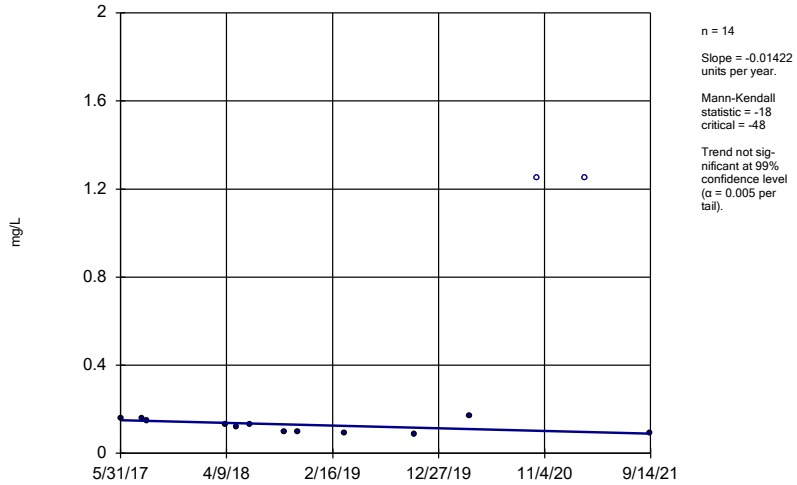
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-02 (bg)



n = 14

Slope = -0.01422 units per year.

Mann-Kendall statistic = -18
critical = -48

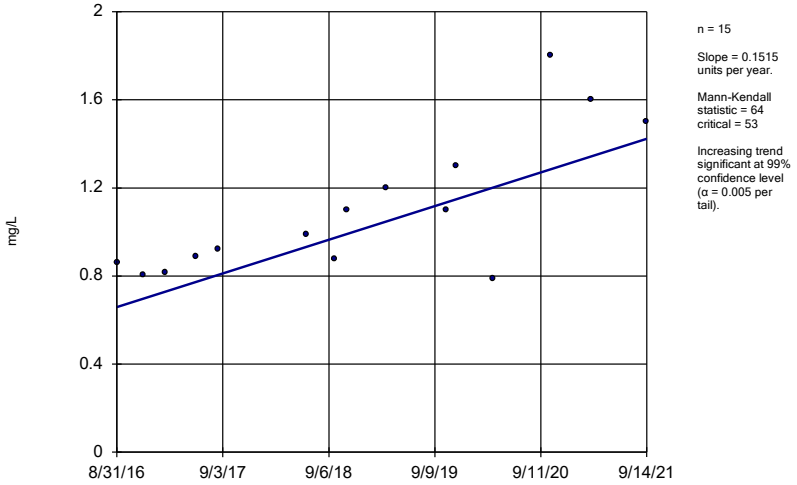
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-07



n = 15

Slope = 0.1515 units per year.

Mann-Kendall statistic = 64
critical = 53

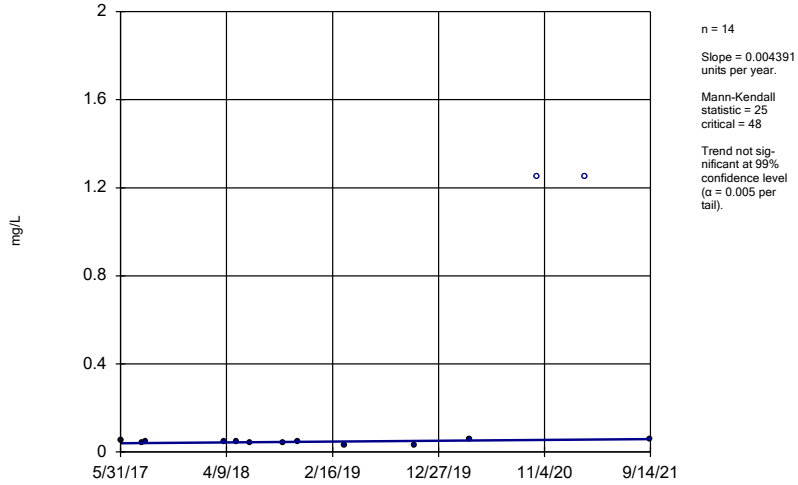
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-11 (bg)



n = 14

Slope = 0.004391 units per year.

Mann-Kendall statistic = 25
critical = 48

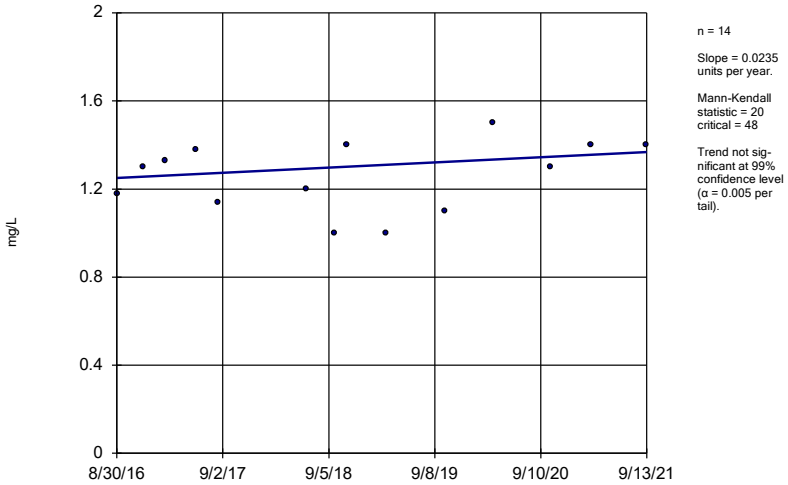
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-12



n = 14

Slope = 0.0235 units per year.

Mann-Kendall statistic = 20 critical = 48

Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

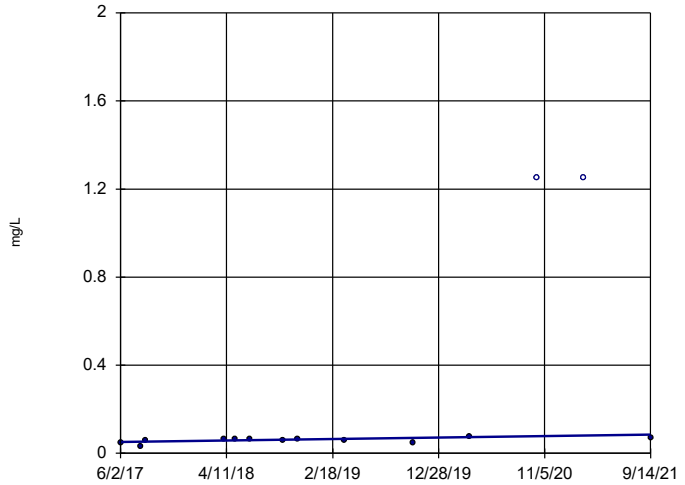
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-15 (bg)



n = 14

Slope = 0.007968 units per year.

Mann-Kendall statistic = 39 critical = 48

Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

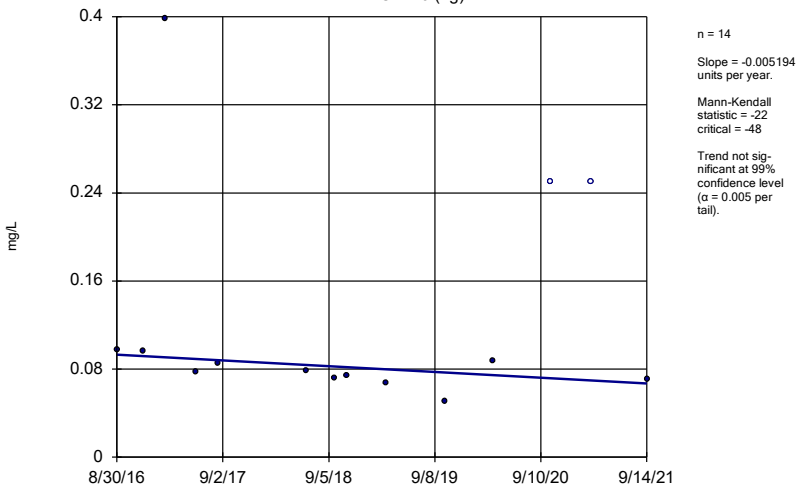
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-16 (bg)



n = 14

Slope = -0.005194 units per year.

Mann-Kendall statistic = -22 critical = -48

Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

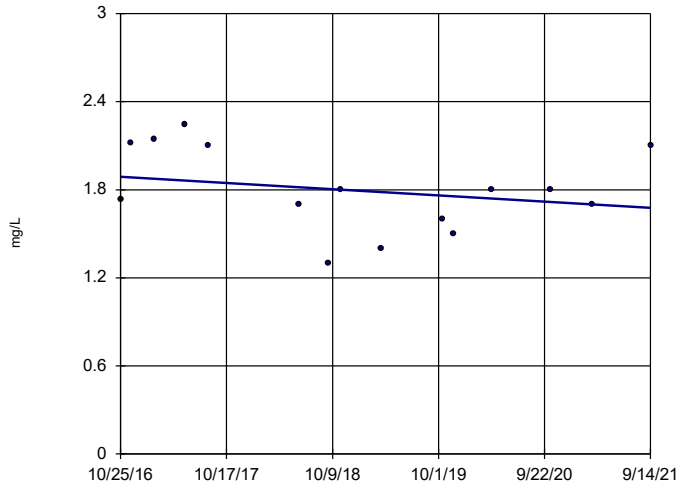
Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-17



n = 15

Slope = -0.04304 units per year.

Mann-Kendall statistic = -18 critical = -53

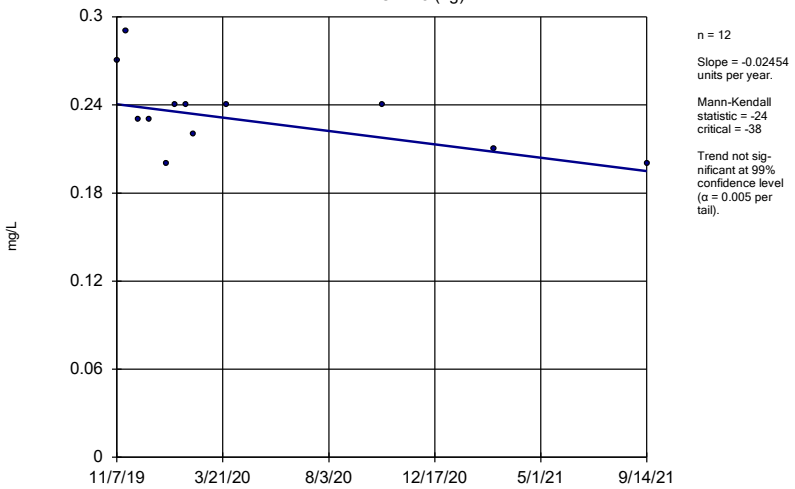
Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-18 (bg)



n = 12

Slope = -0.02454 units per year.

Mann-Kendall statistic = -24
critical = -38

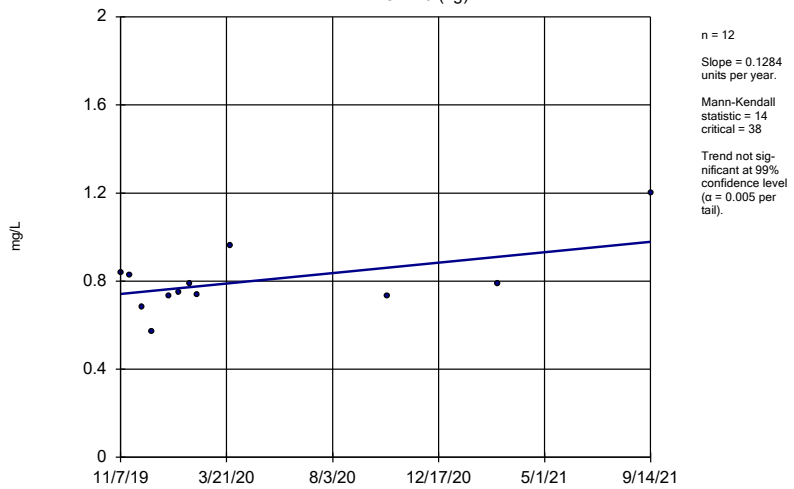
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-19 (bg)



n = 12

Slope = 0.1284 units per year.

Mann-Kendall statistic = 14
critical = 38

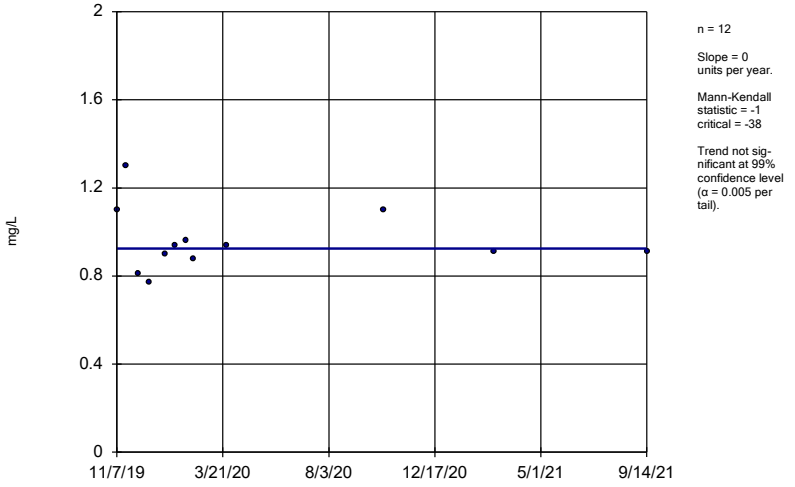
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-20 (bg)



n = 12

Slope = 0 units per year.

Mann-Kendall statistic = -1
critical = -38

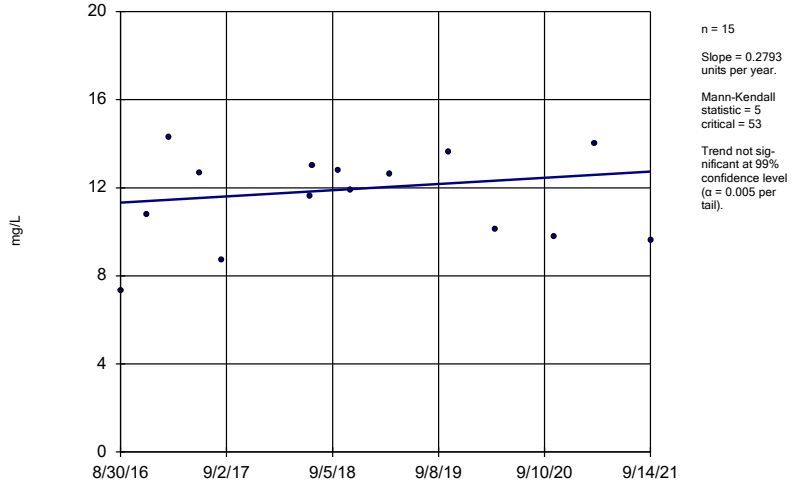
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Boron Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-01 (bg)



n = 15

Slope = 0.2793 units per year.

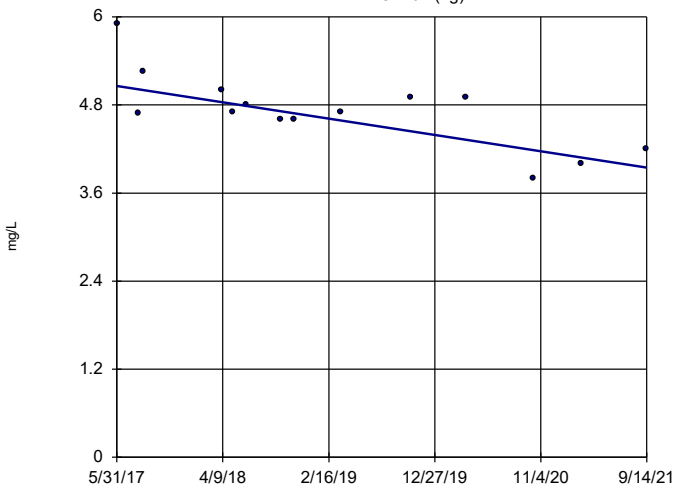
Mann-Kendall statistic = 5
critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-02 (bg)



n = 14

Slope = -0.2586 units per year.

Mann-Kendall statistic = -42
critical = -48

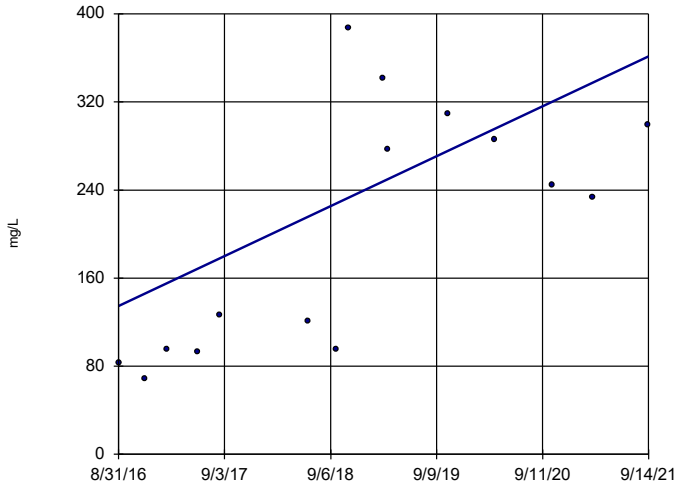
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-06



n = 15

Slope = 44.92 units per year.

Mann-Kendall statistic = 51
critical = 53

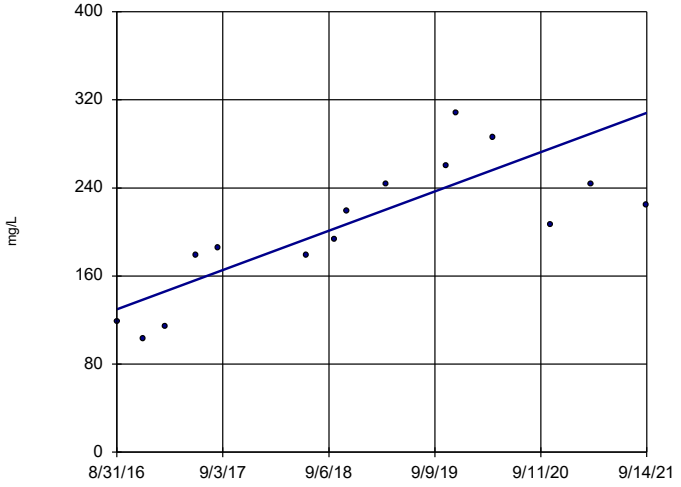
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-07



n = 15

Slope = 35.39 units per year.

Mann-Kendall statistic = 70
critical = 53

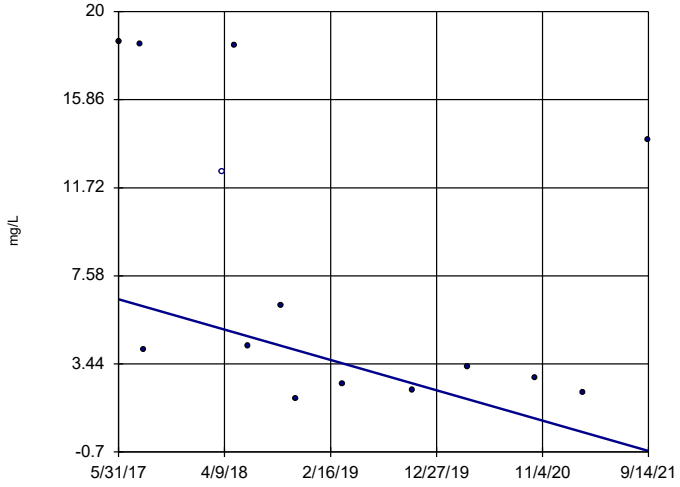
Increasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-11 (bg)



n = 14

Slope = -1.659 units per year.

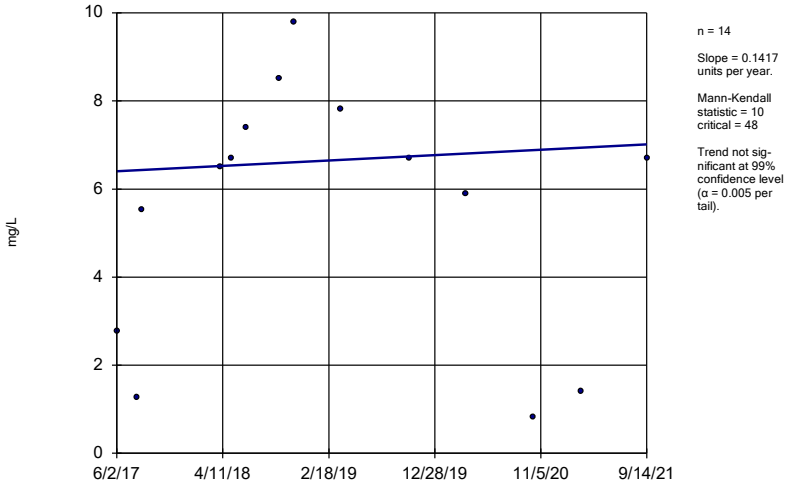
Mann-Kendall statistic = -41
critical = -48

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-15 (bg)



n = 14

Slope = 0.1417 units per year.

Mann-Kendall statistic = 10 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

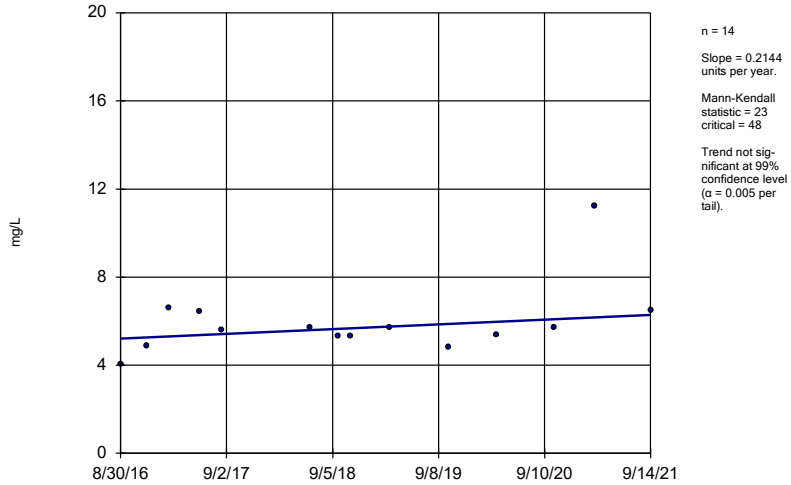
Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-16 (bg)



n = 14

Slope = 0.2144 units per year.

Mann-Kendall statistic = 23 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

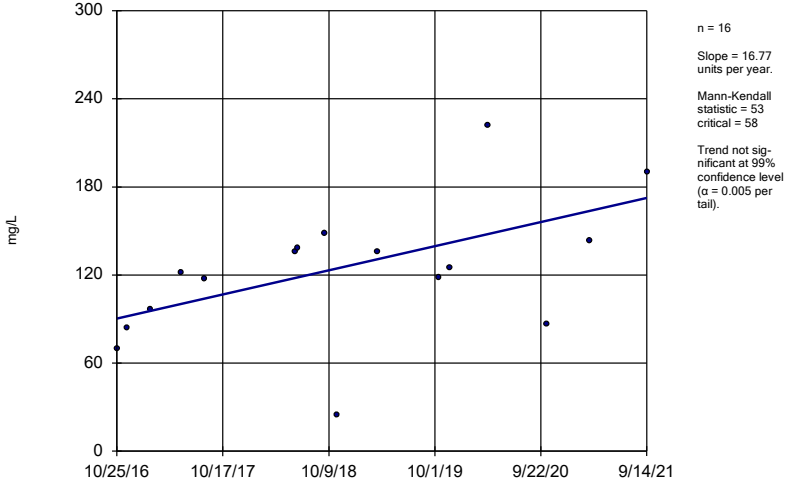
Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-17



n = 16

Slope = 16.77 units per year.

Mann-Kendall statistic = 53 critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

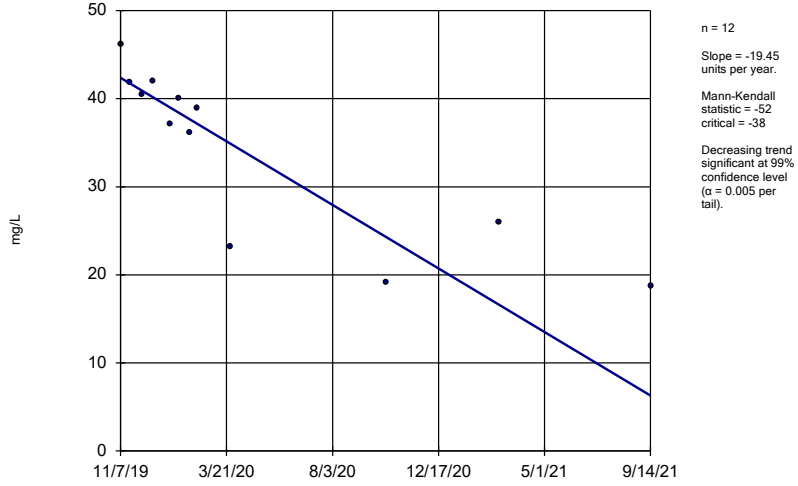
Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-18 (bg)



n = 12

Slope = -19.45 units per year.

Mann-Kendall statistic = -52 critical = -38

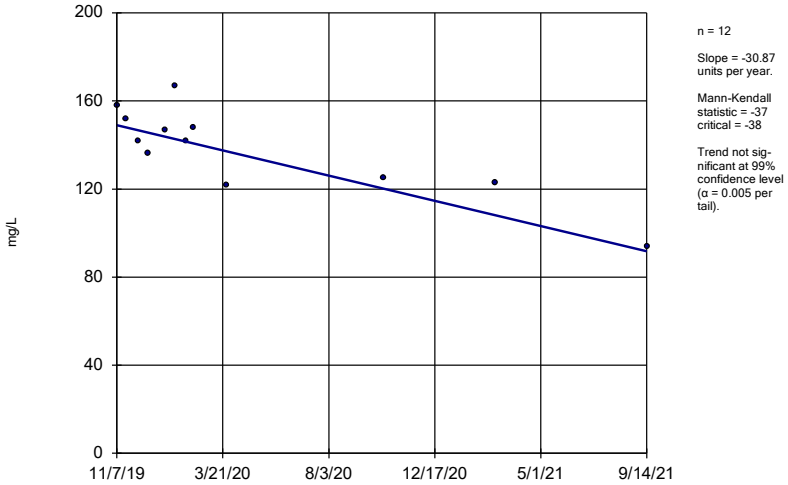
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-19 (bg)



n = 12

Slope = -30.87 units per year.

Mann-Kendall statistic = -37
critical = -38

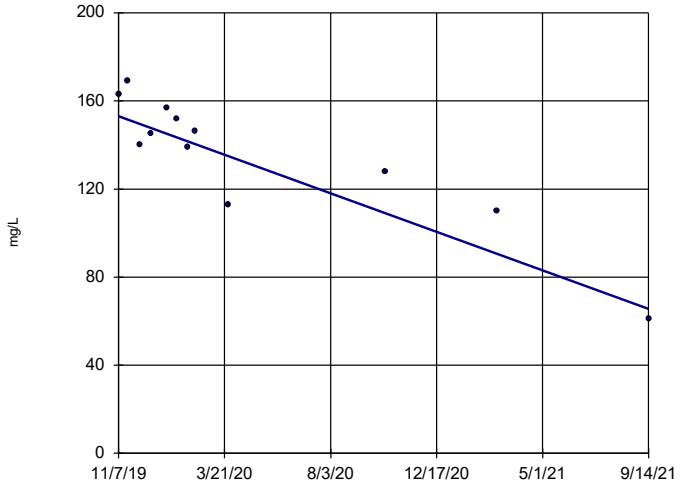
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-20 (bg)



n = 12

Slope = -47.21 units per year.

Mann-Kendall statistic = -46
critical = -38

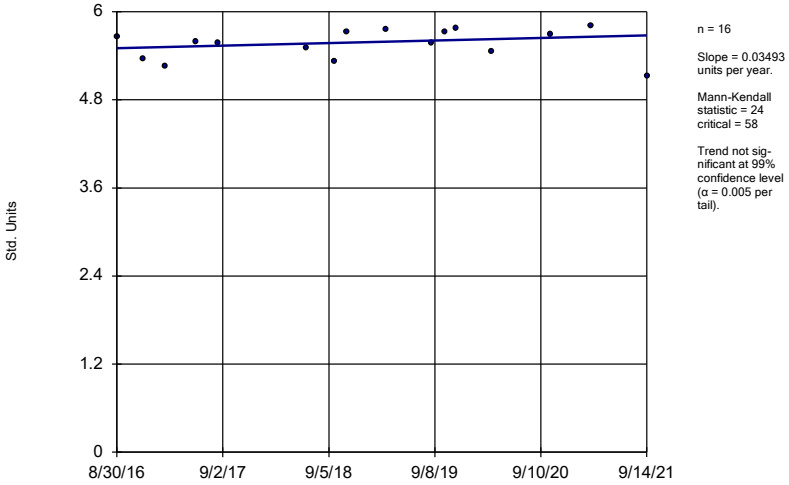
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: Calcium Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-01 (bg)



n = 16

Slope = 0.03493 units per year.

Mann-Kendall statistic = 24
critical = 58

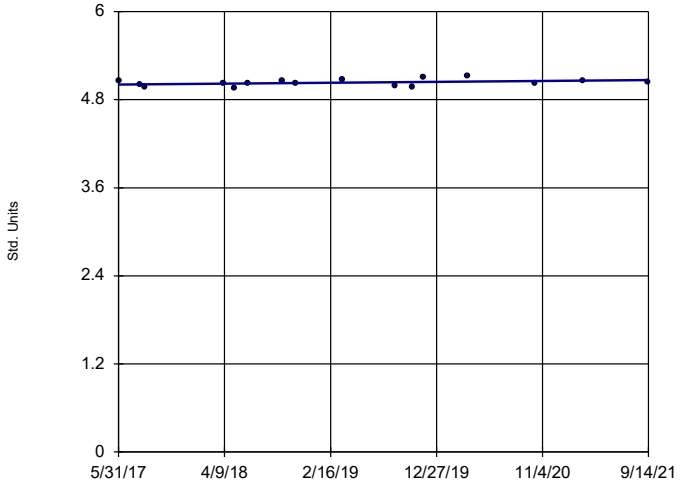
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-02 (bg)



n = 16

Slope = 0.01474 units per year.

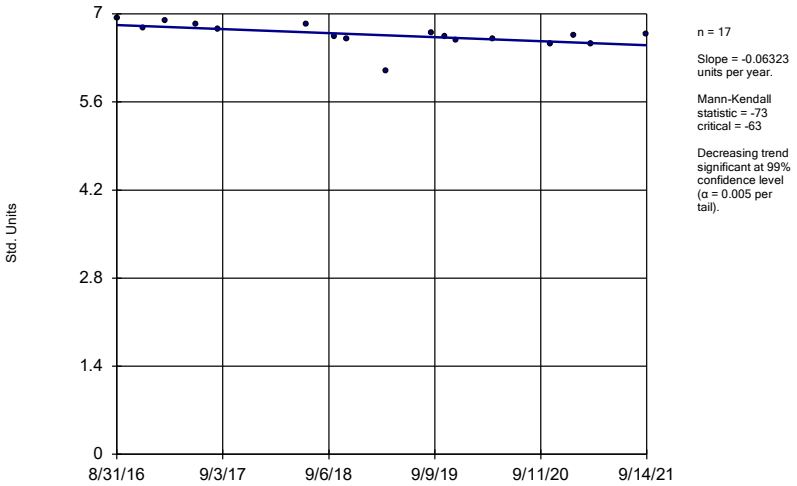
Mann-Kendall statistic = 34
critical = 58

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-05



n = 17

Slope = -0.06323 units per year.

Mann-Kendall statistic = -73
critical = -63

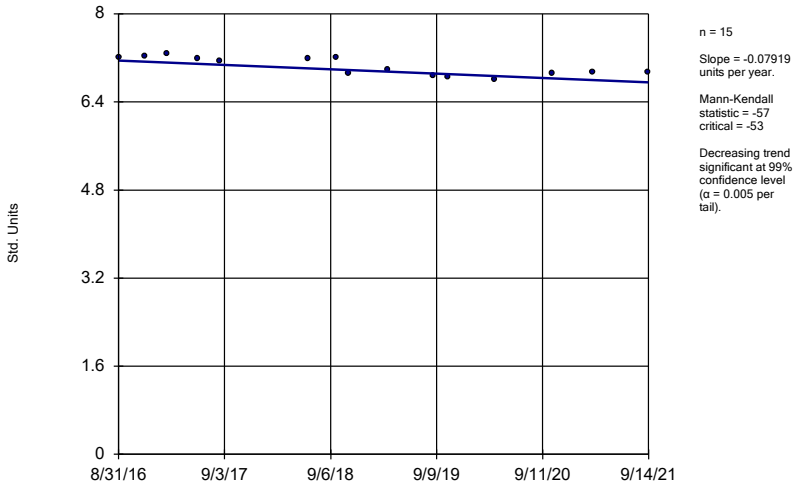
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-06



n = 15

Slope = -0.07919 units per year.

Mann-Kendall statistic = -57
critical = -53

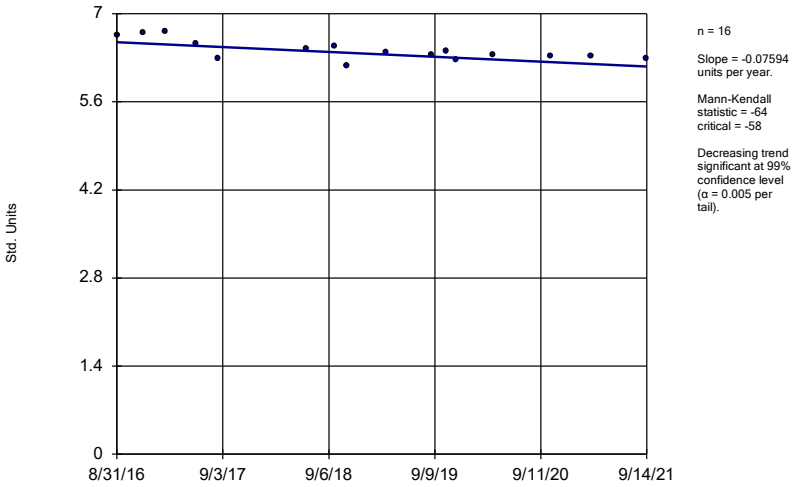
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-07



n = 16

Slope = -0.07594 units per year.

Mann-Kendall statistic = -64
critical = -58

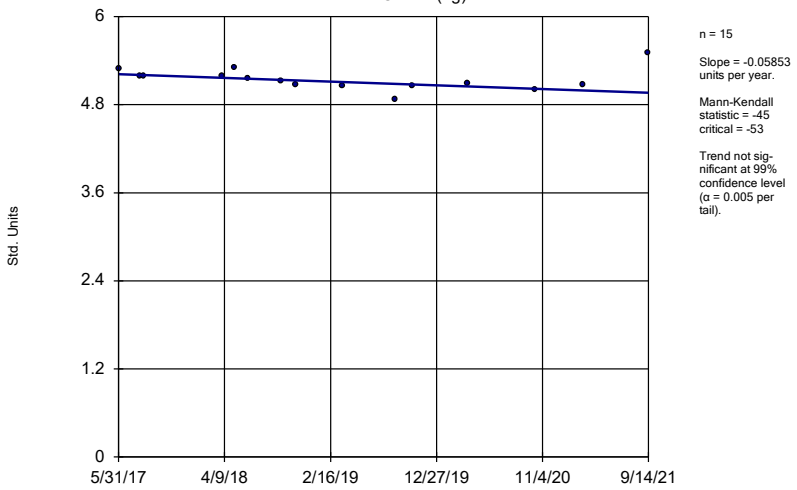
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-11 (bg)



n = 15

Slope = -0.05853 units per year.

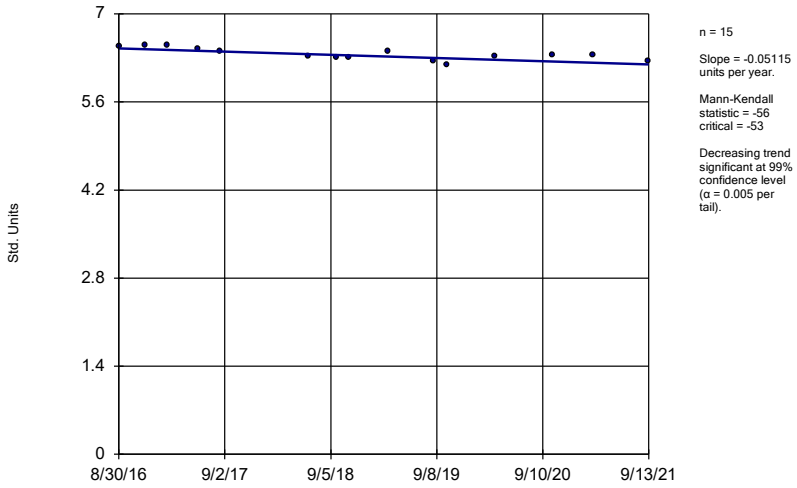
Mann-Kendall statistic = -45
critical = -53

Trend not sig-nificant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-12



n = 15

Slope = -0.05115 units per year.

Mann-Kendall statistic = -56
critical = -53

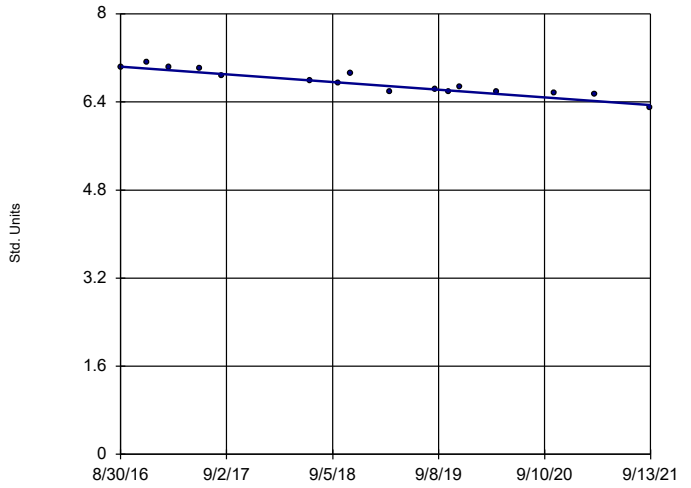
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-14



n = 16

Slope = -0.1384 units per year.

Mann-Kendall statistic = -101
critical = -58

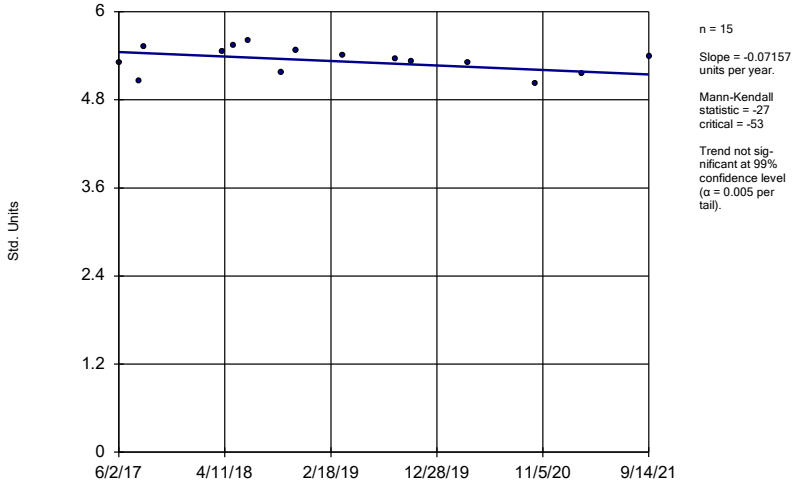
Decreasing trend significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-15 (bg)



n = 15

Slope = -0.07157 units per year.

Mann-Kendall statistic = -27
critical = -53

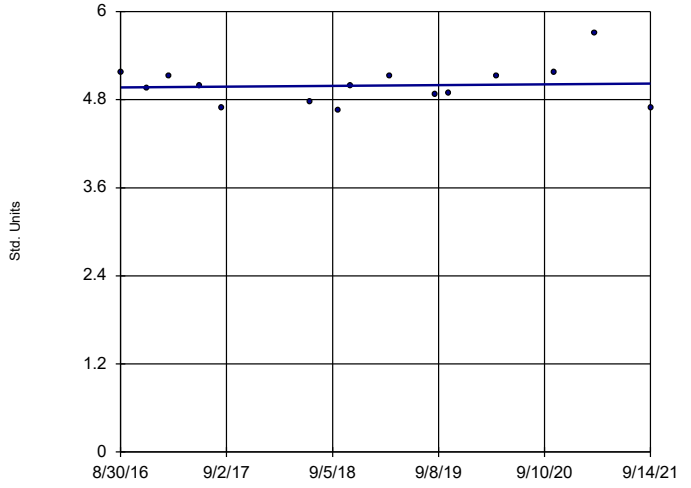
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-16 (bg)



n = 15

Slope = 0.01093 units per year.

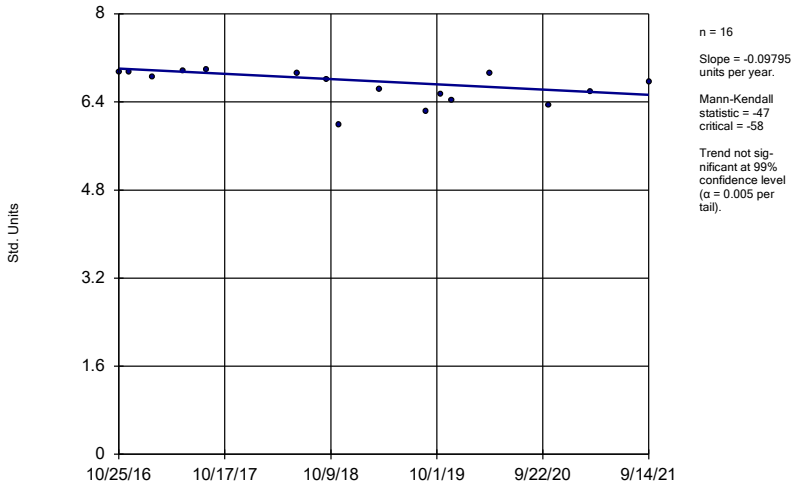
Mann-Kendall statistic = 5
critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-17



n = 16

Slope = -0.09795 units per year.

Mann-Kendall statistic = -47
critical = -58

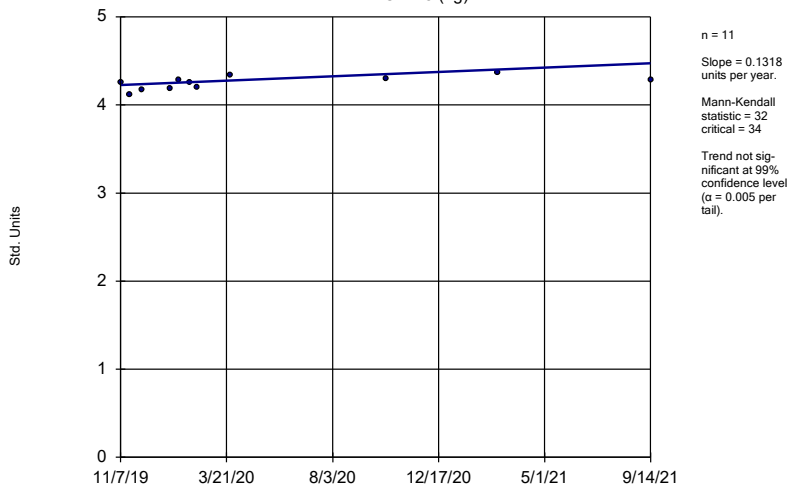
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-18 (bg)



n = 11

Slope = 0.1318 units per year.

Mann-Kendall statistic = 32
critical = 34

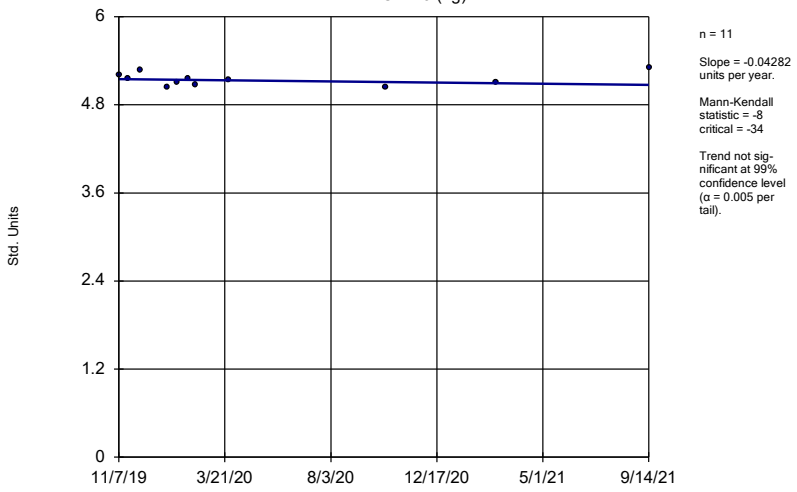
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-19 (bg)



n = 11

Slope = -0.04282 units per year.

Mann-Kendall statistic = -8
critical = -34

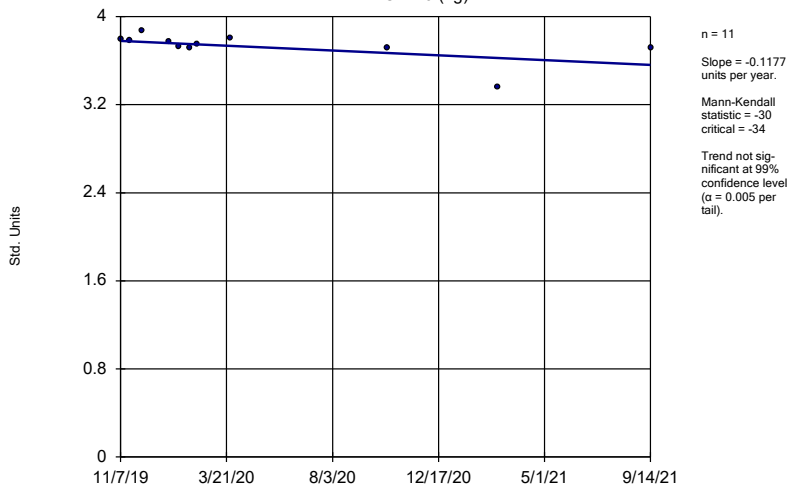
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-20 (bg)



n = 11

Slope = -0.1177 units per year.

Mann-Kendall statistic = -30
critical = -34

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH, field Analysis Run 11/30/2021 10:04 AM View: Appendix III - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

FIGURE F.

Upper Tolerance Limits Summary Table

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/2/2021, 2:15 PM

Constituent	Well	Upper Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	n/a	0.003	n/a	n/a	n/a	91	n/a	n/a	94.51	n/a	n/a	0.009394	NP Inter(NDs)
Arsenic (mg/L)	n/a	0.031	n/a	n/a	n/a	110	n/a	n/a	14.55	n/a	n/a	0.003545	NP Inter(normality)
Barium (mg/L)	n/a	0.22	n/a	n/a	n/a	107	n/a	n/a	0	n/a	n/a	0.004135	NP Inter(normality)
Beryllium (mg/L)	n/a	0.021	n/a	n/a	n/a	106	n/a	n/a	26.42	n/a	n/a	0.004352	NP Inter(normality)
Cadmium (mg/L)	n/a	0.0025	n/a	n/a	n/a	85	n/a	n/a	92.94	n/a	n/a	0.01278	NP Inter(NDs)
Chromium (mg/L)	n/a	0.011	n/a	n/a	n/a	91	n/a	n/a	49.45	n/a	n/a	0.009394	NP Inter(normality)
Cobalt (mg/L)	n/a	0.036	n/a	n/a	n/a	106	n/a	n/a	76.42	n/a	n/a	0.004352	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	n/a	55.8	n/a	n/a	n/a	105	n/a	n/a	0	n/a	n/a	0.004581	NP Inter(normality)
Fluoride (mg/L)	n/a	1.5	n/a	n/a	n/a	111	n/a	n/a	45.95	n/a	n/a	0.003368	NP Inter(normality)
Lead (mg/L)	n/a	0.005	n/a	n/a	n/a	106	n/a	n/a	82.08	n/a	n/a	0.004352	NP Inter(NDs)
Lithium (mg/L)	n/a	0.026	n/a	n/a	n/a	103	n/a	n/a	55.34	n/a	n/a	0.005076	NP Inter(NDs)
Mercury (mg/L)	n/a	0.0007	n/a	n/a	n/a	85	n/a	n/a	94.12	n/a	n/a	0.01278	NP Inter(NDs)
Molybdenum (mg/L)	n/a	0.01	n/a	n/a	n/a	90	n/a	n/a	92.22	n/a	n/a	0.009888	NP Inter(NDs)
Selenium (mg/L)	n/a	0.15	n/a	n/a	n/a	107	n/a	n/a	60.75	n/a	n/a	0.004135	NP Inter(NDs)
Thallium (mg/L)	n/a	0.002	n/a	n/a	n/a	90	n/a	n/a	92.22	n/a	n/a	0.009888	NP Inter(NDs)

FIGURE G.

MCMANUS ASH POND GWPS					
Constituent Name	**MCL**	**CCR-Rule Specified**	**Background Limit**	**Federal GWPS**	**State GWPS**
Antimony, Total (mg/L)	0.006		0.003	0.006	0.006
Arsenic, Total (mg/L)	0.01		0.031	0.031	0.031
Barium, Total (mg/L)	2		0.22	2	2
Beryllium, Total (mg/L)	0.004		0.021	0.021	0.021
Cadmium, Total (mg/L)	0.005		0.0025	0.005	0.005
Chromium, Total (mg/L)	0.1		0.011	0.1	0.1
Cobalt, Total (mg/L)		0.006	0.036	0.036	0.036
Combined Radium, Total (pCi/L)	5		55.8	55.8	55.8
Fluoride, Total (mg/L)	4		1.5	4	4
Lead, Total (mg/L)		0.015	0.005	0.015	0.005
Lithium, Total (mg/L)		0.04	0.026	0.04	0.026
Mercury, Total (mg/L)	0.002		0.0007	0.002	0.002
Molybdenum, Total (mg/L)		0.1	0.01	0.1	0.01
Selenium, Total (mg/L)	0.05		0.15	0.15	0.15
Thallium, Total (mg/L)	0.002		0.001	0.002	0.002

**Grey cell indicates Background Limit is higher than MCL or CCR-Rule Specified Level*

**MCL = Maximum Contaminant Level*

**CCR = Coal Combustion Residual*

**GWPS = Groundwater Protection Standard*

FIGURE H.

Federal Confidence Intervals - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.04**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.04**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**

Federal Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MCM-06	0.003	0.00098	0.006	No	13	0.002675	0.0007709	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-14	0.003	0.0004	0.006	No	12	0.002783	0.0007506	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-17	0.003	0.00078	0.006	No	12	0.002815	0.0006409	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DPZ-2	0.0249	0.0151	0.031	No	4	0.0225	0.005447	25	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-04	0.008019	0.002934	0.031	No	15	0.0058	0.004243	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.002	0.031	No	17	0.01725	0.01344	17.65	None	No	0.01	NP (normality)
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	MCM-07	0.0214	0.01122	0.031	No	17	0.01631	0.008125	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.03	0.001	0.031	No	14	0.0159	0.01468	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.03	0.0014	0.031	No	14	0.01651	0.0141	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.03	0.0017	0.031	No	15	0.01376	0.0138	40	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09086	0.03286	2	No	14	0.07307	0.0749	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.04502	0.009496	2	No	15	0.05122	0.1122	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	15	0.1079	0.05641	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.2056	0.1016	2	No	14	0.1644	0.09816	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-12	0.1285	0.1062	2	No	14	0.1174	0.01579	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1285	0.05361	2	No	14	0.09108	0.0529	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1388	0.06144	2	No	14	0.1001	0.05463	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.00021	0.021	No	14	0.001272	0.001345	35.71	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No	15	0.002804	0.0007607	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.00012	0.021	No	14	0.002377	0.001239	78.57	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001236	0.0004659	0.021	No	14	0.0009843	0.0008851	14.29	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No	14	0.001968	0.001438	64.29	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No	14	0.001231	0.001369	35.71	None	No	0.01	NP (normality)
Cadmium (mg/L)	MCM-17	0.0025	0.0025	0.005	No	11	0.002281	0.0007257	90.91	None	No	0.006	NP (NDs)
Chromium (mg/L)	MCM-04	0.01	0.0012	0.1	No	12	0.005667	0.004533	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-05	0.01	0.00057	0.1	No	12	0.005453	0.004755	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-06	0.01	0.00085	0.1	No	13	0.00655	0.004546	61.54	None	No	0.01	NP (NDs)
Chromium (mg/L)	MCM-07	0.01	0.002	0.1	No	12	0.00485	0.00381	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-12	0.01	0.0047	0.1	No	12	0.00695	0.002356	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-14	0.01	0.00076	0.1	No	12	0.005106	0.004349	41.67	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-17	0.01305	0.007718	0.1	No	12	0.01104	0.003034	25	Kaplan-Meier	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.03	0.0054	0.036	No	15	0.01746	0.01221	46.67	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.03	0.0019	0.036	No	15	0.02813	0.007255	93.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.03	0.0009	0.036	No	15	0.02608	0.01035	86.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.03	0.0011	0.036	No	14	0.02794	0.007724	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.03	0.00053	0.036	No	14	0.01948	0.01464	64.29	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.03	0.0006	0.036	No	14	0.0279	0.007857	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.03	0.0007	0.036	No	14	0.02369	0.01254	78.57	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	5.96	3.112	55.8	No	14	4.634	2.256	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	3.042	1.387	55.8	No	15	2.441	1.741	0	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	8.58	1.94	55.8	No	14	5.409	3.319	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.615	5.621	55.8	No	15	7.618	2.946	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.092	2.128	55.8	No	14	2.61	0.6799	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.458	3.108	55.8	No	15	5.283	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	8.82	2.01	55.8	No	15	5.015	3.04	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-04	0.18	0.055	4	No	15	0.1375	0.1296	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5406	0.2639	4	No	17	0.4194	0.2322	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	15	0.1965	0.1497	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	16	0.2916	0.2926	43.75	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.296	0.9687	4	No	15	1.1	0.3249	6.667	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	16	0.2315	0.2003	56.25	None	No	0.01	NP (NDs)
Fluoride (mg/L)	MCM-17	1.2	0.1	4	No	16	0.5396	0.5124	37.5	None	No	0.01	NP (normality)

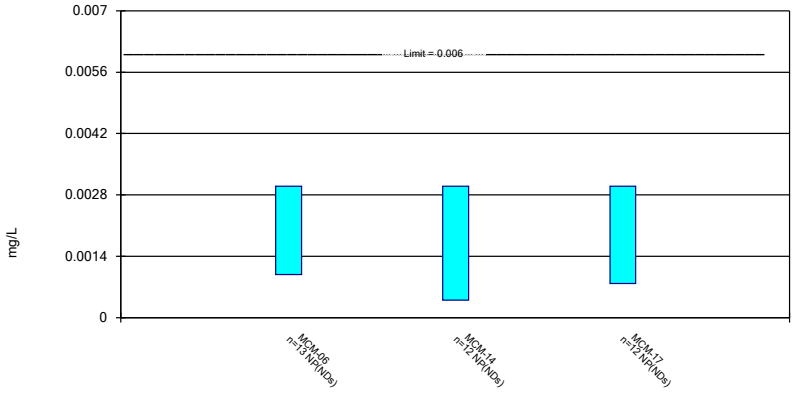
Federal Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:26 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No	15	0.00468	0.001239	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.015	No	15	0.004675	0.00126	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0002	0.015	No	14	0.003956	0.002075	78.57	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.0001	0.015	No	14	0.003605	0.00229	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.015	No	14	0.004649	0.001315	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.00027	0.015	No	14	0.003639	0.002233	71.43	None	No	0.01	NP (NDs)
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.04**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	MCM-04	0.006	0.0015	0.04	No	14	0.003986	0.002174	50	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.042	0.021	0.04	No	15	0.06487	0.14	0	None	No	0.01	NP (normality)
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.04**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MCM-07	0.05517	0.02018	0.04	No	15	0.04383	0.03675	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01198	0.009702	0.04	No	14	0.01061	0.002124	14.29	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-14	0.05038	0.03288	0.04	No	15	0.03619	0.01935	6.667	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02576	0.01317	0.04	No	14	0.01946	0.008888	7.143	None	No	0.01	Param.
Mercury (mg/L)	MCM-04	0.0002	0.0002	0.002	No	11	0.0002464	0.0001538	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-05	0.0002	0.0002	0.002	No	11	0.0001856	0.00004764	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-06	0.0002	0.00016	0.002	No	12	0.0001967	0.00001155	91.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	MCM-07	0.0002	0.0002	0.002	No	11	0.0002427	0.0001417	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-14	0.0002	0.0002	0.002	No	11	0.0002418	0.0001387	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-17	0.0002	0.0002	0.002	No	11	0.0002251	0.0001461	81.82	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	MCM-05	0.01	0.0099	0.1	No	12	0.009258	0.002538	83.33	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-06	0.01	0.0024	0.1	No	13	0.007562	0.003813	69.23	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-17	0.01	0.0019	0.1	No	12	0.009325	0.002338	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No	14	0.008777	0.003136	85.71	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No	15	0.00794	0.00354	73.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.002	0.15	No	15	0.0066	0.003726	46.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0023	0.15	No	14	0.006557	0.003675	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0019	0.15	No	14	0.005943	0.004219	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0019	0.15	No	14	0.006879	0.003864	57.14	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No	14	0.0063	0.003859	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	MCM-06	0.002	0.000076	0.002	No	13	0.001852	0.0005336	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	MCM-17	0.002	0.00014	0.002	No	12	0.001845	0.0005369	91.67	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

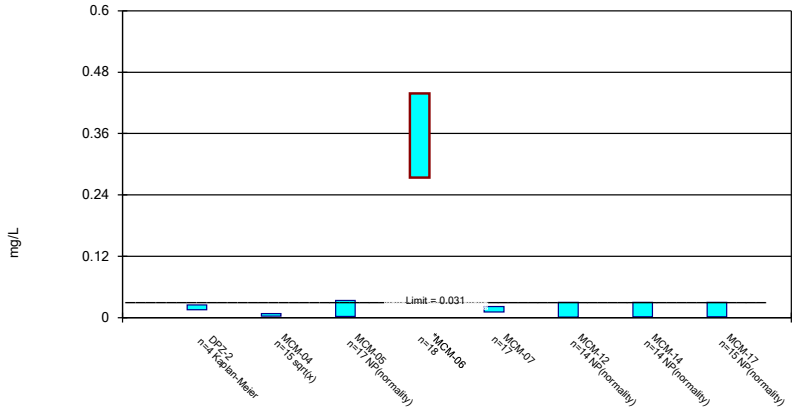
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

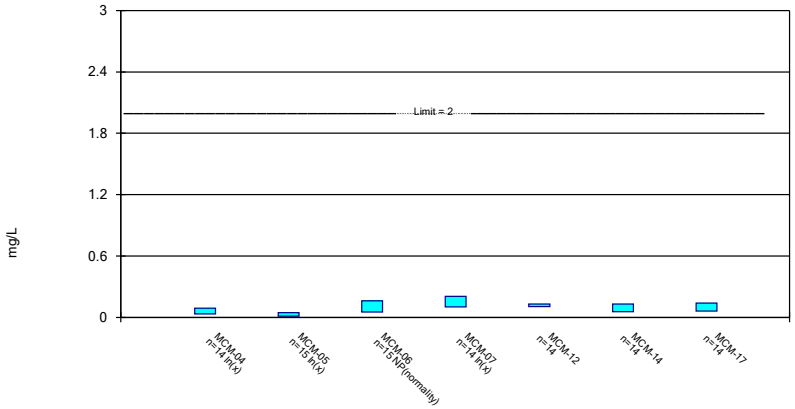
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

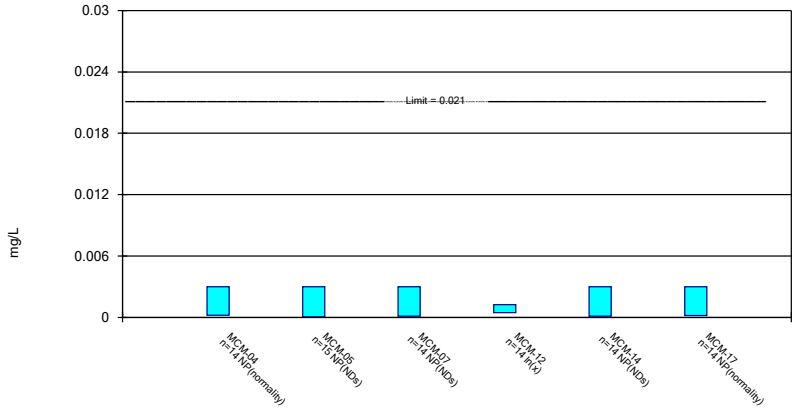
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

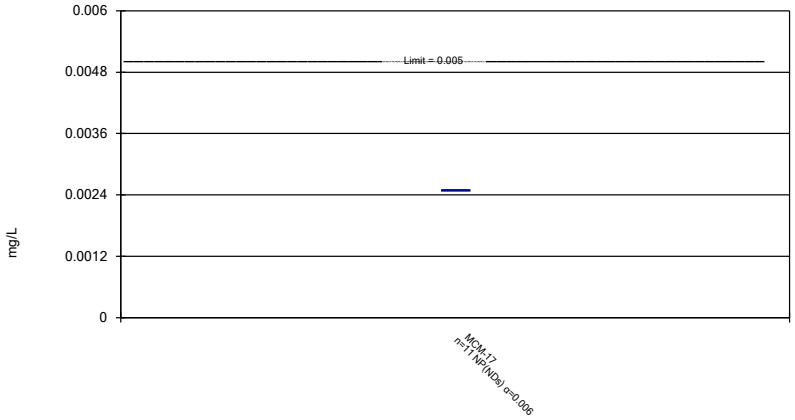
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

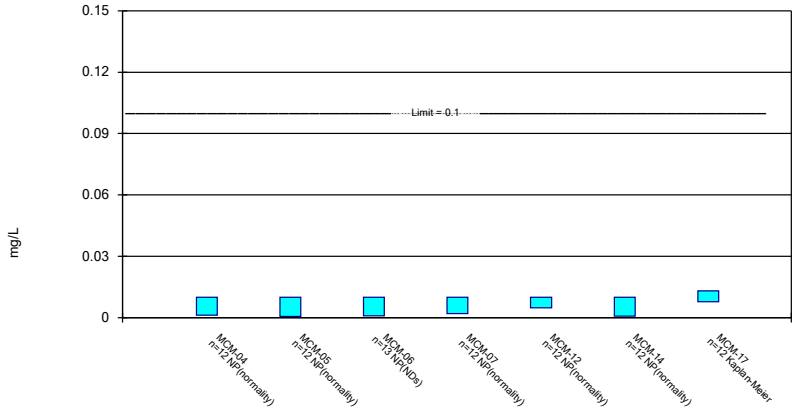
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

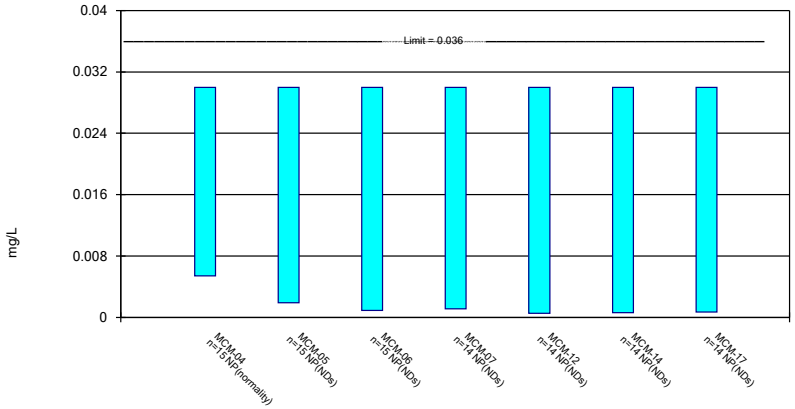
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

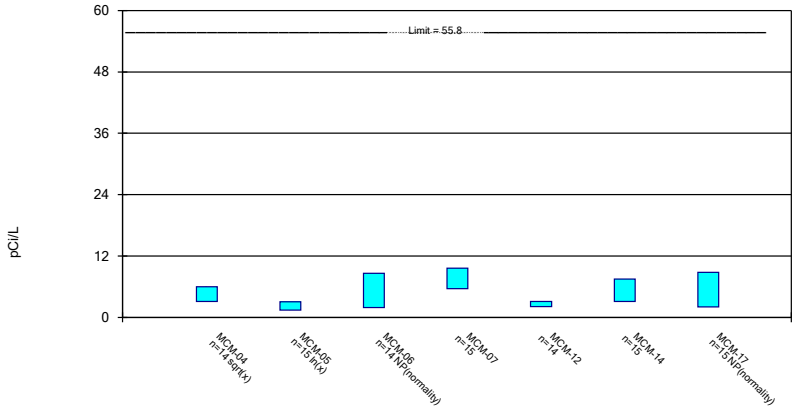
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

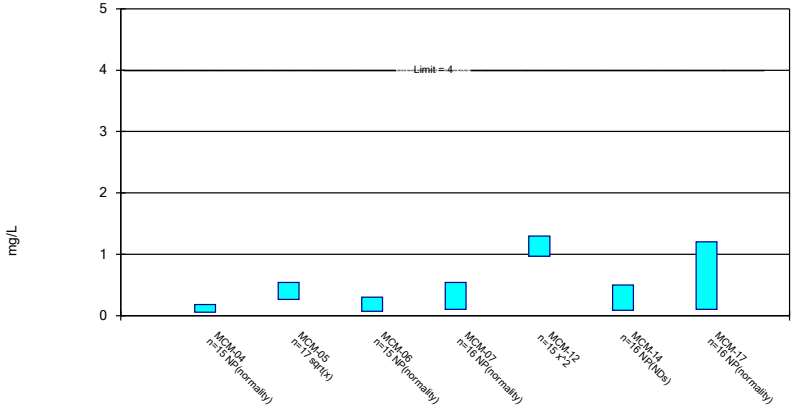
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confide
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

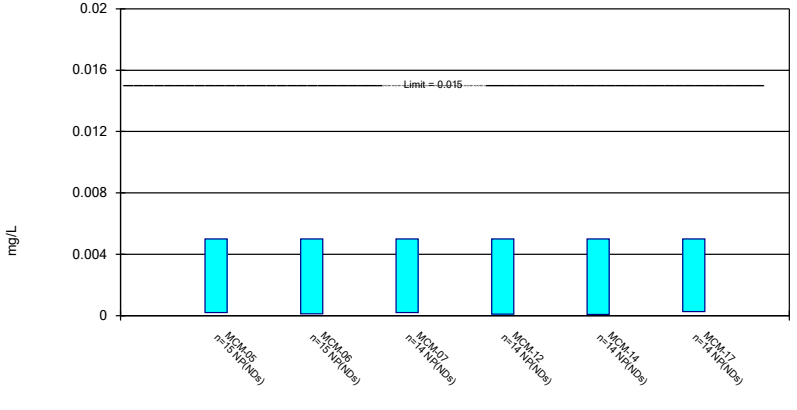
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

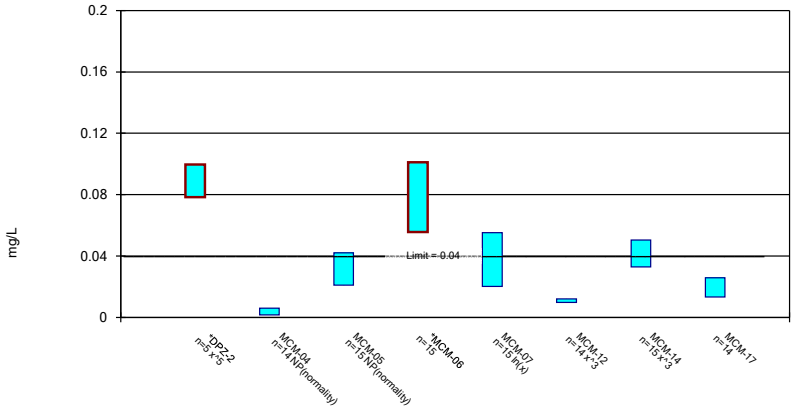
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

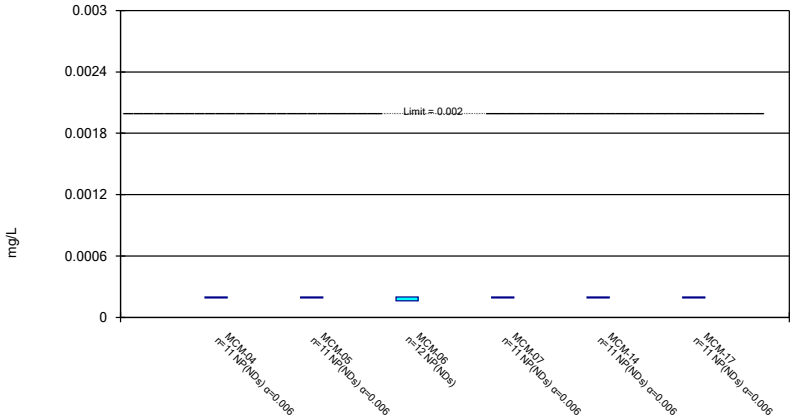
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

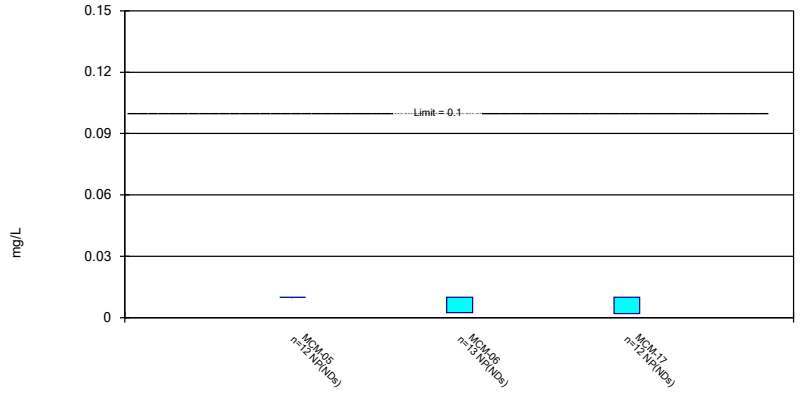
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Mercury Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

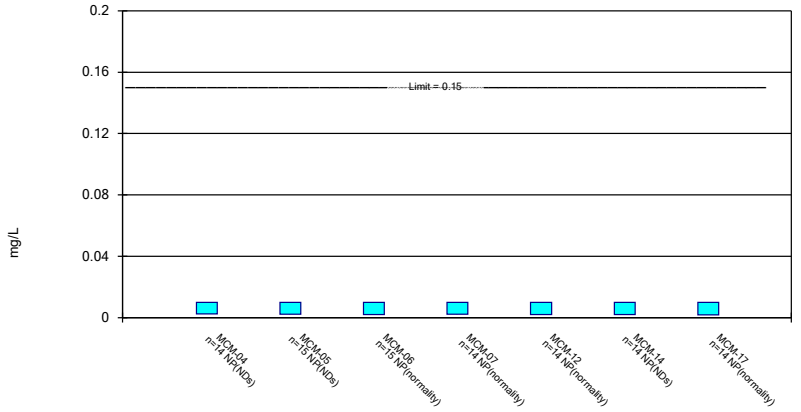


Constituent: Molybdenum Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

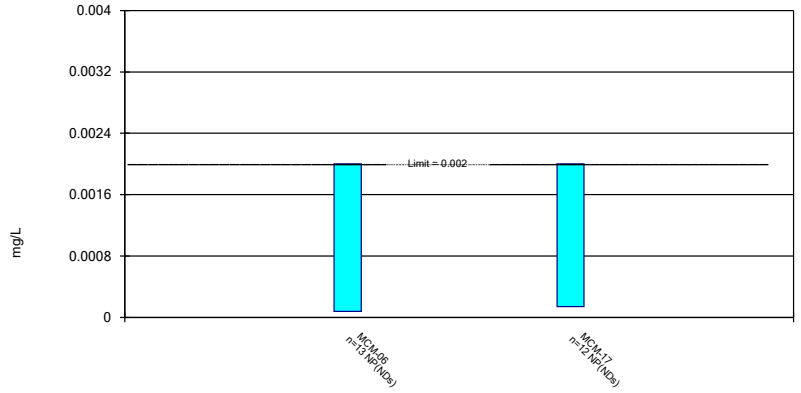


Constituent: Selenium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 12/29/2021 3:23 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-06	MCM-14	MCM-17
8/30/2016		<0.003	
8/31/2016	<0.003		
10/25/2016			<0.003
11/30/2016	<0.003	<0.003	<0.003
2/15/2017		<0.003	<0.003
2/16/2017	<0.003		
5/31/2017		<0.003	<0.003
6/2/2017	<0.003		
8/15/2017			<0.003
8/16/2017		<0.003	
8/17/2017	<0.003		
6/19/2018		<0.003	<0.003
6/20/2018	<0.003		
9/25/2018		<0.003	
9/26/2018			0.00078
9/27/2018	<0.003		
11/6/2018		<0.003	<0.003
11/7/2018	<0.003		
3/6/2019	<0.003		
8/26/2019		0.0004 (J)	
8/27/2019			<0.003
8/28/2019	0.00098 (J)		
10/15/2019		<0.003	
10/16/2019			<0.003
10/17/2019	0.0009 (J)		
3/27/2020		<0.003	<0.003
3/28/2020	0.0029 (J)		
9/13/2021		<0.003	
9/14/2021	<0.003		<0.003
Mean	0.002675	0.002783	0.002815
Std. Dev.	0.0007709	0.0007506	0.0006409
Upper Lim.	0.003	0.003	0.003
Lower Lim.	0.00098	0.0004	0.00078

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016						<0.03	<0.03	
8/31/2016			<0.03	0.212	0.0066			
10/25/2016								<0.03
11/30/2016			0.0132	0.129	0.0281	<0.03	<0.03	0.0072
2/15/2017						<0.03	<0.03	0.0017 (J)
2/16/2017			0.0372	0.257	0.0295			
5/31/2017						0.0007 (J)	0.0008 (J)	0.0018 (J)
6/1/2017		0.004 (J)						
6/2/2017			0.0335	0.0559	0.0286			
8/2/2017		0.0028 (J)						
8/15/2017						0.0006 (J)		0.0015 (J)
8/16/2017							0.0007 (J)	
8/17/2017		0.0021 (J)	0.0336	0.458	0.0211			
4/4/2018		0.0023 (J)						
5/8/2018		0.0048 (J)						
6/19/2018						0.001 (J)	0.0062 (J)	0.0029 (J)
6/20/2018		0.0099	0.019	0.44				
6/21/2018					0.022 (J)			
9/25/2018						0.0011 (J)	0.0031 (J)	
9/26/2018								0.0015 (J)
9/27/2018		0.01	0.0035 (J)	0.27	0.015			
11/6/2018		0.013			0.012		0.0014 (J)	<0.03
11/7/2018			0.002 (J)	0.5		0.0057		
11/27/2018			0.0016 (J)	0.5	0.011			
3/6/2019				0.49				
3/26/2019			0.0018 (J)	0.3	0.0078			
7/2/2019		0.015 (J)		0.37	0.027			
8/26/2019							0.0022 (J)	
8/27/2019		0.0072				0.0011 (J)		0.0024 (J)
8/28/2019			0.0019 (J)	0.5	0.011			
10/15/2019		0.0038 (J)				0.0024 (J)	0.0067	
10/16/2019			0.0047 (J)					0.0043 (J)
10/17/2019				0.34	0.0046 (J)			
11/21/2019								0.0031 (J)
3/27/2020						<0.03	<0.03	<0.03
3/28/2020	<0.03	0.0034 (J)	<0.03	0.3	0.012			
10/12/2020						<0.03		
10/13/2020		0.0022 (J)					<0.03	<0.03
10/14/2020				0.43	0.013			
10/15/2020	0.021		0.024					
1/4/2021			0.0072					
3/2/2021						<0.03	<0.03	
3/3/2021								<0.03
3/4/2021	0.017 (J)	0.0018 (J)	<0.03	0.35	0.015 (J)			
9/13/2021						<0.03	<0.03	
9/14/2021	0.022	0.0047 (J)	0.02 (J)	0.51	0.013 (J)			<0.03
Mean	0.0225	0.0058	0.01725	0.3562	0.01631	0.0159	0.01651	0.01376
Std. Dev.	0.005447	0.004243	0.01344	0.1357	0.008125	0.01468	0.0141	0.0138
Upper Lim.	0.0249	0.008019	0.0335	0.4383	0.0214	0.03	0.03	0.03
Lower Lim.	0.0151	0.002934	0.002	0.2741	0.01122	0.001	0.0014	0.0017

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					0.108	0.0131	
8/31/2016		0.0289	0.0498	0.0771			
10/25/2016							0.063
11/30/2016		0.0168	0.0528	0.101	0.121	0.0105	0.0628
2/15/2017					0.111	0.0786	0.0102
2/16/2017		0.016	0.0555	0.0865			
5/31/2017					0.131	0.0199	0.061
6/1/2017	0.0195						
6/2/2017		0.0393 (J)	0.0508	0.123			
8/2/2017	0.053						
8/15/2017					0.126		0.0579
8/16/2017						0.033	
8/17/2017	0.0475	0.0188	0.0596	0.124			
4/4/2018	0.035						
5/8/2018	0.027						
6/19/2018					0.13	0.092	0.076
6/20/2018	0.027	0.014	0.06				
6/21/2018				0.1			
9/25/2018					0.12	0.098	
9/26/2018							0.099
9/27/2018	0.14	0.0097 (J)	0.06	0.12			
11/6/2018	0.31			0.12		0.1	0.052
11/7/2018		0.0085 (J)	0.19		0.11		
3/6/2019			0.16				
8/26/2019						0.12	
8/27/2019	0.083				0.14		0.11
8/28/2019		0.011	0.13	0.4			
10/15/2019	0.082				0.14	0.12	
10/16/2019		0.012					0.14
10/17/2019			0.13	0.35			
3/27/2020					0.12	0.13	0.16
3/28/2020	0.039	0.0041 (J)	0.12	0.11			
10/12/2020					0.1		
10/13/2020	0.055					0.14	0.14
10/14/2020			0.14	0.19			
10/15/2020		0.45					
1/4/2021		0.051					
3/2/2021					0.1	0.16	
3/3/2021							0.17
3/4/2021	0.062	0.0082 (J)	0.14	0.2			
9/13/2021					0.086	0.16	
9/14/2021	0.043	0.08	0.22	0.2			0.2 (M1)
Mean	0.07307	0.05122	0.1079	0.1644	0.1174	0.09108	0.1001
Std. Dev.	0.0749	0.1122	0.05641	0.09816	0.01579	0.0529	0.05463
Upper Lim.	0.09086	0.04502	0.16	0.2056	0.1285	0.1285	0.1388
Lower Lim.	0.03286	0.009496	0.0528	0.1016	0.1062	0.05361	0.06144

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016				0.0003 (J)	<0.003	
8/31/2016		<0.003	<0.003			
10/25/2016						0.0004 (J)
11/30/2016		<0.003	<0.003	0.0004 (J)	<0.003	0.0003 (J)
2/15/2017				0.0004 (J)	<0.003	<0.003
2/16/2017		<0.003	<0.003			
5/31/2017				0.0005 (J)	0.0001 (J)	0.0002 (J)
6/1/2017	0.0001 (J)					
6/2/2017		<0.003	<0.003			
8/2/2017	0.0003 (J)					
8/15/2017				0.0005 (J)		0.0002 (J)
8/16/2017					0.0002 (J)	
8/17/2017	0.0002 (J)	<0.003	<0.003			
4/4/2018	<0.003					
5/8/2018	0.00025 (J)					
6/19/2018				0.00065 (J)	<0.003	0.00032 (J)
6/20/2018	0.00021 (J)	<0.003				
6/21/2018			<0.003			
9/25/2018				0.00066 (J)	5E-05 (J)	
9/26/2018						0.00024 (J)
9/27/2018	0.00031 (J)	<0.003	7.4E-05 (J)			
11/6/2018	0.00077 (J)		0.00012 (J)		9.7E-05 (J)	0.00026 (J)
11/7/2018		5.4E-05 (J)		0.00058 (J)		
8/26/2019					0.0001 (J)	
8/27/2019	0.00032 (J)			0.0009 (J)		0.00018 (J)
8/28/2019		<0.003	<0.003			
10/15/2019	0.00035 (J)			0.00079 (J)	<0.003	
10/16/2019		<0.003				0.00014 (J)
10/17/2019			7.8E-05 (J)			
3/27/2020				<0.003	<0.003	<0.003
3/28/2020	<0.003	<0.003	<0.003			
10/12/2020				0.001 (J)		
10/13/2020	<0.003				<0.003	<0.003
10/14/2020			<0.003			
10/15/2020		<0.003				
1/4/2021		<0.003				
3/2/2021				<0.003	<0.003	
3/3/2021						<0.003
3/4/2021	<0.003	<0.003	<0.003			
9/13/2021				0.0011	<0.003	
9/14/2021	<0.003	<0.003	<0.003			<0.003
Mean	0.001272	0.002804	0.002377	0.0009843	0.001968	0.001231
Std. Dev.	0.001345	0.0007607	0.001239	0.0008851	0.001438	0.001369
Upper Lim.	0.003	0.003	0.003	0.001236	0.003	0.003
Lower Lim.	0.00021	5.4E-05	0.00012	0.0004659	9.7E-05	0.00018

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-17
10/25/2016	<0.0025
11/30/2016	<0.0025
2/15/2017	<0.0025
5/31/2017	<0.0025
8/15/2017	<0.0025
6/19/2018	<0.0025
9/26/2018	9.3E-05
11/6/2018	<0.0025
8/27/2019	<0.0025
3/27/2020	<0.0025
9/14/2021	<0.0025
Mean	0.002281
Std. Dev.	0.0007257
Upper Lim.	0.0025
Lower Lim.	0.0025

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					0.0054 (J)	0.0026 (J)	
8/31/2016		0.0013 (J)	0.001 (J)	0.0022 (J)			
10/25/2016							0.016
11/30/2016		0.0012 (J)	<0.01	<0.01	0.0073 (J)	0.0016 (J)	0.0151 (J)
2/15/2017					0.0045 (J)	0.0018 (J)	0.0137
2/16/2017		0.0012 (J)	0.0011 (J)	0.0028 (J)			
5/31/2017					0.0052 (J)	0.0019 (J)	0.0109
6/1/2017	0.0008 (J)						
6/2/2017		<0.01	<0.01	0.0023 (J)			
8/2/2017	0.0012 (J)						
8/15/2017					0.005 (J)		0.0117
8/16/2017						0.0019 (J)	
8/17/2017	0.0013 (J)	0.0007 (J)	0.0007 (J)	0.0022 (J)			
4/4/2018	<0.01						
5/8/2018	<0.01						
6/19/2018					0.0047 (J)	<0.01	0.013 (J)
6/20/2018	<0.01	<0.01	<0.01				
6/21/2018				<0.01			
9/25/2018					<0.01	<0.01	
9/26/2018							0.0092 (J)
9/27/2018	<0.01	<0.01	<0.01	0.0024 (J)			
11/6/2018	0.0017 (J)			0.002 (J)		<0.01	<0.01
11/7/2018		<0.01	<0.01		<0.01		
3/6/2019			<0.01				
8/26/2019						0.00071 (J)	
8/27/2019	0.0018 (J)				0.0056 (J)		0.0066 (J)
8/28/2019		0.00047 (J)	0.00085 (J)	0.0024 (J)			
10/15/2019	0.0012 (J)				0.0057 (J)	0.00076 (J)	
10/16/2019		0.00057 (J)					0.0063 (J)
10/17/2019			0.0015 (J)	0.0019 (J)			
3/27/2020					<0.01	<0.01	<0.01
3/28/2020	<0.01	<0.01	<0.01	<0.01			
9/13/2021					<0.01	<0.01	
9/14/2021	<0.01	<0.01	<0.01	<0.01			<0.01
Mean	0.005667	0.005453	0.00655	0.00485	0.00695	0.005106	0.01104
Std. Dev.	0.004533	0.004755	0.004546	0.00381	0.002356	0.004349	0.003034
Upper Lim.	0.01	0.01	0.01	0.01	0.01	0.01	0.01305
Lower Lim.	0.0012	0.00057	0.00085	0.002	0.0047	0.00076	0.007718

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					<0.03	0.0006 (J)	
8/31/2016		<0.03	<0.03	<0.03			
10/25/2016							<0.03
11/30/2016		<0.03	0.0009 (J)	0.0011 (J)	<0.03	<0.03	0.0007 (J)
2/15/2017					<0.03	<0.03	<0.03
2/16/2017		<0.03	<0.03	<0.03			
5/31/2017					0.0005 (J)	<0.03	<0.03
6/1/2017	<0.03						
6/2/2017		<0.03	<0.03	<0.03			
8/2/2017	<0.03						
8/15/2017					0.0005 (J)		0.0004 (J)
8/16/2017						<0.03	
8/17/2017	<0.03	<0.03	0.0003 (J)	<0.03			
4/4/2018	<0.03						
5/8/2018	<0.03						
6/19/2018					0.00053 (J)	<0.03	<0.03
6/20/2018	<0.03	<0.03	<0.03				
6/21/2018				<0.03			
9/25/2018					<0.03	<0.03	
9/26/2018							0.00052
9/27/2018	<0.03	<0.03	<0.03	<0.03			
11/6/2018	0.0048 (J)			<0.03		<0.03	<0.03
11/7/2018		<0.03	<0.03		<0.03		
3/6/2019			<0.03				
8/26/2019						<0.03	
8/27/2019	0.0078				0.0007 (J)		<0.03
8/28/2019		<0.03	<0.03	<0.03			
10/15/2019	0.0085				0.00054 (J)	<0.03	
10/16/2019		<0.03					<0.03
10/17/2019			<0.03	<0.03			
11/20/2019	0.009						
3/27/2020					<0.03	<0.03	<0.03
3/28/2020	0.0041 (J)	<0.03	<0.03	<0.03			
10/12/2020					<0.03		
10/13/2020	0.0063					<0.03	<0.03
10/14/2020			<0.03	<0.03			
10/15/2020		0.0019 (J)					
1/4/2021		<0.03					
3/2/2021					<0.03	<0.03	
3/3/2021							<0.03
3/4/2021	0.006	<0.03	<0.03	<0.03			
9/13/2021					<0.03	<0.03	
9/14/2021	0.0054	<0.03	<0.03	<0.03			<0.03
Mean	0.01746	0.02813	0.02608	0.02794	0.01948	0.0279	0.02369
Std. Dev.	0.01221	0.007255	0.01035	0.007724	0.01464	0.007857	0.01254
Upper Lim.	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Lower Lim.	0.0054	0.0019	0.0009	0.0011	0.00053	0.0006	0.0007

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					1.4	1.31	
8/31/2016		2.39 (D)	2.47 (D)	5.4 (D)			
10/25/2016							2.22
11/30/2016		1.66	1.6	3.13	4.37	0.438 (U)	2.01
2/15/2017					2.21	0.3 (U)	1.56
2/16/2017		2.71	1.83	3.09			
5/31/2017					2.62	1.77	1.92
6/1/2017	1.9						
6/2/2017		1.99	2.45	7.56			
8/2/2017	5.01						
8/15/2017					2.69		2.47
8/16/2017						2.26	
8/17/2017	5.35	1.87	3.33	6.38			
4/4/2018	5.05						
5/8/2018	3.25						
6/19/2018					2.96	5.39	2.82
6/20/2018	3.53	1.95	2.84				
6/21/2018				5.24			
9/25/2018					2.23	6.22	
9/26/2018							3.15 (D)
9/27/2018	7.07	0.629 (U)	1.94	6.11			
11/6/2018	11			6.1		5.38	2.95
11/7/2018		1.41 (U)	8.58		2.14		
8/26/2019						7.68	
8/27/2019	4.4				2.91		5.82
8/28/2019		1.67	6.86	8.73			
10/15/2019	4.92				3.28	8.7	
10/16/2019		1.92					7.5
10/17/2019			7.85	7.97			
11/20/2019				9.8			
11/21/2019						7.34	8.89
3/27/2020					2.33	9.63	9.54
3/28/2020	4.16	1.44 (U)	11 (U)	11.7			
10/12/2020					2.66		
10/13/2020	3.71					7.43	7.75
10/14/2020			8.97	13.1			
10/15/2020		2.56					
1/4/2021		5.84					
4/6/2021	2.83	1.43 (U)	7.89	9.66	2.2	7.02	7.8
9/13/2021					2.54	8.38	
9/14/2021	2.69	7.15	8.11	10.3			8.82
Mean	4.634	2.441	5.409	7.618	2.61	5.283	5.015
Std. Dev.	2.256	1.741	3.319	2.946	0.6799	3.21	3.04
Upper Lim.	5.96	3.042	8.58	9.615	3.092	7.458	8.82
Lower Lim.	3.112	1.387	1.94	5.621	2.128	3.108	2.01

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					1.5	0.5	
8/31/2016		0.93	0.41	0.92			
10/25/2016							1.1
11/30/2016		0.93	0.61	0.99	1.4	0.49	1.3
2/15/2017					1.3	0.58	1.3
2/16/2017		0.6	0.3 (J)	0.54			
5/31/2017					1.2	0.56	1.3
6/1/2017	<0.1						
6/2/2017		0.34	0.19 (J)	0.42			
8/2/2017	0.27 (J)						
8/15/2017					1.2		1.2
8/16/2017						0.45	
8/17/2017	0.18 (J)	0.52	0.26 (J)	0.27 (J)			
4/4/2018	<0.1						
5/8/2018	0.56						
6/19/2018					0.91	<0.1	0.6
6/20/2018	0.033 (J)	0.5	0.22 (J)				
6/21/2018				0.28 (J)			
9/25/2018					1.1	<0.1	
9/26/2018							0.44 (D)
9/27/2018	0.12 (J)	0.32	0.068 (J)	0.32 (D)			
11/6/2018	<0.1			0.086 (J)		0.084 (J)	0.4
11/7/2018		0.35	10.3 (o)		<0.1		
3/6/2019			<0.1				
3/24/2019		0.32	0.19 (J)	0.14 (J)	0.99	0.14 (J)	0.31
3/25/2019	0.055 (J)						
8/26/2019						<0.1	
8/27/2019	<0.1				1.1		<0.1
8/28/2019		0.36	<0.1	<0.1			
10/15/2019	0.095 (J)				1	<0.1	
10/16/2019		0.41					0.083 (J)
10/17/2019			<0.1	<0.1			
11/20/2019		0.34		<0.1			
11/21/2019						<0.1	<0.1
3/27/2020					1.1	<0.1	<0.1
3/28/2020	<0.1	0.34	<0.1	<0.1			
10/12/2020					1.2		
10/13/2020	<0.1					<0.1	<0.1
10/14/2020			<0.1	<0.1			
10/15/2020		0.22					
1/4/2021		<0.1					
3/2/2021					1	<0.1	
3/3/2021							<0.1
3/4/2021	<0.1	0.45	<0.1	<0.1			
9/13/2021					1.4	<0.1	
9/14/2021	0.05	<0.1	<0.1	<0.1			<0.1
Mean	0.1375	0.4194	0.1965	0.2916	1.1	0.2315	0.5396
Std. Dev.	0.1296	0.2322	0.1497	0.2926	0.3249	0.2003	0.5124
Upper Lim.	0.18	0.5406	0.3	0.54	1.296	0.5	1.2
Lower Lim.	0.055	0.2639	0.068	0.1	0.9687	0.084	0.1

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016				0.0001 (J)	<0.005	
8/31/2016	<0.005	<0.005	<0.005			
10/25/2016						<0.005
11/30/2016	0.0002 (J)	<0.005	<0.005	<0.005	<0.005	<0.005
2/15/2017				<0.005	<0.005	<0.005
2/16/2017	<0.005	<0.005	0.0002 (J)			
5/31/2017				9E-05 (J)	<0.005	<0.005
6/2/2017	<0.005	<0.005	<0.005			
8/15/2017				<0.005		0.0002 (J)
8/16/2017					8E-05 (J)	
8/17/2017	<0.005	<0.005	8E-05 (J)			
6/19/2018				<0.005	<0.005	<0.005
6/20/2018	<0.005	<0.005				
6/21/2018			<0.005			
9/25/2018				<0.005	<0.005	
9/26/2018						0.00027
9/27/2018	<0.005	<0.005	<0.005			
11/6/2018			<0.005		<0.005	<0.005
11/7/2018	<0.005	<0.005		<0.005		
3/6/2019		<0.005				
8/26/2019					<0.005	
8/27/2019				0.00022 (J)		0.00014 (J)
8/28/2019	<0.005	<0.005	0.0001 (J)			
10/15/2019				5.6E-05 (J)	<0.005	
10/16/2019	<0.005					0.00034 (J)
10/17/2019		0.00012 (J)	<0.005			
3/27/2020				<0.005	<0.005	<0.005
3/28/2020	<0.005	<0.005	<0.005			
10/12/2020				<0.005		
10/13/2020					<0.005	<0.005
10/14/2020		<0.005	<0.005			
10/15/2020	<0.005					
1/4/2021	<0.005					
3/2/2021				<0.005	<0.005	
3/3/2021						<0.005
3/4/2021	<0.005	<0.005	<0.005			
9/13/2021				<0.005	<0.005	
9/14/2021	<0.005	<0.005	<0.005			<0.005
Mean	0.00468	0.004675	0.003956	0.003605	0.004649	0.003639
Std. Dev.	0.001239	0.00126	0.002075	0.00229	0.001315	0.002233
Upper Lim.	0.005	0.005	0.005	0.005	0.005	0.005
Lower Lim.	0.0002	0.00012	0.0002	0.0001	8E-05	0.00027

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016						0.0102 (J)	0.0112 (J)	
8/31/2016			0.0219 (J)	0.0389 (J)	0.0122 (J)			
10/25/2016								0.007 (J)
11/30/2016			0.0333 (J)	0.0303 (J)	0.011 (J)	0.0106 (J)	<0.012	0.0086 (J)
2/15/2017						0.0115 (J)	0.0105 (J)	0.0149 (J)
2/16/2017			0.0376 (J)	0.05 (J)	0.0142 (J)			
5/31/2017						0.011 (J)	0.0106 (J)	0.019 (J)
6/1/2017		<0.012						
6/2/2017			0.0346 (J)	0.0477 (J)	0.0229 (J)			
8/2/2017		<0.012						
8/15/2017						0.0123 (J)		0.016 (J)
8/16/2017							0.0145 (J)	
8/17/2017		<0.012	0.0367 (J)	0.0645	0.0241 (J)			
4/4/2018		0.0013 (J)						
5/8/2018		0.0012 (J)						
6/19/2018						0.012 (J)	0.044 (J)	0.021 (J)
6/20/2018		0.0015 (J)	0.034 (J)	0.066 (J)				
6/21/2018					0.03 (J)			
9/25/2018						0.011 (J)	0.041 (J)	
9/26/2018								0.02 (J)
9/27/2018		0.0021 (J)	0.023 (J)	0.045 (J)	0.034 (J)			
11/6/2018		0.0038 (J)			0.037 (J)		0.047 (J)	0.017 (J)
11/7/2018			0.022 (J)	0.11		0.013 (J)		
3/6/2019				0.12				
8/26/2019							0.059	
8/27/2019		0.002 (J)				0.012 (J)		0.023 (J)
8/28/2019			0.023 (J)	0.13	0.12			
10/15/2019		0.0019 (J)				0.012 (J)	0.056 (J)	
10/16/2019			0.021 (J)					0.024 (J)
10/17/2019				0.12	0.096			
11/20/2019					0.12			
11/21/2019							0.052	
3/27/2020						<0.012	0.052	0.033 (J)
3/28/2020	0.078 (J)	<0.012	0.014 (J)	0.064	0.027 (J)			
6/16/2020	0.096 (J)							
10/12/2020						0.011 (J)		
10/13/2020		<0.012					0.046 (J)	0.028 (J)
10/14/2020				0.11	0.039 (J)			
10/15/2020	0.093		0.57					
1/4/2021			0.043 (J)					
3/2/2021						<0.012	0.046 (J)	
3/3/2021								<0.012
3/4/2021	0.094 (J)	<0.012	0.017 (J)	0.096 (J)	0.035 (J)			
9/13/2021						0.01 (J)	0.047	
9/14/2021	0.092	<0.012	0.042 (J)	0.084	0.035 (J)			0.035 (J)
Mean	0.0906	0.003986	0.06487	0.07843	0.04383	0.01061	0.03619	0.01946
Std. Dev.	0.007197	0.002174	0.14	0.03355	0.03675	0.002124	0.01935	0.008888
Upper Lim.	0.0996	0.006	0.042	0.1012	0.05517	0.01198	0.05038	0.02576
Lower Lim.	0.07843	0.0015	0.021	0.05569	0.02018	0.009702	0.03288	0.01317

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-14	MCM-17
8/30/2016					<0.0002	
8/31/2016		<0.0002	<0.0002	<0.0002		
10/25/2016						<0.0002
11/30/2016		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
2/15/2017					<0.0002	<0.0002
2/16/2017		<0.0002	<0.0002	<0.0002		
5/31/2017					<0.0002	<0.0002
6/1/2017	<0.0002					
6/2/2017		4.2E-05 (J)	<0.0002	<0.0002		
8/2/2017	<0.0002					
8/15/2017						<0.0002
8/16/2017					<0.0002	
8/17/2017	<0.0002	<0.0002	<0.0002	<0.0002		
4/4/2018	<0.0002					
5/8/2018	<0.0002					
6/19/2018					<0.0002	<0.0002
6/20/2018	<0.0002	<0.0002	<0.0002			
6/21/2018				<0.0002		
9/25/2018					<0.0002	
9/26/2018						3.6E-05
9/27/2018	<0.0002	<0.0002	<0.0002	<0.0002		
11/6/2018	0.00071			0.00067	0.00066	0.00064
11/7/2018		<0.0002	<0.0002			
3/6/2019			<0.0002			
8/26/2019					<0.0002	
8/27/2019	<0.0002					<0.0002
8/28/2019		<0.0002	<0.0002	<0.0002		
3/27/2020					<0.0002	<0.0002
3/28/2020	<0.0002	<0.0002	<0.0002	<0.0002		
9/13/2021					<0.0002	
9/14/2021	<0.0002	<0.0002	0.00016 (J)	<0.0002		<0.0002
Mean	0.0002464	0.0001856	0.0001967	0.0002427	0.0002418	0.0002251
Std. Dev.	0.0001538	4.764E-05	1.155E-05	0.0001417	0.0001387	0.0001461
Upper Lim.	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Lower Lim.	0.0002	0.0002	0.00016	0.0002	0.0002	0.0002

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-05	MCM-06	MCM-17
8/31/2016	<0.01	<0.01	
10/25/2016			<0.01
11/30/2016	<0.01	<0.01	<0.01
2/15/2017			<0.01
2/16/2017	<0.01	<0.01	
5/31/2017			<0.01
6/2/2017	<0.01	<0.01	
8/15/2017			<0.01
8/17/2017	0.0012 (J)	0.0025 (J)	
6/19/2018			<0.01
6/20/2018	<0.01	<0.01	
9/26/2018			0.0019
9/27/2018	<0.01	<0.01	
11/6/2018			<0.01
11/7/2018	<0.01	0.0024 (J)	
3/6/2019		<0.01	
8/27/2019			<0.01
8/28/2019	<0.01	0.0017 (J)	
10/16/2019	<0.01		<0.01
10/17/2019		0.0017 (J)	
3/27/2020			<0.01
3/28/2020	<0.01	<0.01	
9/14/2021	0.0099 (J)	<0.01	<0.01
Mean	0.009258	0.007562	0.009325
Std. Dev.	0.002538	0.003813	0.002338
Upper Lim.	0.01	0.01	0.01
Lower Lim.	0.0099	0.0024	0.0019

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					0.0011 (J)	<0.01	
8/31/2016		0.002 (J)	0.0015 (J)	0.0021 (J)			
10/25/2016							0.003 (J)
11/30/2016		0.0023 (J)	0.0054 (J)	<0.01	0.0023 (J)	<0.01	0.0087 (J)
2/15/2017					0.0021 (J)	0.0014 (J)	0.0067 (J)
2/16/2017		0.002 (J)	0.0022 (J)	0.0025 (J)			
5/31/2017					<0.01	<0.01	0.0018 (J)
6/1/2017	<0.01						
6/2/2017		<0.01	<0.01	<0.01			
8/2/2017	<0.01						
8/15/2017					0.0021 (J)		0.0025 (J)
8/16/2017						0.0018 (J)	
8/17/2017	<0.01	<0.01	0.002 (J)	0.0033 (J)			
4/4/2018	<0.01						
5/8/2018	<0.01						
6/19/2018					0.0017 (J)	<0.01	<0.01
6/20/2018	<0.01	<0.01	<0.01				
6/21/2018				<0.01			
9/25/2018					0.002 (J)	0.0019 (J)	
9/26/2018							0.0016 (J)
9/27/2018	<0.01	<0.01	<0.01	0.0023 (J)			
11/6/2018	0.0025 (J)			0.0048 (J)		0.0057 (J)	<0.01
11/7/2018		<0.01	0.0075 (J)		<0.01		
3/6/2019			0.0024 (J)				
8/26/2019						0.0025 (J)	
8/27/2019	<0.01				0.0019 (J)		0.0018 (J)
8/28/2019		<0.01	0.0014 (J)	0.0019 (J)			
10/15/2019	<0.01				<0.01	0.003 (J)	
10/16/2019		<0.01					<0.01
10/17/2019			0.0066 (J)	0.0049 (J)			
3/27/2020					<0.01	<0.01	<0.01
3/28/2020	<0.01	<0.01	<0.01	<0.01			
10/12/2020					<0.01		
10/13/2020	<0.01					<0.01	<0.01
10/14/2020			<0.01	<0.01			
10/15/2020		0.0028 (J)					
1/4/2021		<0.01					
3/2/2021					<0.01	<0.01	
3/3/2021							<0.01
3/4/2021	0.00038 (J)	<0.01	<0.01	<0.01			
9/13/2021					<0.01	<0.01	
9/14/2021	<0.01	<0.01	<0.01	<0.01			0.0021
Mean	0.008777	0.00794	0.0066	0.006557	0.005943	0.006879	0.0063
Std. Dev.	0.003136	0.00354	0.003726	0.003675	0.004219	0.003864	0.003859
Upper Lim.	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Lower Lim.	0.0025	0.0023	0.002	0.0023	0.0019	0.0019	0.0018

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 12/29/2021 3:26 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-06	MCM-17
8/31/2016	<0.002	
10/25/2016		<0.002
11/30/2016	<0.002	<0.002
2/15/2017		<0.002
2/16/2017	<0.002	
5/31/2017		<0.002
6/2/2017	<0.002	
8/15/2017		<0.002
8/17/2017	<0.002	
6/19/2018		<0.002
6/20/2018	<0.002	
9/26/2018		0.00014
9/27/2018	<0.002	
11/6/2018		<0.002
11/7/2018	<0.002	
3/6/2019	<0.002	
8/27/2019		<0.002
8/28/2019	<0.002	
10/16/2019		<0.002
10/17/2019	7.6E-05 (J)	
3/27/2020		<0.002
3/28/2020	<0.002	
9/14/2021	<0.002	<0.002
Mean	0.001852	0.001845
Std. Dev.	0.0005336	0.0005369
Upper Lim.	0.002	0.002
Lower Lim.	7.6E-05	0.00014

FIGURE I.

State Confidence Intervals - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.026**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.026**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	**MCM-14**	**0.05038**	**0.03288**	**0.026**	**Yes**	**15**	**0.03619**	**0.01935**	**6.667**	**None**	**x^3**	**0.01**	**Param.**

State Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	MCM-06	0.003	0.00098	0.006	No	13	0.002675	0.0007709	76.92	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-14	0.003	0.0004	0.006	No	12	0.002783	0.0007506	91.67	None	No	0.01	NP (NDs)
Antimony (mg/L)	MCM-17	0.003	0.00078	0.006	No	12	0.002815	0.0006409	91.67	None	No	0.01	NP (NDs)
Arsenic (mg/L)	DPZ-2	0.0249	0.0151	0.031	No	4	0.0225	0.005447	25	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-04	0.008019	0.002934	0.031	No	15	0.0058	0.004243	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.002	0.031	No	17	0.01725	0.01344	17.65	None	No	0.01	NP (normality)
Arsenic (mg/L)	**MCM-06**	**0.4383**	**0.2741**	**0.031**	**Yes**	**18**	**0.3562**	**0.1357**	**0**	**None**	**No**	**0.01**	**Param.**
Arsenic (mg/L)	MCM-07	0.0214	0.01122	0.031	No	17	0.01631	0.008125	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.03	0.001	0.031	No	14	0.0159	0.01468	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.03	0.0014	0.031	No	14	0.01651	0.0141	50	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.03	0.0017	0.031	No	15	0.01376	0.0138	40	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09086	0.03286	2	No	14	0.07307	0.0749	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.04502	0.009496	2	No	15	0.05122	0.1122	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	15	0.1079	0.05641	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.2056	0.1016	2	No	14	0.1644	0.09816	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-12	0.1285	0.1062	2	No	14	0.1174	0.01579	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1285	0.05361	2	No	14	0.09108	0.0529	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1388	0.06144	2	No	14	0.1001	0.05463	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.00021	0.021	No	14	0.001272	0.001345	35.71	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No	15	0.002804	0.0007607	93.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.00012	0.021	No	14	0.002377	0.001239	78.57	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001236	0.0004659	0.021	No	14	0.0009843	0.0008851	14.29	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No	14	0.001968	0.001438	64.29	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No	14	0.001231	0.001369	35.71	None	No	0.01	NP (normality)
Cadmium (mg/L)	MCM-17	0.0025	0.0025	0.005	No	11	0.002281	0.0007257	90.91	None	No	0.006	NP (NDs)
Chromium (mg/L)	MCM-04	0.01	0.0012	0.1	No	12	0.005667	0.004533	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-05	0.01	0.00057	0.1	No	12	0.005453	0.004755	50	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-06	0.01	0.00085	0.1	No	13	0.00655	0.004546	61.54	None	No	0.01	NP (NDs)
Chromium (mg/L)	MCM-07	0.01	0.002	0.1	No	12	0.00485	0.00381	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-12	0.01	0.0047	0.1	No	12	0.00695	0.002356	33.33	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-14	0.01	0.00076	0.1	No	12	0.005106	0.004349	41.67	None	No	0.01	NP (normality)
Chromium (mg/L)	MCM-17	0.01305	0.007718	0.1	No	12	0.01104	0.003034	25	Kaplan-Meier	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.03	0.0054	0.036	No	15	0.01746	0.01221	46.67	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.03	0.0019	0.036	No	15	0.02813	0.007255	93.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.03	0.0009	0.036	No	15	0.02608	0.01035	86.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.03	0.0011	0.036	No	14	0.02794	0.007724	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.03	0.00053	0.036	No	14	0.01948	0.01464	64.29	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.03	0.0006	0.036	No	14	0.0279	0.007857	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.03	0.0007	0.036	No	14	0.02369	0.01254	78.57	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	5.96	3.112	55.8	No	14	4.634	2.256	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	3.042	1.387	55.8	No	15	2.441	1.741	0	None	ln(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	8.58	1.94	55.8	No	14	5.409	3.319	0	None	No	0.01	NP (normality)
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.615	5.621	55.8	No	15	7.618	2.946	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.092	2.128	55.8	No	14	2.61	0.6799	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.458	3.108	55.8	No	15	5.283	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	8.82	2.01	55.8	No	15	5.015	3.04	0	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-04	0.18	0.055	4	No	15	0.1375	0.1296	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5406	0.2639	4	No	17	0.4194	0.2322	11.76	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	15	0.1965	0.1497	46.67	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	16	0.2916	0.2926	43.75	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.296	0.9687	4	No	15	1.1	0.3249	6.667	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	16	0.2315	0.2003	56.25	None	No	0.01	NP (NDs)
Fluoride (mg/L)	MCM-17	1.2	0.1	4	No	16	0.5396	0.5124	37.5	None	No	0.01	NP (normality)

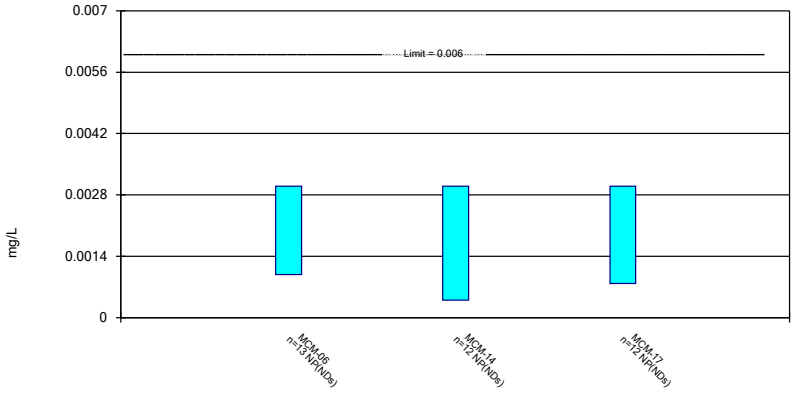
State Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/29/2021, 3:22 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No	15	0.00468	0.001239	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.005	No	15	0.004675	0.00126	93.33	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0002	0.005	No	14	0.003956	0.002075	78.57	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.0001	0.005	No	14	0.003605	0.00229	71.43	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.005	No	14	0.004649	0.001315	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.00027	0.005	No	14	0.003639	0.002233	71.43	None	No	0.01	NP (NDs)
Lithium (mg/L)	**DPZ-2**	**0.0996**	**0.07843**	**0.026**	**Yes**	**5**	**0.0906**	**0.007197**	**0**	**None**	**x^5**	**0.01**	**Param.**
Lithium (mg/L)	MCM-04	0.006	0.0015	0.026	No	14	0.003986	0.002174	50	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.042	0.021	0.026	No	15	0.06487	0.14	0	None	No	0.01	NP (normality)
Lithium (mg/L)	**MCM-06**	**0.1012**	**0.05569**	**0.026**	**Yes**	**15**	**0.07843**	**0.03355**	**0**	**None**	**No**	**0.01**	**Param.**
Lithium (mg/L)	MCM-07	0.05517	0.02018	0.026	No	15	0.04383	0.03675	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01198	0.009702	0.026	No	14	0.01061	0.002124	14.29	None	x^3	0.01	Param.
Lithium (mg/L)	**MCM-14**	**0.05038**	**0.03288**	**0.026**	**Yes**	**15**	**0.03619**	**0.01935**	**6.667**	**None**	**x^3**	**0.01**	**Param.**
Lithium (mg/L)	MCM-17	0.02576	0.01317	0.026	No	14	0.01946	0.008888	7.143	None	No	0.01	Param.
Mercury (mg/L)	MCM-04	0.0002	0.0002	0.002	No	11	0.0002464	0.0001538	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-05	0.0002	0.0002	0.002	No	11	0.0001856	0.00004764	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-06	0.0002	0.00016	0.002	No	12	0.0001967	0.00001155	91.67	None	No	0.01	NP (NDs)
Mercury (mg/L)	MCM-07	0.0002	0.0002	0.002	No	11	0.0002427	0.0001417	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-14	0.0002	0.0002	0.002	No	11	0.0002418	0.0001387	90.91	None	No	0.006	NP (NDs)
Mercury (mg/L)	MCM-17	0.0002	0.0002	0.002	No	11	0.0002251	0.0001461	81.82	None	No	0.006	NP (NDs)
Molybdenum (mg/L)	MCM-05	0.01	0.0099	0.01	No	12	0.009258	0.002538	83.33	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-06	0.01	0.0024	0.01	No	13	0.007562	0.003813	69.23	None	No	0.01	NP (NDs)
Molybdenum (mg/L)	MCM-17	0.01	0.0019	0.01	No	12	0.009325	0.002338	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No	14	0.008777	0.003136	85.71	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No	15	0.00794	0.00354	73.33	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.002	0.15	No	15	0.0066	0.003726	46.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0023	0.15	No	14	0.006557	0.003675	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0019	0.15	No	14	0.005943	0.004219	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0019	0.15	No	14	0.006879	0.003864	57.14	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No	14	0.0063	0.003859	42.86	None	No	0.01	NP (normality)
Thallium (mg/L)	MCM-06	0.002	0.000076	0.002	No	13	0.001852	0.0005336	92.31	None	No	0.01	NP (NDs)
Thallium (mg/L)	MCM-17	0.002	0.00014	0.002	No	12	0.001845	0.0005369	91.67	None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

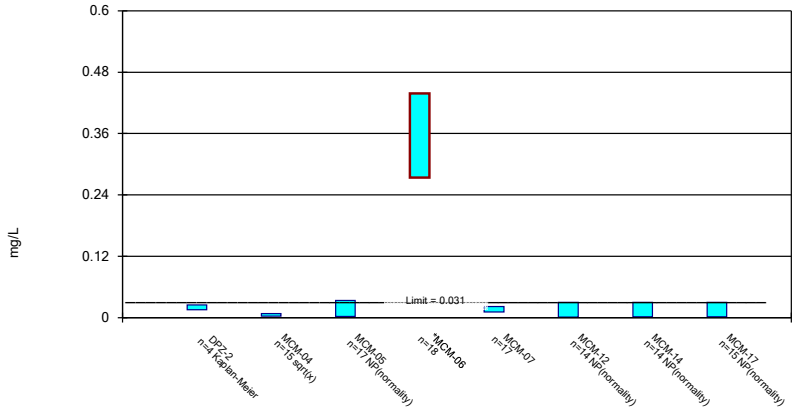
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Antimony Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

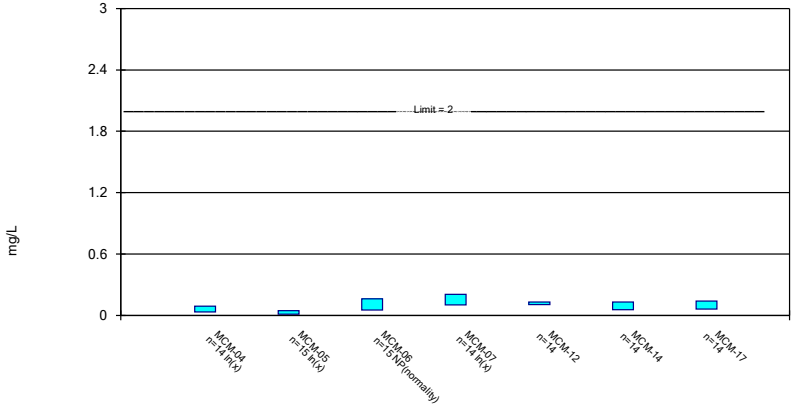
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

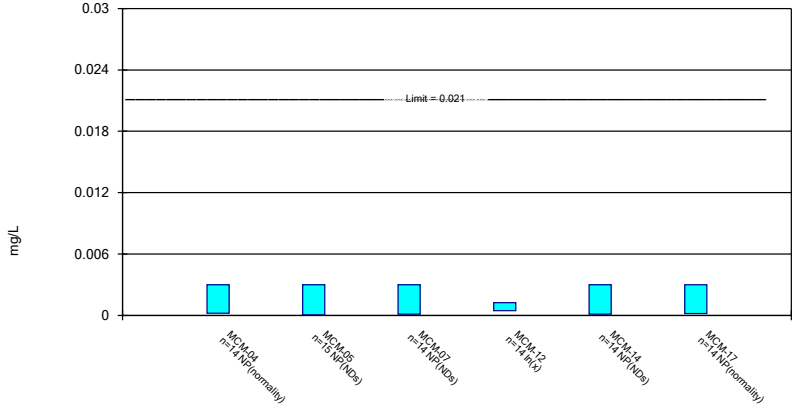
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

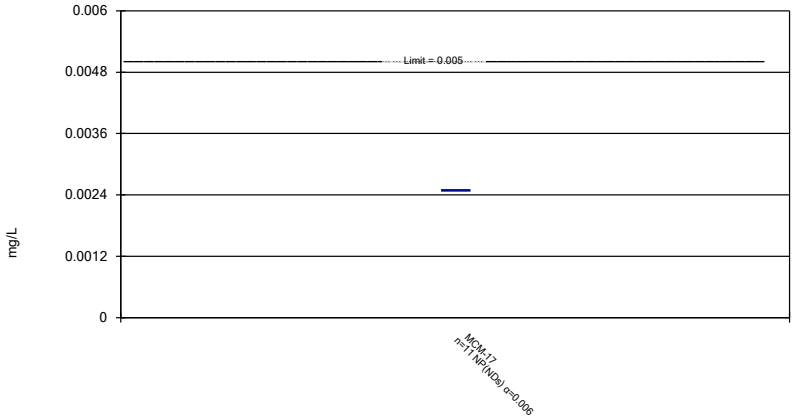
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

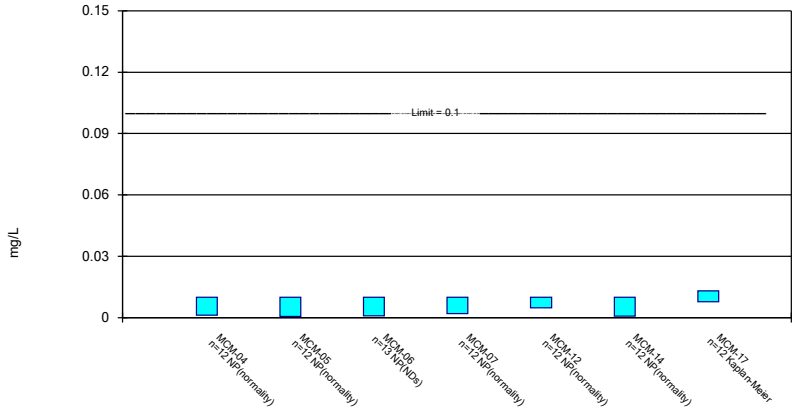
Compliance Limit is not exceeded.



Constituent: Cadmium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

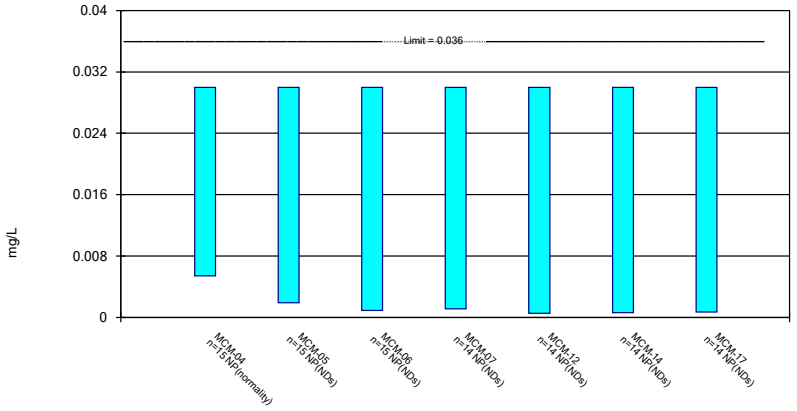
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Chromium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

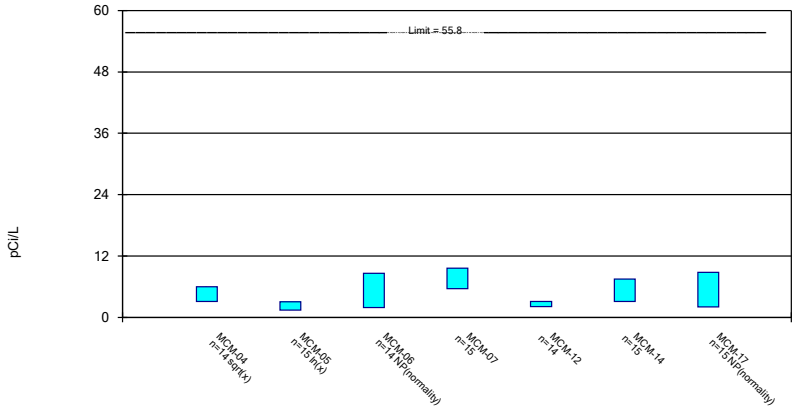
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

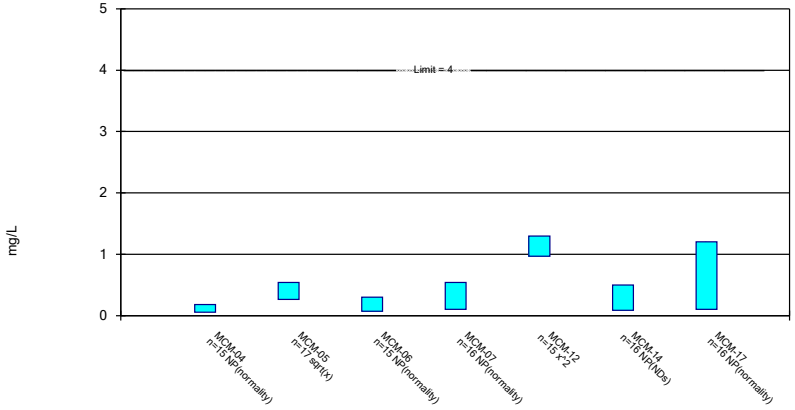
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confide
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

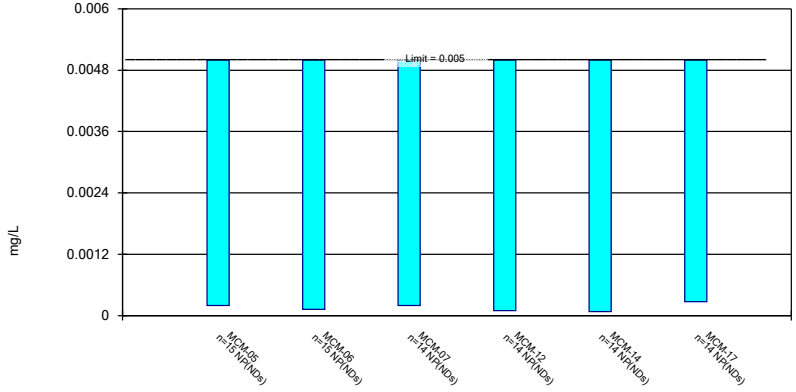
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

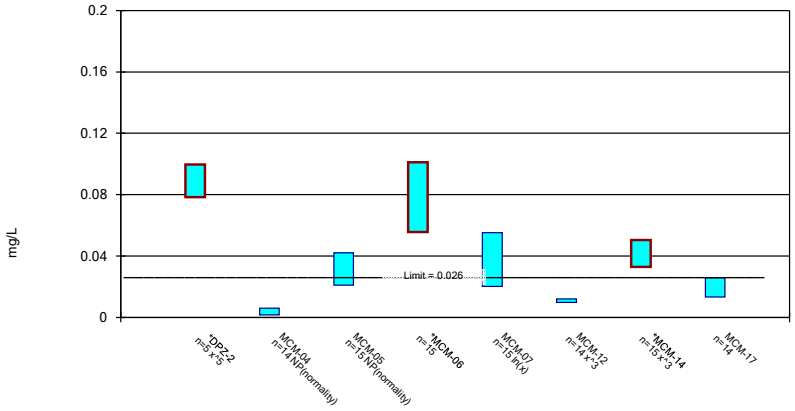
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

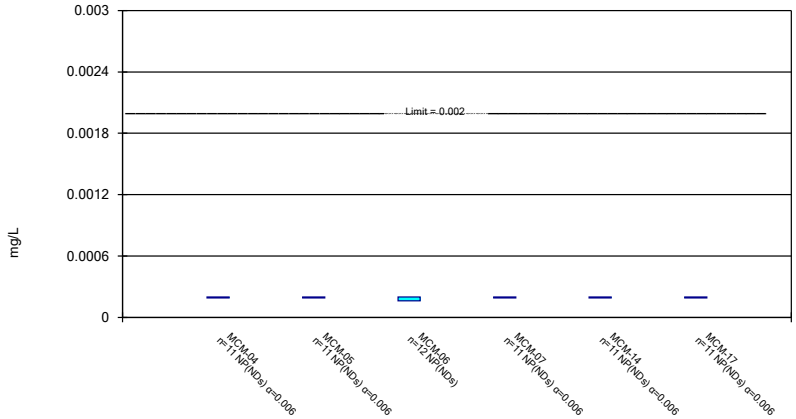
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

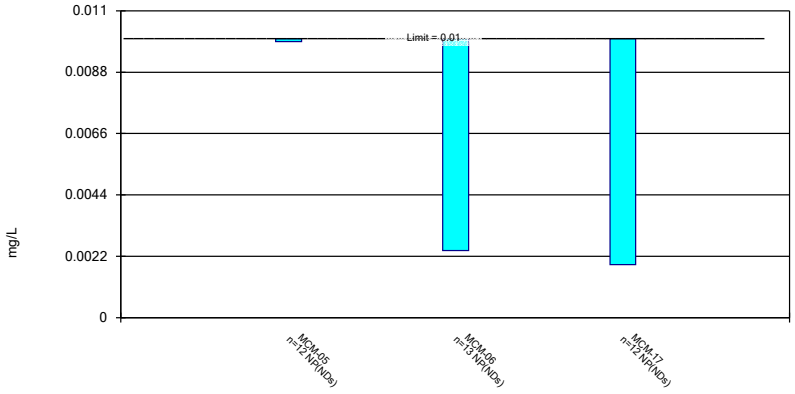
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.



Constituent: Mercury Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



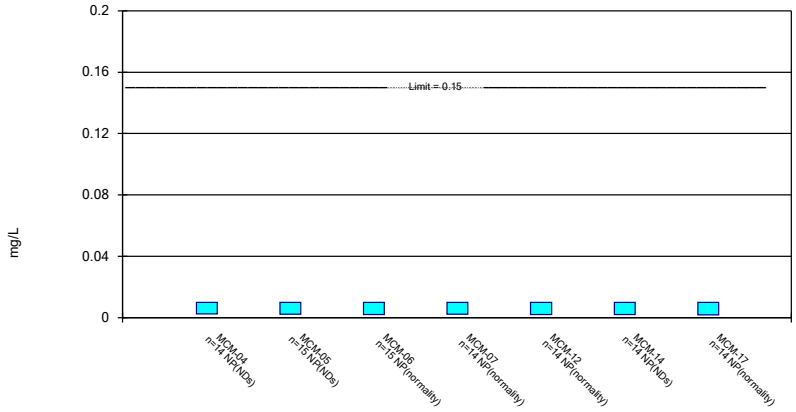
Constituent: Molybdenum Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



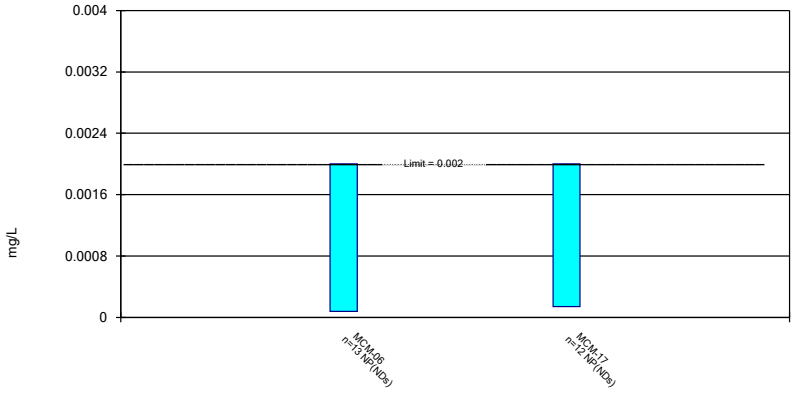
Constituent: Selenium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.32 Groundwater Stats Consulting. UG

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Thallium Analysis Run 12/29/2021 3:21 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Confidence Interval

Constituent: Antimony (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-06	MCM-14	MCM-17
8/30/2016		<0.003	
8/31/2016	<0.003		
10/25/2016			<0.003
11/30/2016	<0.003	<0.003	<0.003
2/15/2017		<0.003	<0.003
2/16/2017	<0.003		
5/31/2017		<0.003	<0.003
6/2/2017	<0.003		
8/15/2017			<0.003
8/16/2017		<0.003	
8/17/2017	<0.003		
6/19/2018		<0.003	<0.003
6/20/2018	<0.003		
9/25/2018		<0.003	
9/26/2018			0.00078
9/27/2018	<0.003		
11/6/2018		<0.003	<0.003
11/7/2018	<0.003		
3/6/2019	<0.003		
8/26/2019		0.0004 (J)	
8/27/2019			<0.003
8/28/2019	0.00098 (J)		
10/15/2019		<0.003	
10/16/2019			<0.003
10/17/2019	0.0009 (J)		
3/27/2020		<0.003	<0.003
3/28/2020	0.0029 (J)		
9/13/2021		<0.003	
9/14/2021	<0.003		<0.003
Mean	0.002675	0.002783	0.002815
Std. Dev.	0.0007709	0.0007506	0.0006409
Upper Lim.	0.003	0.003	0.003
Lower Lim.	0.00098	0.0004	0.00078

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016						<0.03	<0.03	
8/31/2016			<0.03	0.212	0.0066			
10/25/2016								<0.03
11/30/2016			0.0132	0.129	0.0281	<0.03	<0.03	0.0072
2/15/2017						<0.03	<0.03	0.0017 (J)
2/16/2017			0.0372	0.257	0.0295			
5/31/2017						0.0007 (J)	0.0008 (J)	0.0018 (J)
6/1/2017		0.004 (J)						
6/2/2017			0.0335	0.0559	0.0286			
8/2/2017		0.0028 (J)						
8/15/2017						0.0006 (J)		0.0015 (J)
8/16/2017							0.0007 (J)	
8/17/2017		0.0021 (J)	0.0336	0.458	0.0211			
4/4/2018		0.0023 (J)						
5/8/2018		0.0048 (J)						
6/19/2018						0.001 (J)	0.0062 (J)	0.0029 (J)
6/20/2018		0.0099	0.019	0.44				
6/21/2018					0.022 (J)			
9/25/2018						0.0011 (J)	0.0031 (J)	
9/26/2018								0.0015 (J)
9/27/2018		0.01	0.0035 (J)	0.27	0.015			
11/6/2018		0.013			0.012		0.0014 (J)	<0.03
11/7/2018			0.002 (J)	0.5		0.0057		
11/27/2018			0.0016 (J)	0.5	0.011			
3/6/2019				0.49				
3/26/2019			0.0018 (J)	0.3	0.0078			
7/2/2019		0.015 (J)		0.37	0.027			
8/26/2019							0.0022 (J)	
8/27/2019		0.0072				0.0011 (J)		0.0024 (J)
8/28/2019			0.0019 (J)	0.5	0.011			
10/15/2019		0.0038 (J)				0.0024 (J)	0.0067	
10/16/2019			0.0047 (J)					0.0043 (J)
10/17/2019				0.34	0.0046 (J)			
11/21/2019								0.0031 (J)
3/27/2020						<0.03	<0.03	<0.03
3/28/2020	<0.03	0.0034 (J)	<0.03	0.3	0.012			
10/12/2020						<0.03		
10/13/2020		0.0022 (J)					<0.03	<0.03
10/14/2020				0.43	0.013			
10/15/2020	0.021		0.024					
1/4/2021			0.0072					
3/2/2021						<0.03	<0.03	
3/3/2021								<0.03
3/4/2021	0.017 (J)	0.0018 (J)	<0.03	0.35	0.015 (J)			
9/13/2021						<0.03	<0.03	
9/14/2021	0.022	0.0047 (J)	0.02 (J)	0.51	0.013 (J)			<0.03
Mean	0.0225	0.0058	0.01725	0.3562	0.01631	0.0159	0.01651	0.01376
Std. Dev.	0.005447	0.004243	0.01344	0.1357	0.008125	0.01468	0.0141	0.0138
Upper Lim.	0.0249	0.008019	0.0335	0.4383	0.0214	0.03	0.03	0.03
Lower Lim.	0.0151	0.002934	0.002	0.2741	0.01122	0.001	0.0014	0.0017

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					0.108	0.0131	
8/31/2016		0.0289	0.0498	0.0771			
10/25/2016							0.063
11/30/2016		0.0168	0.0528	0.101	0.121	0.0105	0.0628
2/15/2017					0.111	0.0786	0.0102
2/16/2017		0.016	0.0555	0.0865			
5/31/2017					0.131	0.0199	0.061
6/1/2017	0.0195						
6/2/2017		0.0393 (J)	0.0508	0.123			
8/2/2017	0.053						
8/15/2017					0.126		0.0579
8/16/2017						0.033	
8/17/2017	0.0475	0.0188	0.0596	0.124			
4/4/2018	0.035						
5/8/2018	0.027						
6/19/2018					0.13	0.092	0.076
6/20/2018	0.027	0.014	0.06				
6/21/2018				0.1			
9/25/2018					0.12	0.098	
9/26/2018							0.099
9/27/2018	0.14	0.0097 (J)	0.06	0.12			
11/6/2018	0.31			0.12		0.1	0.052
11/7/2018		0.0085 (J)	0.19		0.11		
3/6/2019			0.16				
8/26/2019						0.12	
8/27/2019	0.083				0.14		0.11
8/28/2019		0.011	0.13	0.4			
10/15/2019	0.082				0.14	0.12	
10/16/2019		0.012					0.14
10/17/2019			0.13	0.35			
3/27/2020					0.12	0.13	0.16
3/28/2020	0.039	0.0041 (J)	0.12	0.11			
10/12/2020					0.1		
10/13/2020	0.055					0.14	0.14
10/14/2020			0.14	0.19			
10/15/2020		0.45					
1/4/2021		0.051					
3/2/2021					0.1	0.16	
3/3/2021							0.17
3/4/2021	0.062	0.0082 (J)	0.14	0.2			
9/13/2021					0.086	0.16	
9/14/2021	0.043	0.08	0.22	0.2			0.2 (M1)
Mean	0.07307	0.05122	0.1079	0.1644	0.1174	0.09108	0.1001
Std. Dev.	0.0749	0.1122	0.05641	0.09816	0.01579	0.0529	0.05463
Upper Lim.	0.09086	0.04502	0.16	0.2056	0.1285	0.1285	0.1388
Lower Lim.	0.03286	0.009496	0.0528	0.1016	0.1062	0.05361	0.06144

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016				0.0003 (J)	<0.003	
8/31/2016		<0.003	<0.003			
10/25/2016						0.0004 (J)
11/30/2016		<0.003	<0.003	0.0004 (J)	<0.003	0.0003 (J)
2/15/2017				0.0004 (J)	<0.003	<0.003
2/16/2017		<0.003	<0.003			
5/31/2017				0.0005 (J)	0.0001 (J)	0.0002 (J)
6/1/2017	0.0001 (J)					
6/2/2017		<0.003	<0.003			
8/2/2017	0.0003 (J)					
8/15/2017				0.0005 (J)		0.0002 (J)
8/16/2017					0.0002 (J)	
8/17/2017	0.0002 (J)	<0.003	<0.003			
4/4/2018	<0.003					
5/8/2018	0.00025 (J)					
6/19/2018				0.00065 (J)	<0.003	0.00032 (J)
6/20/2018	0.00021 (J)	<0.003				
6/21/2018			<0.003			
9/25/2018				0.00066 (J)	5E-05 (J)	
9/26/2018						0.00024 (J)
9/27/2018	0.00031 (J)	<0.003	7.4E-05 (J)			
11/6/2018	0.00077 (J)		0.00012 (J)		9.7E-05 (J)	0.00026 (J)
11/7/2018		5.4E-05 (J)		0.00058 (J)		
8/26/2019					0.0001 (J)	
8/27/2019	0.00032 (J)			0.0009 (J)		0.00018 (J)
8/28/2019		<0.003	<0.003			
10/15/2019	0.00035 (J)			0.00079 (J)	<0.003	
10/16/2019		<0.003				0.00014 (J)
10/17/2019			7.8E-05 (J)			
3/27/2020				<0.003	<0.003	<0.003
3/28/2020	<0.003	<0.003	<0.003			
10/12/2020				0.001 (J)		
10/13/2020	<0.003				<0.003	<0.003
10/14/2020			<0.003			
10/15/2020		<0.003				
1/4/2021		<0.003				
3/2/2021				<0.003	<0.003	
3/3/2021						<0.003
3/4/2021	<0.003	<0.003	<0.003			
9/13/2021				0.0011	<0.003	
9/14/2021	<0.003	<0.003	<0.003			<0.003
Mean	0.001272	0.002804	0.002377	0.0009843	0.001968	0.001231
Std. Dev.	0.001345	0.0007607	0.001239	0.0008851	0.001438	0.001369
Upper Lim.	0.003	0.003	0.003	0.001236	0.003	0.003
Lower Lim.	0.00021	5.4E-05	0.00012	0.0004659	9.7E-05	0.00018

Confidence Interval

Constituent: Cadmium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-17
10/25/2016	<0.0025
11/30/2016	<0.0025
2/15/2017	<0.0025
5/31/2017	<0.0025
8/15/2017	<0.0025
6/19/2018	<0.0025
9/26/2018	9.3E-05
11/6/2018	<0.0025
8/27/2019	<0.0025
3/27/2020	<0.0025
9/14/2021	<0.0025
Mean	0.002281
Std. Dev.	0.0007257
Upper Lim.	0.0025
Lower Lim.	0.0025

Confidence Interval

Constituent: Chromium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					0.0054 (J)	0.0026 (J)	
8/31/2016		0.0013 (J)	0.001 (J)	0.0022 (J)			
10/25/2016							0.016
11/30/2016		0.0012 (J)	<0.01	<0.01	0.0073 (J)	0.0016 (J)	0.0151 (J)
2/15/2017					0.0045 (J)	0.0018 (J)	0.0137
2/16/2017		0.0012 (J)	0.0011 (J)	0.0028 (J)			
5/31/2017					0.0052 (J)	0.0019 (J)	0.0109
6/1/2017	0.0008 (J)						
6/2/2017		<0.01	<0.01	0.0023 (J)			
8/2/2017	0.0012 (J)						
8/15/2017					0.005 (J)		0.0117
8/16/2017						0.0019 (J)	
8/17/2017	0.0013 (J)	0.0007 (J)	0.0007 (J)	0.0022 (J)			
4/4/2018	<0.01						
5/8/2018	<0.01						
6/19/2018					0.0047 (J)	<0.01	0.013 (J)
6/20/2018	<0.01	<0.01	<0.01				
6/21/2018				<0.01			
9/25/2018					<0.01	<0.01	
9/26/2018							0.0092 (J)
9/27/2018	<0.01	<0.01	<0.01	0.0024 (J)			
11/6/2018	0.0017 (J)			0.002 (J)		<0.01	<0.01
11/7/2018		<0.01	<0.01		<0.01		
3/6/2019			<0.01				
8/26/2019						0.00071 (J)	
8/27/2019	0.0018 (J)				0.0056 (J)		0.0066 (J)
8/28/2019		0.00047 (J)	0.00085 (J)	0.0024 (J)			
10/15/2019	0.0012 (J)				0.0057 (J)	0.00076 (J)	
10/16/2019		0.00057 (J)					0.0063 (J)
10/17/2019			0.0015 (J)	0.0019 (J)			
3/27/2020					<0.01	<0.01	<0.01
3/28/2020	<0.01	<0.01	<0.01	<0.01			
9/13/2021					<0.01	<0.01	
9/14/2021	<0.01	<0.01	<0.01	<0.01			<0.01
Mean	0.005667	0.005453	0.00655	0.00485	0.00695	0.005106	0.01104
Std. Dev.	0.004533	0.004755	0.004546	0.00381	0.002356	0.004349	0.003034
Upper Lim.	0.01	0.01	0.01	0.01	0.01	0.01	0.01305
Lower Lim.	0.0012	0.00057	0.00085	0.002	0.0047	0.00076	0.007718

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					<0.03	0.0006 (J)	
8/31/2016		<0.03	<0.03	<0.03			
10/25/2016							<0.03
11/30/2016		<0.03	0.0009 (J)	0.0011 (J)	<0.03	<0.03	0.0007 (J)
2/15/2017					<0.03	<0.03	<0.03
2/16/2017		<0.03	<0.03	<0.03			
5/31/2017					0.0005 (J)	<0.03	<0.03
6/1/2017	<0.03						
6/2/2017		<0.03	<0.03	<0.03			
8/2/2017	<0.03						
8/15/2017					0.0005 (J)		0.0004 (J)
8/16/2017						<0.03	
8/17/2017	<0.03	<0.03	0.0003 (J)	<0.03			
4/4/2018	<0.03						
5/8/2018	<0.03						
6/19/2018					0.00053 (J)	<0.03	<0.03
6/20/2018	<0.03	<0.03	<0.03				
6/21/2018				<0.03			
9/25/2018					<0.03	<0.03	
9/26/2018							0.00052
9/27/2018	<0.03	<0.03	<0.03	<0.03			
11/6/2018	0.0048 (J)			<0.03		<0.03	<0.03
11/7/2018		<0.03	<0.03		<0.03		
3/6/2019			<0.03				
8/26/2019						<0.03	
8/27/2019	0.0078				0.0007 (J)		<0.03
8/28/2019		<0.03	<0.03	<0.03			
10/15/2019	0.0085				0.00054 (J)	<0.03	
10/16/2019		<0.03					<0.03
10/17/2019			<0.03	<0.03			
11/20/2019	0.009						
3/27/2020					<0.03	<0.03	<0.03
3/28/2020	0.0041 (J)	<0.03	<0.03	<0.03			
10/12/2020					<0.03		
10/13/2020	0.0063					<0.03	<0.03
10/14/2020			<0.03	<0.03			
10/15/2020		0.0019 (J)					
1/4/2021		<0.03					
3/2/2021					<0.03	<0.03	
3/3/2021							<0.03
3/4/2021	0.006	<0.03	<0.03	<0.03			
9/13/2021					<0.03	<0.03	
9/14/2021	0.0054	<0.03	<0.03	<0.03			<0.03
Mean	0.01746	0.02813	0.02608	0.02794	0.01948	0.0279	0.02369
Std. Dev.	0.01221	0.007255	0.01035	0.007724	0.01464	0.007857	0.01254
Upper Lim.	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Lower Lim.	0.0054	0.0019	0.0009	0.0011	0.00053	0.0006	0.0007

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					1.4	1.31	
8/31/2016		2.39 (D)	2.47 (D)	5.4 (D)			
10/25/2016							2.22
11/30/2016		1.66	1.6	3.13	4.37	0.438 (U)	2.01
2/15/2017					2.21	0.3 (U)	1.56
2/16/2017		2.71	1.83	3.09			
5/31/2017					2.62	1.77	1.92
6/1/2017	1.9						
6/2/2017		1.99	2.45	7.56			
8/2/2017	5.01						
8/15/2017					2.69		2.47
8/16/2017						2.26	
8/17/2017	5.35	1.87	3.33	6.38			
4/4/2018	5.05						
5/8/2018	3.25						
6/19/2018					2.96	5.39	2.82
6/20/2018	3.53	1.95	2.84				
6/21/2018				5.24			
9/25/2018					2.23	6.22	
9/26/2018							3.15 (D)
9/27/2018	7.07	0.629 (U)	1.94	6.11			
11/6/2018	11			6.1		5.38	2.95
11/7/2018		1.41 (U)	8.58		2.14		
8/26/2019						7.68	
8/27/2019	4.4				2.91		5.82
8/28/2019		1.67	6.86	8.73			
10/15/2019	4.92				3.28	8.7	
10/16/2019		1.92					7.5
10/17/2019			7.85	7.97			
11/20/2019				9.8			
11/21/2019						7.34	8.89
3/27/2020					2.33	9.63	9.54
3/28/2020	4.16	1.44 (U)	11 (U)	11.7			
10/12/2020					2.66		
10/13/2020	3.71					7.43	7.75
10/14/2020			8.97	13.1			
10/15/2020		2.56					
1/4/2021		5.84					
4/6/2021	2.83	1.43 (U)	7.89	9.66	2.2	7.02	7.8
9/13/2021					2.54	8.38	
9/14/2021	2.69	7.15	8.11	10.3			8.82
Mean	4.634	2.441	5.409	7.618	2.61	5.283	5.015
Std. Dev.	2.256	1.741	3.319	2.946	0.6799	3.21	3.04
Upper Lim.	5.96	3.042	8.58	9.615	3.092	7.458	8.82
Lower Lim.	3.112	1.387	1.94	5.621	2.128	3.108	2.01

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					1.5	0.5	
8/31/2016		0.93	0.41	0.92			
10/25/2016							1.1
11/30/2016		0.93	0.61	0.99	1.4	0.49	1.3
2/15/2017					1.3	0.58	1.3
2/16/2017		0.6	0.3 (J)	0.54			
5/31/2017					1.2	0.56	1.3
6/1/2017	<0.1						
6/2/2017		0.34	0.19 (J)	0.42			
8/2/2017	0.27 (J)						
8/15/2017					1.2		1.2
8/16/2017						0.45	
8/17/2017	0.18 (J)	0.52	0.26 (J)	0.27 (J)			
4/4/2018	<0.1						
5/8/2018	0.56						
6/19/2018					0.91	<0.1	0.6
6/20/2018	0.033 (J)	0.5	0.22 (J)				
6/21/2018				0.28 (J)			
9/25/2018					1.1	<0.1	
9/26/2018							0.44 (D)
9/27/2018	0.12 (J)	0.32	0.068 (J)	0.32 (D)			
11/6/2018	<0.1			0.086 (J)		0.084 (J)	0.4
11/7/2018		0.35	10.3 (o)		<0.1		
3/6/2019			<0.1				
3/24/2019		0.32	0.19 (J)	0.14 (J)	0.99	0.14 (J)	0.31
3/25/2019	0.055 (J)						
8/26/2019						<0.1	
8/27/2019	<0.1				1.1		<0.1
8/28/2019		0.36	<0.1	<0.1			
10/15/2019	0.095 (J)				1	<0.1	
10/16/2019		0.41					0.083 (J)
10/17/2019			<0.1	<0.1			
11/20/2019		0.34		<0.1			
11/21/2019						<0.1	<0.1
3/27/2020					1.1	<0.1	<0.1
3/28/2020	<0.1	0.34	<0.1	<0.1			
10/12/2020					1.2		
10/13/2020	<0.1					<0.1	<0.1
10/14/2020			<0.1	<0.1			
10/15/2020		0.22					
1/4/2021		<0.1					
3/2/2021					1	<0.1	
3/3/2021							<0.1
3/4/2021	<0.1	0.45	<0.1	<0.1			
9/13/2021					1.4	<0.1	
9/14/2021	0.05	<0.1	<0.1	<0.1			<0.1
Mean	0.1375	0.4194	0.1965	0.2916	1.1	0.2315	0.5396
Std. Dev.	0.1296	0.2322	0.1497	0.2926	0.3249	0.2003	0.5124
Upper Lim.	0.18	0.5406	0.3	0.54	1.296	0.5	1.2
Lower Lim.	0.055	0.2639	0.068	0.1	0.9687	0.084	0.1

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016				0.0001 (J)	<0.005	
8/31/2016	<0.005	<0.005	<0.005			
10/25/2016						<0.005
11/30/2016	0.0002 (J)	<0.005	<0.005	<0.005	<0.005	<0.005
2/15/2017				<0.005	<0.005	<0.005
2/16/2017	<0.005	<0.005	0.0002 (J)			
5/31/2017				9E-05 (J)	<0.005	<0.005
6/2/2017	<0.005	<0.005	<0.005			
8/15/2017				<0.005		0.0002 (J)
8/16/2017					8E-05 (J)	
8/17/2017	<0.005	<0.005	8E-05 (J)			
6/19/2018				<0.005	<0.005	<0.005
6/20/2018	<0.005	<0.005				
6/21/2018			<0.005			
9/25/2018				<0.005	<0.005	
9/26/2018						0.00027
9/27/2018	<0.005	<0.005	<0.005			
11/6/2018			<0.005		<0.005	<0.005
11/7/2018	<0.005	<0.005		<0.005		
3/6/2019		<0.005				
8/26/2019					<0.005	
8/27/2019				0.00022 (J)		0.00014 (J)
8/28/2019	<0.005	<0.005	0.0001 (J)			
10/15/2019				5.6E-05 (J)	<0.005	
10/16/2019	<0.005					0.00034 (J)
10/17/2019		0.00012 (J)	<0.005			
3/27/2020				<0.005	<0.005	<0.005
3/28/2020	<0.005	<0.005	<0.005			
10/12/2020				<0.005		
10/13/2020					<0.005	<0.005
10/14/2020		<0.005	<0.005			
10/15/2020	<0.005					
1/4/2021	<0.005					
3/2/2021				<0.005	<0.005	
3/3/2021						<0.005
3/4/2021	<0.005	<0.005	<0.005			
9/13/2021				<0.005	<0.005	
9/14/2021	<0.005	<0.005	<0.005			<0.005
Mean	0.00468	0.004675	0.003956	0.003605	0.004649	0.003639
Std. Dev.	0.001239	0.00126	0.002075	0.00229	0.001315	0.002233
Upper Lim.	0.005	0.005	0.005	0.005	0.005	0.005
Lower Lim.	0.0002	0.00012	0.0002	0.0001	8E-05	0.00027

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	DPZ-2	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016						0.0102 (J)	0.0112 (J)	
8/31/2016			0.0219 (J)	0.0389 (J)	0.0122 (J)			
10/25/2016								0.007 (J)
11/30/2016			0.0333 (J)	0.0303 (J)	0.011 (J)	0.0106 (J)	<0.012	0.0086 (J)
2/15/2017						0.0115 (J)	0.0105 (J)	0.0149 (J)
2/16/2017			0.0376 (J)	0.05 (J)	0.0142 (J)			
5/31/2017						0.011 (J)	0.0106 (J)	0.019 (J)
6/1/2017		<0.012						
6/2/2017			0.0346 (J)	0.0477 (J)	0.0229 (J)			
8/2/2017		<0.012						
8/15/2017						0.0123 (J)		0.016 (J)
8/16/2017							0.0145 (J)	
8/17/2017		<0.012	0.0367 (J)	0.0645	0.0241 (J)			
4/4/2018		0.0013 (J)						
5/8/2018		0.0012 (J)						
6/19/2018						0.012 (J)	0.044 (J)	0.021 (J)
6/20/2018		0.0015 (J)	0.034 (J)	0.066 (J)				
6/21/2018					0.03 (J)			
9/25/2018						0.011 (J)	0.041 (J)	
9/26/2018								0.02 (J)
9/27/2018		0.0021 (J)	0.023 (J)	0.045 (J)	0.034 (J)			
11/6/2018		0.0038 (J)			0.037 (J)		0.047 (J)	0.017 (J)
11/7/2018			0.022 (J)	0.11		0.013 (J)		
3/6/2019				0.12				
8/26/2019							0.059	
8/27/2019		0.002 (J)				0.012 (J)		0.023 (J)
8/28/2019			0.023 (J)	0.13	0.12			
10/15/2019		0.0019 (J)				0.012 (J)	0.056 (J)	
10/16/2019			0.021 (J)					0.024 (J)
10/17/2019				0.12	0.096			
11/20/2019					0.12			
11/21/2019							0.052	
3/27/2020						<0.012	0.052	0.033 (J)
3/28/2020	0.078 (J)	<0.012	0.014 (J)	0.064	0.027 (J)			
6/16/2020	0.096 (J)							
10/12/2020						0.011 (J)		
10/13/2020		<0.012					0.046 (J)	0.028 (J)
10/14/2020				0.11	0.039 (J)			
10/15/2020	0.093		0.57					
1/4/2021			0.043 (J)					
3/2/2021						<0.012	0.046 (J)	
3/3/2021								<0.012
3/4/2021	0.094 (J)	<0.012	0.017 (J)	0.096 (J)	0.035 (J)			
9/13/2021						0.01 (J)	0.047	
9/14/2021	0.092	<0.012	0.042 (J)	0.084	0.035 (J)			0.035 (J)
Mean	0.0906	0.003986	0.06487	0.07843	0.04383	0.01061	0.03619	0.01946
Std. Dev.	0.007197	0.002174	0.14	0.03355	0.03675	0.002124	0.01935	0.008888
Upper Lim.	0.0996	0.006	0.042	0.1012	0.05517	0.01198	0.05038	0.02576
Lower Lim.	0.07843	0.0015	0.021	0.05569	0.02018	0.009702	0.03288	0.01317

Confidence Interval

Constituent: Mercury (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-14	MCM-17
8/30/2016					<0.0002	
8/31/2016		<0.0002	<0.0002	<0.0002		
10/25/2016						<0.0002
11/30/2016		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
2/15/2017					<0.0002	<0.0002
2/16/2017		<0.0002	<0.0002	<0.0002		
5/31/2017					<0.0002	<0.0002
6/1/2017	<0.0002					
6/2/2017		4.2E-05 (J)	<0.0002	<0.0002		
8/2/2017	<0.0002					
8/15/2017						<0.0002
8/16/2017					<0.0002	
8/17/2017	<0.0002	<0.0002	<0.0002	<0.0002		
4/4/2018	<0.0002					
5/8/2018	<0.0002					
6/19/2018					<0.0002	<0.0002
6/20/2018	<0.0002	<0.0002	<0.0002			
6/21/2018				<0.0002		
9/25/2018					<0.0002	
9/26/2018						3.6E-05
9/27/2018	<0.0002	<0.0002	<0.0002	<0.0002		
11/6/2018	0.00071			0.00067	0.00066	0.00064
11/7/2018		<0.0002	<0.0002			
3/6/2019			<0.0002			
8/26/2019					<0.0002	
8/27/2019	<0.0002					<0.0002
8/28/2019		<0.0002	<0.0002	<0.0002		
3/27/2020					<0.0002	<0.0002
3/28/2020	<0.0002	<0.0002	<0.0002	<0.0002		
9/13/2021					<0.0002	
9/14/2021	<0.0002	<0.0002	0.00016 (J)	<0.0002		<0.0002
Mean	0.0002464	0.0001856	0.0001967	0.0002427	0.0002418	0.0002251
Std. Dev.	0.0001538	4.764E-05	1.155E-05	0.0001417	0.0001387	0.0001461
Upper Lim.	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Lower Lim.	0.0002	0.0002	0.00016	0.0002	0.0002	0.0002

Confidence Interval

Constituent: Molybdenum (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-05	MCM-06	MCM-17
8/31/2016	<0.01	<0.01	
10/25/2016			<0.01
11/30/2016	<0.01	<0.01	<0.01
2/15/2017			<0.01
2/16/2017	<0.01	<0.01	
5/31/2017			<0.01
6/2/2017	<0.01	<0.01	
8/15/2017			<0.01
8/17/2017	0.0012 (J)	0.0025 (J)	
6/19/2018			<0.01
6/20/2018	<0.01	<0.01	
9/26/2018			0.0019
9/27/2018	<0.01	<0.01	
11/6/2018			<0.01
11/7/2018	<0.01	0.0024 (J)	
3/6/2019		<0.01	
8/27/2019			<0.01
8/28/2019	<0.01	0.0017 (J)	
10/16/2019	<0.01		<0.01
10/17/2019		0.0017 (J)	
3/27/2020			<0.01
3/28/2020	<0.01	<0.01	
9/14/2021	0.0099 (J)	<0.01	<0.01
Mean	0.009258	0.007562	0.009325
Std. Dev.	0.002538	0.003813	0.002338
Upper Lim.	0.01	0.01	0.01
Lower Lim.	0.0099	0.0024	0.0019

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-04	MCM-05	MCM-06	MCM-07	MCM-12	MCM-14	MCM-17
8/30/2016					0.0011 (J)	<0.01	
8/31/2016		0.002 (J)	0.0015 (J)	0.0021 (J)			
10/25/2016							0.003 (J)
11/30/2016		0.0023 (J)	0.0054 (J)	<0.01	0.0023 (J)	<0.01	0.0087 (J)
2/15/2017					0.0021 (J)	0.0014 (J)	0.0067 (J)
2/16/2017		0.002 (J)	0.0022 (J)	0.0025 (J)			
5/31/2017					<0.01	<0.01	0.0018 (J)
6/1/2017	<0.01						
6/2/2017		<0.01	<0.01	<0.01			
8/2/2017	<0.01						
8/15/2017					0.0021 (J)		0.0025 (J)
8/16/2017						0.0018 (J)	
8/17/2017	<0.01	<0.01	0.002 (J)	0.0033 (J)			
4/4/2018	<0.01						
5/8/2018	<0.01						
6/19/2018					0.0017 (J)	<0.01	<0.01
6/20/2018	<0.01	<0.01	<0.01				
6/21/2018				<0.01			
9/25/2018					0.002 (J)	0.0019 (J)	
9/26/2018							0.0016 (J)
9/27/2018	<0.01	<0.01	<0.01	0.0023 (J)			
11/6/2018	0.0025 (J)			0.0048 (J)		0.0057 (J)	<0.01
11/7/2018		<0.01	0.0075 (J)		<0.01		
3/6/2019			0.0024 (J)				
8/26/2019						0.0025 (J)	
8/27/2019	<0.01				0.0019 (J)		0.0018 (J)
8/28/2019		<0.01	0.0014 (J)	0.0019 (J)			
10/15/2019	<0.01				<0.01	0.003 (J)	
10/16/2019		<0.01					<0.01
10/17/2019			0.0066 (J)	0.0049 (J)			
3/27/2020					<0.01	<0.01	<0.01
3/28/2020	<0.01	<0.01	<0.01	<0.01			
10/12/2020					<0.01		
10/13/2020	<0.01					<0.01	<0.01
10/14/2020			<0.01	<0.01			
10/15/2020		0.0028 (J)					
1/4/2021		<0.01					
3/2/2021					<0.01	<0.01	
3/3/2021							<0.01
3/4/2021	0.00038 (J)	<0.01	<0.01	<0.01			
9/13/2021					<0.01	<0.01	
9/14/2021	<0.01	<0.01	<0.01	<0.01			0.0021
Mean	0.008777	0.00794	0.0066	0.006557	0.005943	0.006879	0.0063
Std. Dev.	0.003136	0.00354	0.003726	0.003675	0.004219	0.003864	0.003859
Upper Lim.	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Lower Lim.	0.0025	0.0023	0.002	0.0023	0.0019	0.0019	0.0018

Confidence Interval

Constituent: Thallium (mg/L) Analysis Run 12/29/2021 3:22 PM View: Appendix IV - Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-06	MCM-17
8/31/2016	<0.002	
10/25/2016		<0.002
11/30/2016	<0.002	<0.002
2/15/2017		<0.002
2/16/2017	<0.002	
5/31/2017		<0.002
6/2/2017	<0.002	
8/15/2017		<0.002
8/17/2017	<0.002	
6/19/2018		<0.002
6/20/2018	<0.002	
9/26/2018		0.00014
9/27/2018	<0.002	
11/6/2018		<0.002
11/7/2018	<0.002	
3/6/2019	<0.002	
8/27/2019		<0.002
8/28/2019	<0.002	
10/16/2019		<0.002
10/17/2019	7.6E-05 (J)	
3/27/2020		<0.002
3/28/2020	<0.002	
9/14/2021	<0.002	<0.002
Mean	0.001852	0.001845
Std. Dev.	0.0005336	0.0005369
Upper Lim.	0.002	0.002
Lower Lim.	7.6E-05	0.00014

FIGURE J.

Appendix IV Trend Tests - All Results (No Significant)

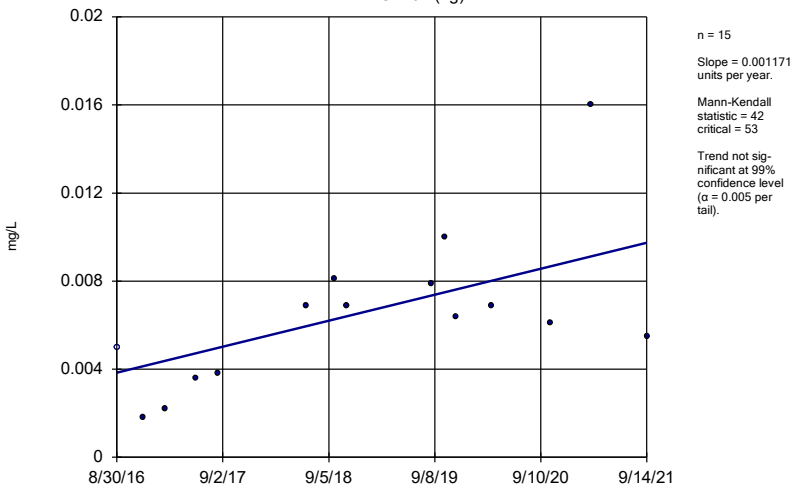
Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 12/2/2021, 2:27 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Arsenic (mg/L)	MCM-01 (bg)	0.001171	42	53	No	15	6.667	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-02 (bg)	0	0	53	No	15	40	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-06	0.04091	53	68	No	18	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-11 (bg)	-0.00367	-56	-58	No	16	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-15 (bg)	0.0002099	14	48	No	14	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-16 (bg)	0	-1	-48	No	14	50	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-18 (bg)	-0.002162	-28	-38	No	12	16.67	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-19 (bg)	-0.0005531	-7	-38	No	12	0	n/a	n/a	0.01	NP
Arsenic (mg/L)	MCM-20 (bg)	-0.005196	-12	-38	No	12	0	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-01 (bg)	0	1	48	No	14	92.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-02 (bg)	0	1	48	No	14	92.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-06	0.01364	49	53	No	15	0	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-11 (bg)	0	12	48	No	14	42.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-14	0.007102	40	53	No	15	6.667	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-15 (bg)	0	16	48	No	14	57.14	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-16 (bg)	0	1	48	No	14	92.86	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-18 (bg)	0.01173	12	25	No	9	44.44	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-19 (bg)	0	6	38	No	12	0	n/a	n/a	0.01	NP
Lithium (mg/L)	MCM-20 (bg)	-0.0009363	-8	-38	No	12	0	n/a	n/a	0.01	NP

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-01 (bg)



n = 15

Slope = 0.001171 units per year.

Mann-Kendall statistic = 42
critical = 53

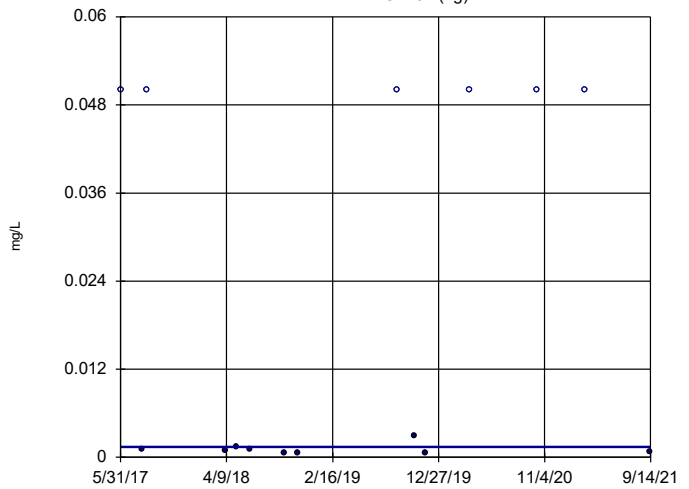
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-02 (bg)



n = 15

Slope = 0 units per year.

Mann-Kendall statistic = 0
critical = 53

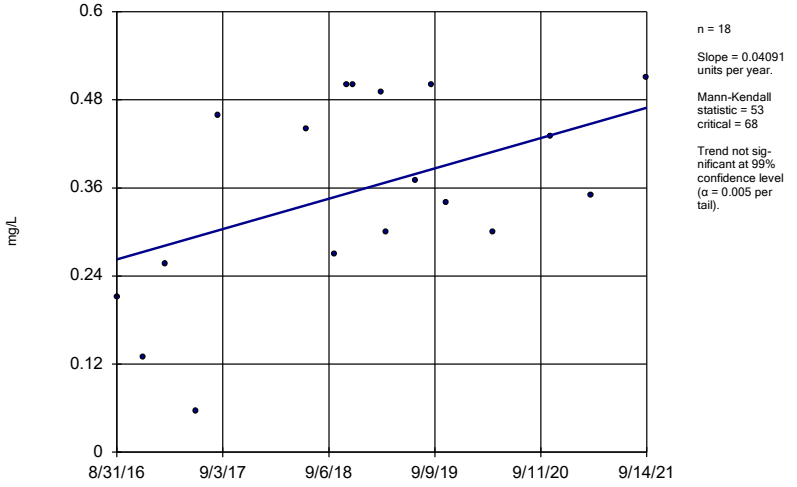
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-06



n = 18

Slope = 0.04091 units per year.

Mann-Kendall statistic = 53
critical = 68

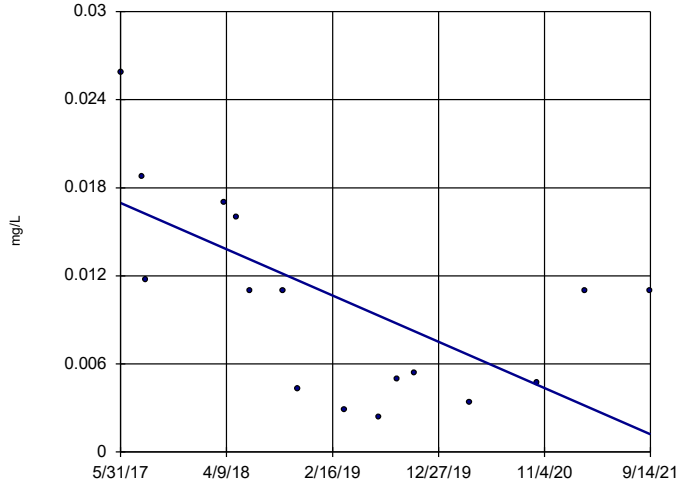
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-11 (bg)



n = 16

Slope = -0.00367 units per year.

Mann-Kendall statistic = -56
critical = -58

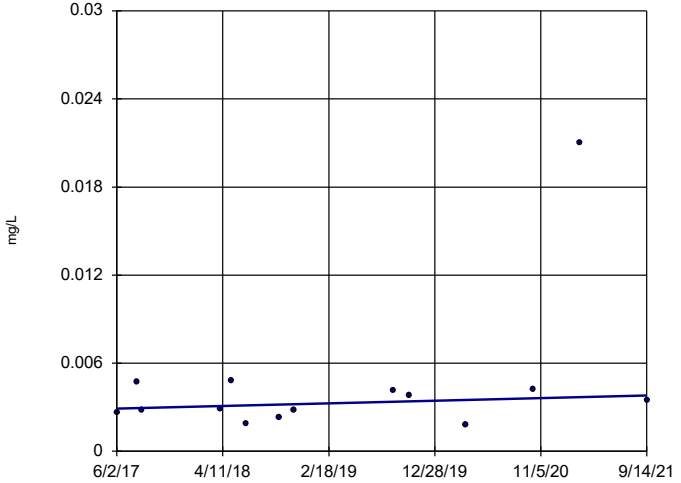
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-15 (bg)



n = 14

Slope = 0.0002099 units per year.

Mann-Kendall statistic = 14
critical = 48

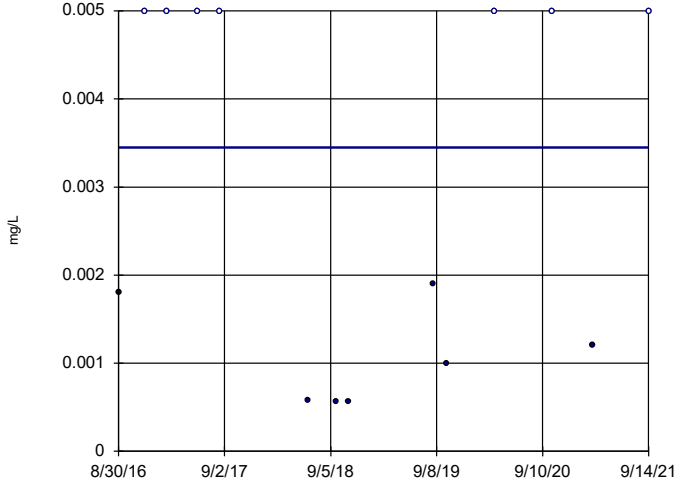
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-16 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = -1
critical = -48

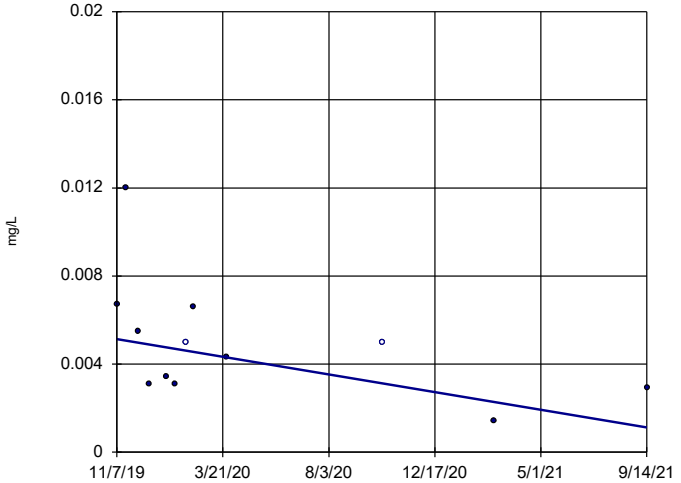
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-18 (bg)



n = 12

Slope = -0.002162 units per year.

Mann-Kendall statistic = -28
critical = -38

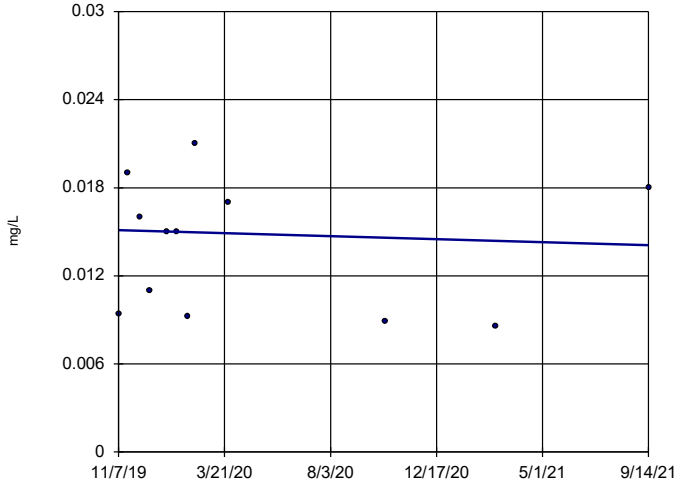
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-19 (bg)



n = 12

Slope = -0.0005531 units per year.

Mann-Kendall statistic = -7
critical = -38

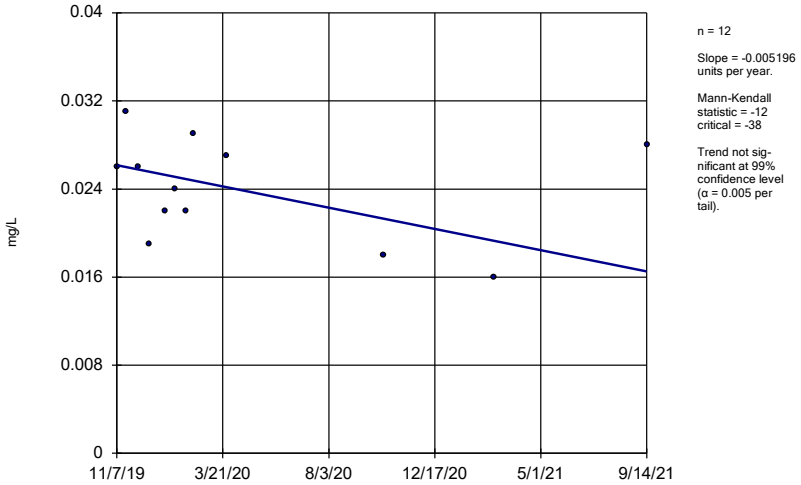
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-20 (bg)



n = 12

Slope = -0.005196 units per year.

Mann-Kendall statistic = -12 critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Arsenic Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests

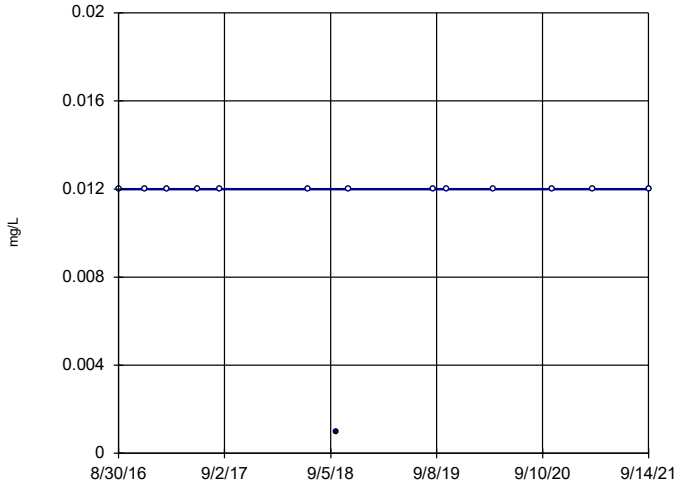
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-01 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 1 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests

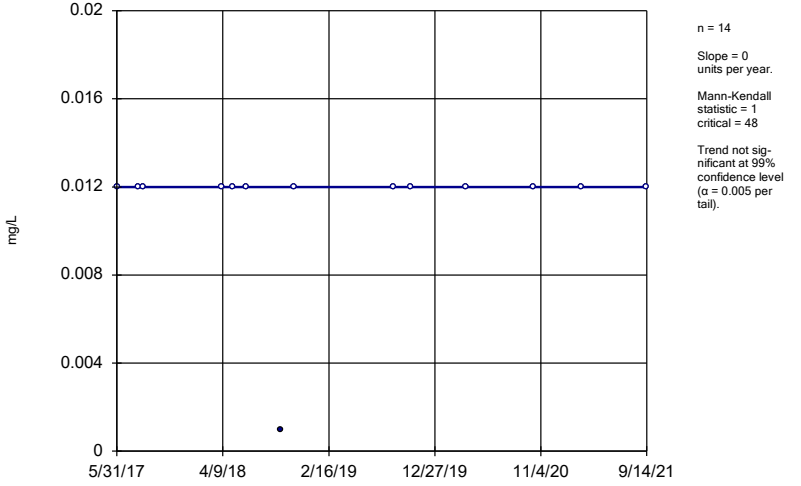
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-02 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 1 critical = 48

Trend not significant at 99% confidence level (α = 0.005 per tail).

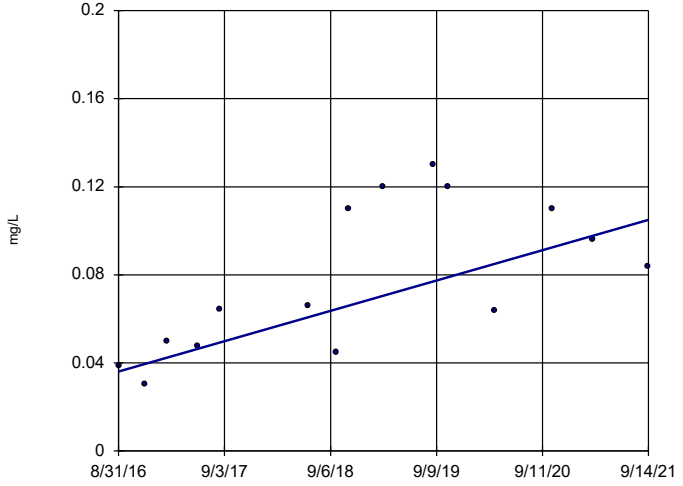
Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-06



n = 15

Slope = 0.01364 units per year.

Mann-Kendall statistic = 49 critical = 53

Trend not significant at 99% confidence level (α = 0.005 per tail).

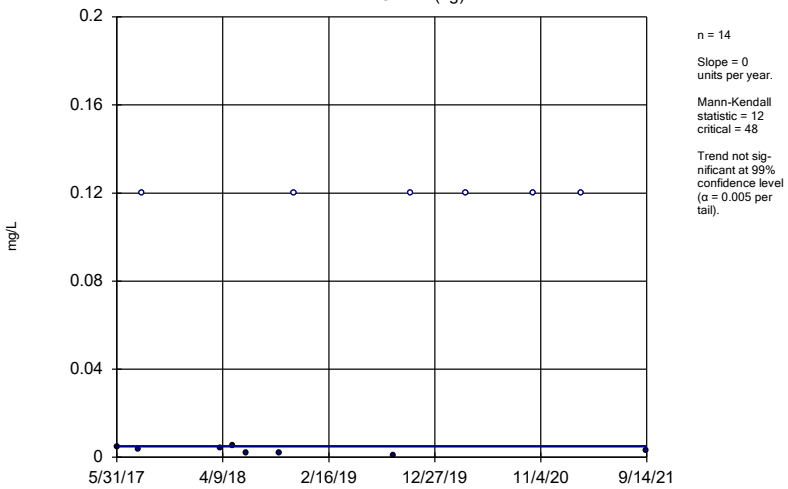
Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-11 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 12
critical = 48

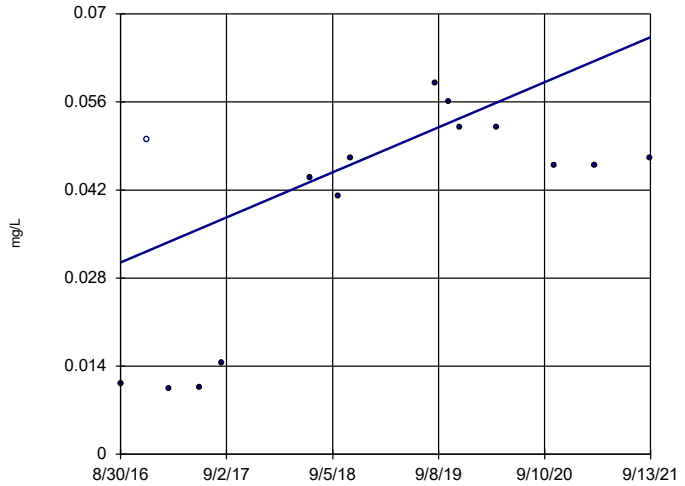
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-14



n = 15

Slope = 0.007102 units per year.

Mann-Kendall statistic = 40
critical = 53

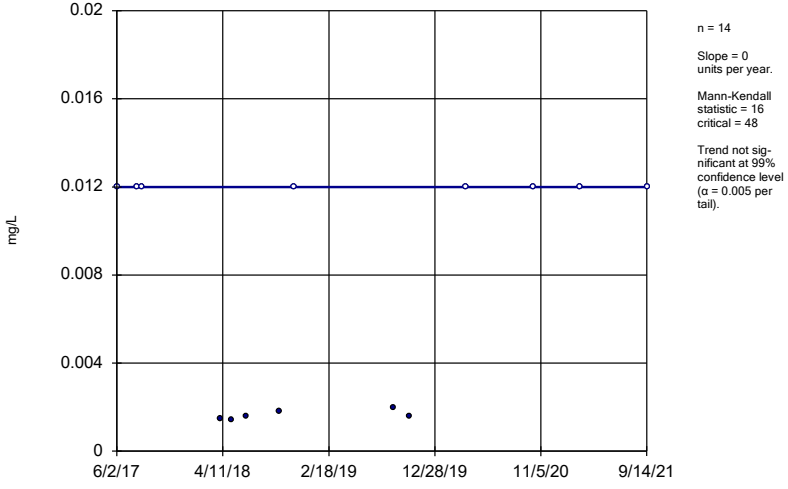
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-15 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 16
critical = 48

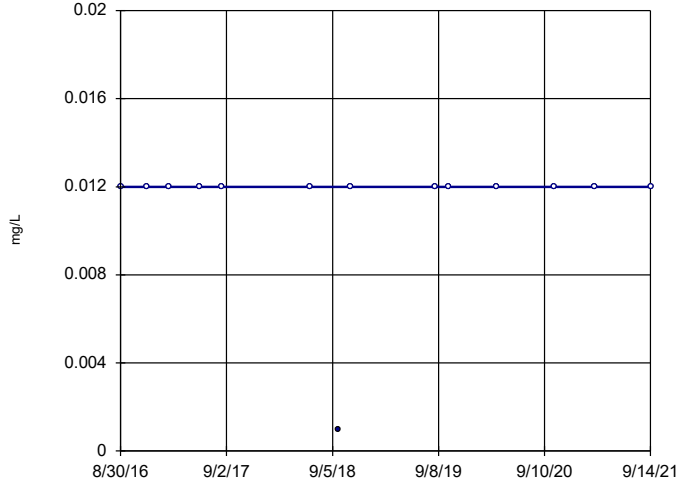
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-16 (bg)



n = 14

Slope = 0 units per year.

Mann-Kendall statistic = 1
critical = 48

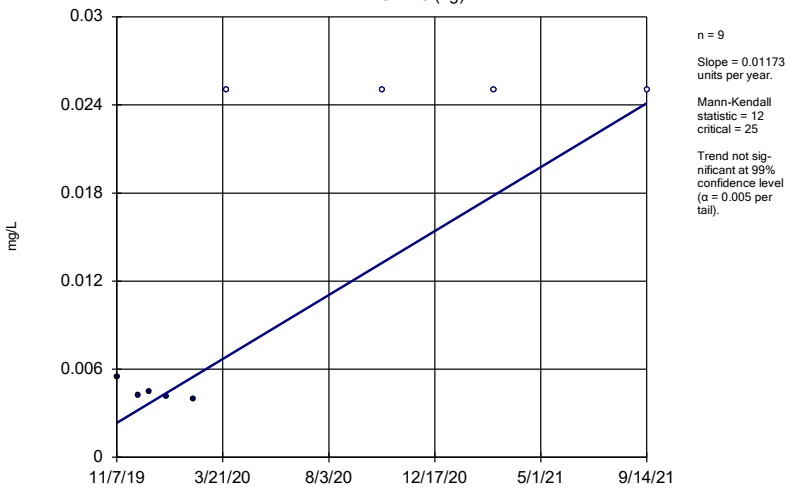
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG
Hollow symbols indicate censored values.

Sen's Slope Estimator

MCM-18 (bg)



n = 9

Slope = 0.01173 units per year.

Mann-Kendall statistic = 12
critical = 25

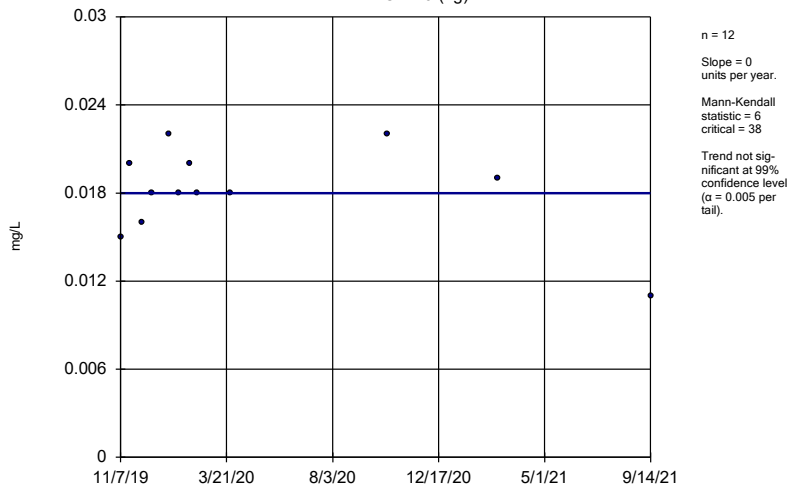
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-19 (bg)



n = 12

Slope = 0 units per year.

Mann-Kendall statistic = 6
critical = 38

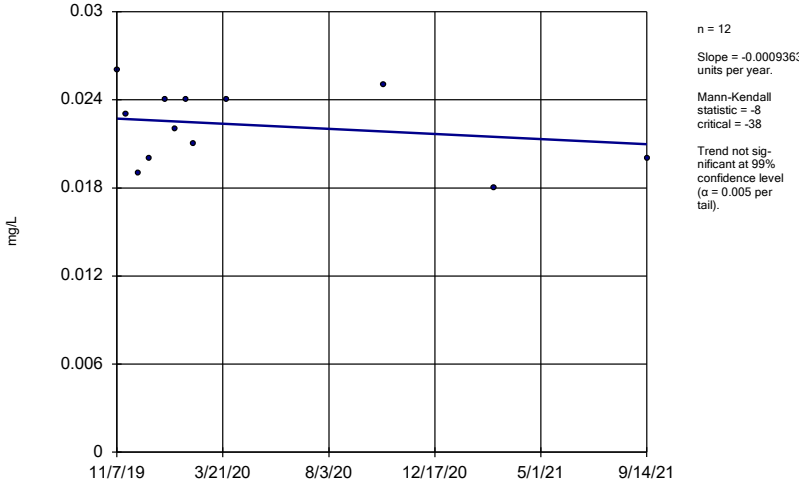
Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sanitas™ v.9.6.31 Groundwater Stats Consulting. UG

Sen's Slope Estimator

MCM-20 (bg)



n = 12

Slope = -0.0009363 units per year.

Mann-Kendall statistic = -8
critical = -38

Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: Lithium Analysis Run 12/2/2021 2:26 PM View: Appendix IV - Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

APPENDIX F

Lithium Alternative Source Demonstration Report

Resolute
Environmental & Water Resources Consulting

ARCADIS Design & Consultancy for natural and built assets

Georgia Power

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION

Plant McManus Former Ash Pond 1,
Brunswick, Georgia

October 25, 2021

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION

Plant McManus Former Ash Pond 1,
Brunswick, Georgia

Prepared for:

Georgia Power Company

Geoffrey Gay, PE
Project Manager

Margaret Gentile, PhD
Technical Expert

Kathryn Farris, M. Sc.
Environmental Engineer

Prepared by:

Arcadis U.S., Inc.
2839 Paces Ferry Road
Suite 900
Atlanta
Georgia 30339
Tel 770 431 8666
Fax 770 435 2666

Date:

October 25, 2021

CONTENTS

TABLES

FIGURES

APPENDICES

PROFESSIONAL CERTIFICATION

This 2021 Lithium Alternative Source Demonstration for the Georgia Power Company Plant McManus Former Ash Pond 1 has been prepared in compliance with applicable United States Environmental Protection Agency Coal Combustion Residuals Rule and Georgia Environmental Protection Division Solid Waste Rules (Chapter 391-3-4) under the direction of a Georgia licensed professional engineer.

J. Geoffrey Gay, P.E.
Principal Environmental Engineer
Georgia Registration No. PE 27801

10.25.21
Date

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this alternate source demonstration (ASD) in accordance with the United States Environmental Protection Agency Coal Combustion Residuals (CCR) Rule (40 Code of Federal Regulations [CFR] Part 257 Subpart D) and the Georgia Environmental Protection Division (GAEPD) Rules for Solid Waste Management 391-3-4-.10(6)(a). This report presents an ASD for the statistically significant levels (SSLs) of lithium, an Appendix IV groundwater monitoring constituent, observed in groundwater at monitoring well MCM-14 at Georgia Power Company's Plant McManus former Ash Pond 1 (AP-1) (the site; **Figure 1**). The site and CCR monitoring well network are shown on **Figure 1** and well construction details are presented in **Table 1**.

Based on an evaluation of groundwater trends and surface water quality, the lithium SSL observed at MCM-14 is likely caused by the natural mixing of brackish surface water with the groundwater and variability in the chemistry resulting from dewatering activities in the ash pond during the removal of CCR in the ash pond during closure activities. Lithium is a naturally-occurring element in seawater, typically ranging from 0.1 - 0.2 milligrams per liter (mg/L) and is present in the brackish water that is a mix of seawater and freshwater surrounding the site (Riley and Tongudai 1964; Segar 1998).

To support this ASD, the following analyses are presented in Section 3.0:

1. Evaluation of lithium concentrations in surface waters. This evaluation demonstrates that the range of lithium concentrations observed in surface water is greater than the range of lithium concentrations observed at MCM-14.
2. Comparison of geochemistry markers in surface waters and groundwater. This comparison demonstrates that the monitoring wells where lithium is present in groundwater yield similar geochemistry to each other and the surface water, while being distinct from groundwater in monitoring wells with low estimated or non-detect lithium.
3. Evaluation of variation in hydraulic conductivity across the site and variable groundwater level response to tidal fluctuations which demonstrates the presence of variable mixing of brackish water with groundwater, resulting in spatial and temporal variability of groundwater lithium concentrations at the site.
4. Evaluation of groundwater flow conditions and concentration trends during CCR removal. Dewatering associated with CCR removal resulted in a consistent cone of depression and inward lateral gradient during high and low tides. The dewatered inward flow conditions correlate with a shift in groundwater quality at several monitoring wells, including MCM-14, toward the geochemistry of the surface water.

Combined, these lines of evidence demonstrate that the former CCR unit is not the source of lithium SSLs observed in well MCM-14.

2 SITE BACKGROUND

Plant McManus is an electrical power generation plant located on Crispen Island, near Brunswick, Georgia. Crispen Island originally consisted of several smaller islands that were joined to construct Plant McManus. The island was separated from the mainland to the northeast by tidal marsh and is bounded to

the west and southwest by the Turtle River. The Turtle River is a tidally influenced brackish estuary that can vary in height by more than 8 feet during a tidal cycle (Resolute Environmental & Water Resources Consulting [Resolute] 2020).

The plant was originally constructed in 1952. Use of coal for power production ceased in 1972, and Georgia Power Company retired all coal power generating assets at Plant McManus prior to April 16, 2015. During operation of the coal-fired units from 1959 until 1972, CCR was disposed in an approximately 80-acre surface impoundment (AP-1) on the Plant McManus site northeast of the plant (**Figure 1**).

2.1 Site Geology

Plant McManus is located within the Coastal Plain Province of Georgia. The soils that make up the surficial aquifer are comprised of very fine sands with discontinuous clay layers, from land surface (or beneath a shallow fill layer) to depths ranging from 33 to 43 feet below ground surface (bgs) (Resolute 2020). These very fine sands and discontinuous clay layers are interpreted to be the Upper Satilla Formation, which fines downward to a silty fine sand of either the Lower Satilla Formation (ATC Associates, Inc. 1997) or the Cypresshead Formation (Huddleston 1988).

Gamma logs performed in on-site borings indicate a lower permeability layer starting between 40 and 52 feet bgs (Resolute 2020). This is consistent with the depths of the upper confining unit of the Ebenezer Formation, described by Weems and Edwards (2001) as two pairs of alternating confining units and water-bearing zones, extending down to approximately 185 feet bgs.

The surface of the tidal marsh is covered by silt and vegetation, except where scoured by tidal creeks with fine sands in their channels. The surficial aquifer formed in a similar depositional environment, with paleo tidal channels likely present throughout, and discontinuous layers/channels of fine sand or clay. The surficial aquifer is generally unconfined, but there may be localized layers of lower permeability soils, resulting in semi-confined conditions in some locations.

2.2 Site Hydrogeology

There are two components of groundwater flow at the site. The first is along a northeast to southwest axis and originates from the mainland to the northeast and Crispen Island to the southwest. The groundwater elevations in the monitoring wells and piezometers on the mainland (MCM-01, -02, -15, and -16) and Crispen Island (MCM-08 and -11) are consistently higher than the surface water elevation in former AP-1 and the monitoring wells along both dikes, despite tidal fluctuations. This indicates that groundwater flow is consistently towards former AP-1 from the northeast and southwest. Potentiometric maps are provided in **Appendix A – Figures A1 and A2**.

The second component of groundwater flow is along the northwest to southeast axis between former AP-1 and the tidal marsh. Under the present ambient conditions, without the influence of dewatering, the gradient changes direction with the tides. Based on the March 2021 high and low tide potentiometric surface maps presented in **Appendix A**, at low tide the gradient is from former AP-1 and at high tide the gradient is inwards towards former AP-1.

2.3 Coal Ash Removal

2.3.1 Coal Ash Removal Timeline

In 2016, Georgia Power initiated CCR removal activities at former AP-1. Parts of former AP-1 were subcategorized during excavation activities to facilitate removal (Areas A, B, and C [**Figure 2**]). In general, the progression of CCR material removal was conducted in the following sequence:

1. March 2016 – Began removal of bulk CCR material from Areas A, B, and C.
2. February 2017 – Began saturated CCR material removal from Area C.
3. March 2018 – Began saturated CCR material removal from Area B.
4. April 2018 – Began saturated CCR material removal from Area A.
5. October 2019 – Completed excavation activities.

2.3.2 Dewatering

Dewatering of AP-1 was required for CCR for removal and pond closure. Dewatering wells (RW-1 through RW-10) were installed along the northern dike and dewatering activities progressed with excavation activities. After Hurricane Irma interrupted excavation activities in fall 2017, dewatering occurred in a step-wise process according to which pond was excavated. During excavation of Area C, water was pumped using a submersible pump from Area C to Areas A and B, which were within the influence of the dewatering wells. Water from Areas A and B was captured by the dewatering system, treated, and discharged. Once Area C was cleared of CCR, dewatering and CCR removal began at Area B followed by Area A. **Appendix A** provides a series of groundwater potentiometric maps during and after dewatering and excavation (**Figures A3 and A4** and **Figures A1 and A2**, respectively). An illustration of the hydrologic impacts of dewatering is provided as **Figure 3**. Dewatering activities began in February 2017 and operated nearly continuously for a period of over 2 years until April 2019. After CCR removal and until April 2021, water was pumped from the pond in order to maintain pond water elevation. In April 2021 pumping at the pond stopped.

The prolonged pumping created a temporary shift in the hydrologic characteristics of the site. Further description of this hydraulic shift and its effect on lithium concentrations at monitoring well MCM-14 is discussed in Section 3.1.4.

3 ALTERNATIVE SOURCE DEMONSTRATION

To evaluate alternative sources, the site conceptual model was revisited and site geochemistry, hydrogeology, historical data, and CCR removal activities were reviewed. Based on the data evaluation, the SSLs for lithium have been attributed to influxes of brackish surface water from the estuary during excavation dewatering and tidal influence in wells along the dike.

3.1.1 Lithium in Surface Water

A comparison of surface water quality to groundwater quality demonstrates that the range of lithium concentrations observed in surface water at the site is comparable to those observed in groundwater and that surface water is a viable source for lithium observed in well MCM-14. As part of routine monitoring, surface water samples are collected semi-annually. The most recent surface water sampling was conducted concurrent with March 2021 groundwater sampling and is reported in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021) and summarized in **Table 2**.

In March 2021, surface water samples were collected from four transects (T1 through T4), as shown on **Figures 4A and 4B**. Water at four sample locations was collected in each transect. Samples were also collected from two background locations (**Figure 5**). One background surface water location sampled was the low tide background location, BG-1, in Cowpen Creek, north of its confluence with Burnett Creek. The other surface water sample was collected at high tide from background location 2 (BG-2), located in the Turtle River, north of its confluence with Gibson Creek.

The lithium results from surface water sampling are presented in **Table 2**. Surface water sampling locations in the T4 transect are closest to MCM-14. The lithium concentrations in the samples collected from the T4 transect range from 0.066 to 0.083 mg/L (**Table 2**), while groundwater concentrations in MCM-14 ranged from 0.046 to 0.059 mg/L between 2019 and March 2021 when the SSL was identified. Greater surface water than groundwater concentrations indicate that surface water may be mixing with groundwater and represent a viable source for lithium in groundwater. An additional groundwater sample was collected at MCM-14 in July 2021, when water was no longer being removed from the pond. The lithium concentration in that sample is reported as non-detect below the reporting limit of 0.010 mg/L. Results from future sampling will be used to evaluate whether the analytical result for lithium observed in July 2021 is sustained and representative.

Based on review of surface water quality data collected near MCM-14, surface water is a viable source of lithium to groundwater. Lithium concentrations in surface water are greater than those observed in groundwater.

3.1.2 Groundwater and Surface Water Geochemistry Markers

Groundwater and surface water data from the site were evaluated for variability in chemical composition, ionic ratios, and CCR indicator parameters as markers to support this ASD. Comparison of geochemistry markers in surface water and groundwater demonstrate that the monitoring wells where lithium is present in groundwater yield similar geochemistry to each other and the surface water and are distinct from groundwater in monitoring wells with low or non-detect lithium. During the March 2021 sampling event, surface water from two background locations (BG-1 and BG-2) and groundwater from background, mainland, and southern dike wells (MCM-01, -02, -11, -12, -14, -15, -16, -17, -18, -19, and MCM-20) were analyzed for select cations, anions, metals, alkalinity, and total dissolved solids to evaluate geochemical markers (**Figure 5, Table 3**). The background surface water samples were collected from the two locations within Turtle River (BG-1 and BG-2), consistent with previous sampling events. Notes regarding field activities completed by Resolute and analytical reports for the March 2021 sampling event are provided in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021).

Analytical reports and purge log for the July 2021 sample collected at MCM-14 are included as Appendix B of this report.

A comparison of surface water and monitoring well geochemical data provide support that the source of lithium is brackish surface water. Piper plots were developed from the March data from surface water and groundwater monitoring wells (**Figure 5**). Piper plots assess relative abundance of major cations and anions in groundwater and are a useful tool in differentiating water sources (Chu et al. 2017). Overall, the chemical compositions of groundwater and surface water reflect a sodium-chloride-type water source. However, Figure 5 shows a tight cluster of southern dike wells (MCM-14 & MCM-17) with background surface water and groundwater. This tight cluster of sample points indicate similar major ion chemical compositions of groundwater in the dike wells and background groundwater and surface water.

Figure 6 shows a plot of sodium and chloride ratios versus total dissolved solids (TDS) for the same wells shown on the Piper diagram (MCM-01, -02, -11, -12, -14, -15, -16, -17, -18, -19, and MCM-20) as well as background surface water locations BG-1, BG-2 and the nearest surface water transect T4. The surface water samples from the background locations and T4 transect are high in TDS, plotting in two clusters along the right of the x-axis. The sodium-to-chloride ratios in these samples are clustered around one area of the plot. Monitoring wells with water quality clustered tightly to surface water on the Piper plot also showed sodium-to-chloride ratios near one over a range of TDS concentrations. MCM-14 plots close to the surface water samples with a sodium-to-chloride ratio of 0.9 and TDS concentration of 12,000 mg/L. This ratio is close to the sodium-to-chloride (molar) ratio of approximately 0.86 reported for average seawater composition (e.g., Hem 1989) and for brackish water in coastal regions (Klassen, et al. 2014; Shin et al. 2020). In contrast, mainland groundwater wells plotted with TDS less than 2,000 mg/L and sodium-to-chloride ratios equal or greater than 1. This higher proportion of sodium observed at mainland wells can be seen from continental (feldspar) weathering sources or exchange of sodium for calcium during the mixing process (Anders 2013; Shin et al. 2020). Thus, the sodium-to-chloride ratios reflect distinct sources and processes, with the ratio at MCM-14 showing a mixing signature of brackish with surface water.

To analyze several CCR indicator ions in conjunction with lithium simultaneously, concentrations for the ions are displayed on a star plot on **Figures 5 and 7** and provided in **Table 3**. This method uses ion composition to differentiate sources and assumes that select ions in groundwater from a CCR source, such as boron, sulfate, calcium, chloride, and lithium, are conservative in groundwater and not retarded due to processes such as sorption or precipitation. The star plots visualize the relative amounts of ions present at varying orders of magnitude. A similarity in shape represents similar ratios of ions, indicating a similar source. On each plot, the surface water chemistry collected from location BG-2 in March 2021 is shown as a black dashed line, while groundwater chemistry from the monitoring well is shown as a colorful solid line. Similar groundwater signatures are grouped by color. The star plots show that concentrations of boron, calcium, sulfate, lithium, and chloride in groundwater collected in March 2021 from MCM-14 are present in a composition that is similar to surface water and to each other. In contrast, groundwater collected from the island and mainland have compositions dissimilar to the surface water samples. Lithium concentrations at MCM-14 are similar to the range of surface water, as discussed in Section 3.1.1, and higher than at wells located on the mainland and island.

The July 2021 analytical results for groundwater collected at MCM-14 present different a composition than that observed in March 2021 (**Figure 7**). As discussed in Section 3.1.4, this sample was collected

after water was no longer being removed from the pond. No lithium was detected in this sample above the detection limit of 0.010 mg/L. The ion composition in this sample is more similar to those found in background wells MCM-19, and -20.

The comparison of geochemistry markers in surface waters and groundwater demonstrates that the groundwater chemistry at MCM-14 location yields a similar geochemistry to surface water. This supports the understanding that surface water influences the groundwater chemistry at MCM-14 location.

3.1.3 Hydrogeologic Conditions

Variation in hydraulic conductivity across the site and variable groundwater level response to tidal fluctuations show that locations such as MCM-14 are in closer hydraulic communication with the tidal marsh than other wells. Site data collected to date, including slug tests and tidal studies, demonstrate heterogenous hydrogeologic conditions, with more groundwater flow in monitoring wells MCM-05, MCM-06, MCM-07, and MCM-14, located along the dikes (**Figure 1**).

Single well slug tests conducted in November 2019 identified a wide distribution of hydraulic conductivities across the site, from 8.67 x 10^{-5} centimeter per second (cm/sec) to 2.90 x 10^{-3} cm/sec (Resolute 2020). The highest hydraulic conductivities were found primarily within monitoring wells along the northern and southern dikes at monitoring wells MCM-05, MCM-06, MCM-14, and MCM-17 (**Table 4**), although wells exhibiting high conductivities are also present within the mainland.

A tidal study was conducted to evaluate sensitivities of groundwater to changes in tides (Resolute 2020). Transducers were deployed over a period of several months. Along the southern dike, MCM-14 was found to be more sensitive to tidal fluctuations during the study based on the magnitude of the tidal fluctuations (**Figure 8**). Together, the hydraulic conductivity and tidal data show MCM-14 is in hydraulic communication with the tidal marsh and surface water. As discussed previously, lithium has been shown to be naturally present in surface water near well MCM-14 at concentrations greater than groundwater. The demonstrated communication between MCM-14 and surface water, combined with the lithium concentrations in surface water, establish that surface water is a viable alternate source for lithium at this location.

3.1.4 Shifts in Hydraulic Conditions and Associated Water Quality Changes during Coal Ash Removal

Dewatering associated with CCR removal resulted in a consistent cone of depression and inward gradient during high and low tides. The dewatered conditions correlate with a shift in groundwater quality at several monitoring wells, including MCM-14, toward the chemical composition of the surface water.

During the dewatering and excavation process, the water level in AP-1 was depressed below the water level in the tidal marsh (see March 2019 high and low tide potentiometric surface maps in **Appendix A**). As a result, regardless of the tidal stage, there was a consistent cone of depression and gradient towards AP-1 during dewatering activities, favoring movement of surface water and groundwater flow into the cone of depression towards AP-1 and the dewatering wells (**Figure 3**).

The trend of lithium concentrations over time at MCM-14 aligns with dewatering activities. Lithium concentrations at MCM-14 increased in conjunction with the progression of excavation activities and

dewatering at Area C (**Figure 9**). The increase in lithium and other water quality parameters such as total dissolved solids, sulfate, and boron in MCM-14 likely reflects the point when the pond had been fully dewatered and the dewatering well system began to draw in more surface water as compared to pond water. As presented in the previous section, the shift in geochemistry became like that of surface water; therefore, the lithium is interpreted to be derived from the movement of brackish surface water towards well when pumping was occurring for dewatering.

After excavation and dewatering ceased, AP-1 was allowed to fill with water, however, water continued to be removed from the pond to maintain the pond elevation. In April 2021 pumping of water from the pond stopped, which allowed for an increase in pond water elevation. Following this change in the hydrogeologic conditions, lithium concentration decreased to less than the detection limit of 0.010 mg/L in July 2021. This decrease in lithium is potentially associated with the change in pond water management, but evaluation of future sampling results is needed to confirm.

The observation that shifts in groundwater chemistry and an increase in lithium concentrations at MCM-14 coincided with the establishment of inward gradients during pond dewatering activities, and the subsequent decrease in lithium concentrations after pond water elevation control ended provide further support that surface water influences the groundwater chemistry at MCM-14 location.

4 CONCLUSION AND RECOMMENDATION

This report serves as an ASD prepared in accordance with 40 CFR § 257.95(g)(3)(ii) and demonstrates that the SSL for lithium at Plant McManus former AP-1 monitoring well MCM-14 is attributed to the variability of naturally occurring lithium in the adjacent brackish estuary and not to a release from AP-1. This is demonstrated by:

- Presence of lithium in surface water in sampling transect T4 near MCM-14 at concentrations greater than groundwater in MCM-14;
- The groundwater zone screened by MCM-14 is in hydraulic communication with the tidal marsh and surface water based on tidal fluctuation;
- Similarity of geochemical markers in surface water and groundwater wells with elevated concentrations of lithium indicating that surface water and groundwater are in communication and that surface water chemistry is influencing groundwater chemistry; and
- Shifts in groundwater chemistry and an increase in lithium concentrations at MCM-14 that coincided with the establishment of inward gradients during pond dewatering activities and subsequent decrease in lithium concentrations after pond water elevation control ended.

The evidence supports the conclusion that the lithium SSL is attributable to the influx of brackish surface water and is not attributable to CCR storage or a release from former AP-1. Therefore, no further action for lithium is warranted.

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TABLES

Table 1
Monitoring Well Network and Piezometers
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Well ID	Hydraulic Location	Installation Date	Resurvey Date	Northing (ft)[1]	Easting (ft)[1]	Top of Casing Elevation[2] (ft NAVD 88)	Total Depth (ft BTOC)	Top of Screen Elevation (ft NAVD 88)	Bottom of Screen Elevation (ft NAVD 88)
Monitoring Well Network									
MCM-01	Upgradient	7/7/2016	4/16/2020	443727.31	852732.08	8.63	27.32	-7.93	-17.93
MCM-02	Upgradient	7/6/2016	4/16/2020	444496.53	852663.64	11.25	27.35	-5.22	-15.22
MCM-04	Downgradient	6/30/2016	4/16/2020	444804.73	851695.27	12.39	28.57	-5.18	-15.18
MCM-05	Downgradient	7/9/2016	4/16/2020	444716.63	851309.91	10.04	28.05	-7.25	-17.25
MCM-06	Downgradient	7/8/2016	4/16/2020	444407.22	850782.11	10.15	27.20	-6.27	-16.27
MCM-07	Downgradient	7/8/2016	4/16/2020	444059.38	850195.96	10.20	23.75	-2.76	-12.76
MCM-08	Upgradient	7/11/2016	4/16/2020	443758.8	849716.96	9.42	28.29	-8.39	-18.39
MCM-11	Upgradient	7/12/2016	4/16/2020	442429.8	851072.91	10.23	24.00	-3.34	-13.34
MCM-12	Downgradient	7/12/2016	4/16/2020	442821.17	851312.45	11.87	29.00	-6.12	-16.12
MCM-14	Downgradient	7/9/2016	4/16/2020	443358.82	852317.59	11.50	28.11	-6.23	-16.23
MCM-15	Upgradient	6/30/2016	4/16/2020	444825.53	851949.02	12.84	26.60	-4.53	-14.53
MCM-16	Upgradient	7/6/2019	4/16/2020	444551.32	852716.6	16.02	28.39	-1.72	-11.72
MCM-17	Downgradient	9/29/2016	4/16/2020	443074.41	851899.68	11.49	27.44	-4.81	-14.81
MCM-18	Upgradient	10/30/2019	4/16/2020	442067.07	851698.41	9.00	27.86	-8.76	-18.76
MCM-19	Upgradient	10/30/2019	4/16/2020	441157.82	852338.86	8.71	28.32	-9.53	-19.53
MCM-20	Upgradient	10/30/2019	4/16/2020	440944.4	852185.15	10.07	23.05	-2.98	-12.98
DPZ-02	Vertical Delineation	3/10/2020	4/16/2020	444391.02	850757.94	9.54	43.46	-28.84	-33.84
Piezometer									
MCM-03	Water Level	7/6/2016	4/16/2020	444414.88	851984.67	9.97	27.70	-7.73	-17.73
MCM-08	Water Level	7/11/2016	4/16/2020	443758.8	849716.96	9.42	28.29	-8.39	-18.39
MCM-09	Water Level	7/10/2019	NA	443252.16	850147.75			Abandoned	
MCM-10	Water Level	7/11/2016	4/16/2020	442791.88	850453.05	11.75	23.96	-1.25	-11.25
MCM-13	Water Level	7/9/2016	4/16/2020	443030.23	851826.19	12.56	27.46	-4.90	-14.90
PZ-09	Water Level	10/31/2019	4/16/2020	444082.13	849471.64	9.41	24.05	-4.56	-14.56
PZ-10	Water Level	11/1/2019	4/16/2020	444949.09	851673.98	12.17	22.91	-0.66	-10.66
PZ-11	Water Level	11/22/2019	4/16/2020	443222.86	849280.51	9.37	19.08	-4.63	-9.63
PZ-12	Water Level	11/22/2019	4/16/2020	443593.34	849396.87	7.90	18.70	-5.72	-10.72
DPZ-01	Water Level	3/10/2020	4/16/2020	444695.71	851277.4	9.71	40.78	-25.99	-30.99
DPZ-03	Water Level	3/11/2020	4/16/2020	444073.16	850218.83	9.46	47.57	-33.03	-38.03
DPZ-04	Water Level	3/12/2020	4/16/2020	443062.6	851881.94	11.45	51.23	-34.70	-39.70
DPZ-05	Water Level	3/11/2020	4/16/2020	443376.32	852342.11	11.00	51.20	-35.12	-40.12
DPZ-06	Water Level	3/12/2020	4/16/2020	444614.79	851846.27	12.04	40.50	-23.38	-28.38

Notes:

1. Georgia State Plane - East Coordinates.
2. NAVD 88 - North American Vertical Datum of 1988

ft BTOC - feet below top of casing

Data source: Resolute 2020a

Table 2
Lithium in Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Location	Date	Lithium (mg/L)
Groundwater Protection Standards		
Federal GWPS	July 2021	0.04
State GWPS	July 2021	0.03
Groundwater		
MCM-14	3/2/2021	0.046 J
MCM-14	7/1/2021	< 0.010
Background Surface Water		
BG-1LT	3/2/2021	0.074 J
BG-2HT	3/3/2021	0.084 J
Surface Water Transects		
T1-1HT	3/2/2021	0.074 J
T1-1LT	3/4/2021	0.066 J
T1-2HT	3/2/2021	0.084 J
T1-2HTS	3/2/2021	0.072 J
T1-2LT	3/4/2021	0.063 J
T1-3HT	3/2/2021	0.077 J
T1-3HTS	3/2/2021	0.073 J
T1-3LT	3/4/2021	0.061 J
T1-4HT	3/2/2021	0.079 J
T1-4HTS	3/2/2021	0.072 J
T1-4LT	3/4/2021	0.067 J
T2-1HT	3/2/2021	0.068 J
T2-2HT	3/2/2021	0.070 J
T2-2HTS	3/2/2021	0.063 J
T2-2LT	3/4/2021	0.050 J
T2-3HT	3/2/2021	0.070 J
T2-3HTS	3/2/2021	0.062 J
T2-3LT	3/4/2021	0.055 J
T2-4HT	3/2/2021	0.065 J
T2-4HTS	3/2/2021	0.070 J
T2-4LT	3/4/2021	0.046 J
T3-1HT	3/2/2021	0.068 J
T3-2HT	3/2/2021	0.069 J
T3-2HTS	3/2/2021	0.063 J
T3-2LT	3/4/2021	0.043 J
T3-3HT	3/2/2021	0.069 J
T3-3HTS	3/2/2021	0.069 J
T3-3LT	3/4/2021	0.046 J
T3-4HT	3/2/2021	0.069 J
T3-4HTS	3/2/2021	0.110 J
T3-4LT	3/4/2021	0.055 J
T4-1L	3/3/2021	0.076 J
T4-2L	3/3/2021	0.066 J
T4-3L	3/3/2021	0.079 J

Table 2
Lithium in Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Location	Date	Lithium (mg/L)
T4-4L	3/3/2021	0.075 J
T4-1HS	3/3/2021	0.075 J
T4-2HS	3/3/2021	0.078 J
T4-3HS	3/3/2021	0.083 J
T4-4HS	3/3/2021	0.080 J
T4-1HB	3/3/2021	0.072 J
T4-2HB	3/3/2021	0.067 J
T4-3HB	3/3/2021	0.066 J
T4-4HB	3/3/2021	0.075 J

Abbreviations

GWPS- groundwater protection standards

HT- high tide

LT/L- low tide

HB - high tide bottom

HTS/HS - high tide surface

J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

mg/L- milligrams per liter

Table 3
March 2021 and July 2021 Result Summary of Select Wells and Background Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Analyte	Units	Surface Water				
		BG-1LT 3/2/2021	BG-2HT 3/3/2021	T4-1HB 3/3/2021	T4-1HS 3/3/2021	T4-1L 3/3/2021
Alkalinity (as calcium carbonate)	mg/L	83.6	92.4	84.5	85.2	82.4
Alkalinity (bicarbonate)	mg/L	83.6	92.4	84.5	85.2	82.4
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Boron	mg/L	2.3 J	2.4 J	1.8 J	2.0 J	1.9 J
Calcium	mg/L	157	178	112	133	104
Chloride	mg/L	6660	8060	7320	6780	6450
Fluoride	mg/L	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lithium	mg/L	0.074 J	0.084 J	0.072 J	0.075 J	0.076 J
Magnesium	mg/L	470	537	334	394	306
Potassium	mg/L	158	180	111	130	103
Sodium	mg/L	4130	4930	4410	4490	4390
Sulfate	mg/L	929	1150	1020	959	900
Total Dissolved Solids (TDS)	mg/L	16200	15900	13900	14300	13300

Notes:
-- = not sampled
< = analyte not detected in sample. Laboratory reporting limit provided.

mg/L = milligrams per liter

Full analytical data reports and summary tables for March 2021 samples can be found in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute, 2021)

Analytical reports and purge log for the July 2021 sample at MCM-14 is included as Appendix B of this report.

J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

Table 3
March 2021 and July 2021 Result Summary of Select Wells and Background Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Analyte	Units	Surface Water				
		T4-2HB 3/3/2021	T4-2HS 3/3/2021	T4-2L 3/3/2021	T4-3HB 3/3/2021	T4-3HS 3/3/2021
Alkalinity (as calcium carbonate)	mg/L	84.3	83.9	83.4	83.6	84.2
Alkalinity (bicarbonate)	mg/L	84.3	83.9	83.4	83.6	84.2
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Boron	mg/L	2.0 J	2.0 J	2.0 J	2.0 J	2.1 J
Calcium	mg/L	113	120	110	118	150
Chloride	mg/L	6850	7090	6620	6780	6910
Fluoride	mg/L	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Lithium	mg/L	0.067 J	0.078 J	0.066 J	0.066 J	0.083 J
Magnesium	mg/L	335	360	331	355	446
Potassium	mg/L	112	119	111	118	149
Sodium	mg/L	4430	4170	4420	4010	4150
Sulfate	mg/L	980	988	929	966	990
Total Dissolved Solids (TDS)	mg/L	14900	14600	13900	13900	13600

Notes:
-- = not sampled
< = analyte not detected in sample. Laboratory reporting limit provided.

mg/L = milligrams per liter

Full analytical data reports and summary tables for March 2021 samples can be found in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute, 2021)

Analytical reports and purge log for the July 2021 sample at MCM-14 is included as Appendix B of this report.

J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

Table 3
March 2021 and July 2021 Result Summary of Select Wells and Background Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Analyte	Units	Surface Water			
		T4-3L 3/3/2021	T4-4HB 3/3/2021	T4-4HS 3/3/2021	T4-4L 3/3/2021
Alkalinity (as calcium carbonate)	mg/L	86.0	87.1	75.8	87.9
Alkalinity (bicarbonate)	mg/L	86.0	87.1	75.8	87.9
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0	< 5.0
Boron	mg/L	2.0 J	2.1 J	2.1 J	2.0 J
Calcium	mg/L	125	114	156	158
Chloride	mg/L	6880	7070	7040	6860
Fluoride	mg/L	< 10.0	< 10.0	< 10.0	< 10.0
Lithium	mg/L	0.079 J	0.075 J	0.08 J	0.075 J
Magnesium	mg/L	368	343	465	468
Potassium	mg/L	123	114	156	158
Sodium	mg/L	4290	4090	4200	4210
Sulfate	mg/L	991	1020	1020	990
Total Dissolved Solids (TDS)	mg/L	13700	15500	13900	14400

Notes:
-- = not sampled
< = analyte not detected in sample. Laboratory reporting limit provided.
mg/L = milligrams per liter
Full analytical data reports and summary tables for March 2021 samples can be found in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute, 2021)
Analytical reports and purge log for the July 2021 sample at MCM-14 is included as Appendix B of this report.
J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

Table 3
March 2021 and July 2021 Result Summary of Select Wells and Background Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Analyte	Units	Groundwater			
		MCM-01 3/3/2021	MCM-02 3/3/2021	MCM-11 3/3/2021	MCM-12 3/2/2021
Alkalinity (as calcium carbonate)	mg/L	15.8	< 5.0	< 5.0	496 J
Alkalinity (bicarbonate)	mg/L	15.8	< 5.0	< 5.0	496
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0	< 5.0
Boron	mg/L	< 0.42	< 0.42	< 0.42	1.4 J
Calcium	mg/L	14.0	4.0	2.1	6.5
Chloride	mg/L	13.6	20.5	9.4	459
Fluoride	mg/L	< 0.050	< 0.050	0.082 J	1.0
Lithium	mg/L	< 0.025	< 0.025	< 0.025	< 0.025
Magnesium	mg/L	1.7	2.3	1.3	12.5
Potassium	mg/L	< 30.4 J	< 30.4	< 30.4	< 30.4
Sodium	mg/L	14.2 J	18.7 J	11.3 J	497
Sulfate	mg/L	33.8	27.6	19.9	1.2
Total Dissolved Solids (TDS)	mg/L	99	84	66	1430

Notes:
-- = not sampled
< = analyte not detected in sample. Laboratory reporting limit provided.
mg/L = milligrams per liter
Full analytical data reports and summary tables for March 2021 samples can be found in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute, 2021)
Analytical reports and purge log for the July 2021 sample at MCM-14 is included as Appendix B of this report.
J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

Table 3
March 2021 and July 2021 Result Summary of Select Wells and Background Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Analyte	Units	Groundwater				
		MCM-14 3/2/2021	MCM-14 7/1/2021	MCM-15 3/2/2021	MCM-16 3/3/2021	MCM-17 3/3/2021
Alkalinity (as calcium carbonate)	mg/L	170	263	< 5.0	10.7	407
Alkalinity (bicarbonate)	mg/L	170	263	< 5.0	10.7	407
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Boron	mg/L	1.4 J	0.26 J	< 0.42	< 0.085 J	1.7 J
Calcium	mg/L	205	231	1.4	11.2	143
Chloride	mg/L	5680	5960	4.2	27.6	< 0.60
Fluoride	mg/L	< 0.050	< 5.0	< 0.050	< 0.050	< 0.050
Lithium	mg/L	0.046 J	< 0.010	< 0.025	< 0.0050	< 0.025
Magnesium	mg/L	422	446	1.1	3.0	266
Potassium	mg/L	130	119	< 30.4	< 30.4	107
Sodium	mg/L	3320	3460 J	11.9 J	19.7 J	2650
Sulfate	mg/L	97.5	693.0	8.0	30.5	420
Total Dissolved Solids (TDS)	mg/L	12000	11200	40	122	8830

Notes:
-- = not sampled
< = analyte not detected in sample. Laboratory reporting limit provided.
mg/L = milligrams per liter
Full analytical data reports and summary tables for March 2021 samples can be found in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute, 2021)
Analytical reports and purge log for the July 2021 sample at MCM-14 is included as Appendix B of this report.
J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

Table 3
March 2021 and July 2021 Result Summary of Select Wells and Background Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Analyte	Units	Background Groundwater		
		MCM-18 3/3/2021	MCM-19 3/3/2021	MCM-20 3/3/2021
Alkalinity (as calcium carbonate)	mg/L	< 5.0 J	5.6	< 5.0 J
Alkalinity (bicarbonate)	mg/L	< 5.0	5.6	< 5.0
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0
Boron	mg/L	0.21 J	0.79 J	0.91 J
Calcium	mg/L	26	123	110
Chloride	mg/L	1230	5170	< 0.60
Fluoride	mg/L	0.32	< 0.050	< 0.050
Lithium	mg/L	< 0.0050	0.019 J	0.018 J
Magnesium	mg/L	86.5	377	334
Potassium	mg/L	< 30.4	52.6	68.2
Sodium	mg/L	792	3150	3360
Sulfate	mg/L	171	< 0.50	743
Total Dissolved Solids (TDS)	mg/L	2620	11000	11400

Notes:
-- = not sampled
< = analyte not detected in sample. Laboratory reporting limit provided.
mg/L = milligrams per liter
Full analytical data reports and summary tables for March 2021 samples can be found in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute, 2021)
Analytical reports and purge log for the July 2021 sample at MCM-14 is included as Appendix B of this report.
J- estimated concentation greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

Table 4
Single Well Hydraulic Conductivity Test Results
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Well ID	Slug In (cm/sec)	Slug Out (cm/sec)	Average K (cm/sec)
MCM-01	not reported	1.82E-03	1.82E-03
MCM-02	9.82E-04	1.08E-03	1.03E-03
MCM-04	4.65E-04	5.89E-04	5.27E-04
MCM-05	2.47E-03	2.92E-03	2.70E-03
MCM-06	not reported	1.86E-03	1.86E-03
MCM-07	not reported	1.85E-04	1.85E-04
MCM-08	2.44E-04	2.55E-04	2.49E-04
MCM-09	9.31E-05	8.04E-05	8.67E-05
MCM-10	1.89E-04	1.51E-04	1.70E-04
MCM-12	9.19E-05	9.89E-05	9.54E-05
MCM-13	not reported	9.59E-04	9.59E-04
MCM-14	not reported	2.88E-03	2.88E-03
MCM-15	1.61E-03	1.81E-03	1.71E-03
MCM-16	2.35E-03	2.56E-03	2.46E-03
MCM-17	2.35E-03	3.45E-03	2.90E-03
MCM-18	1.12E-03	1.07E-03	1.09E-03
MCM-19	9.73E-04	1.07E-03	1.02E-03
MCM-20	4.45E-04	2.81E-04	3.63E-04

Notes:

Hydraulic conductivity (K) is shown in units of centimeter per second (cm/sec).

Slug tests conducted in July and August of 2018.

Source:

Resolute Environmental & Water Resources Consulting. 2020. Hydrogeologic Assessment Report - Plant McManus Former Ash Pond 1. Prepared for Georgia Power. April 2020.

FIGURES

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- CCR PERMITTED BOUNDARY
- COMPLIANCE MONITORING WELL
- DEEP PIEZOMETER
- PIEZOMETER
- DELINEATION WELL
- DEWATERING WELLS

Note:
MCM-09 abandoned in 2019.

0 600 1,200
Feet
1 inch = 600 feet

GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

SITE LOCATION AND WELL LOCATION MAP

ARCADIS

FIGURE
1

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION

Note:
Aerial photos taken during coal ash removal activities by Aerial Innovations Southeast
Photo Dates:
I - November 2017; II - January 2018, III - March 2018, IV - May 2018.

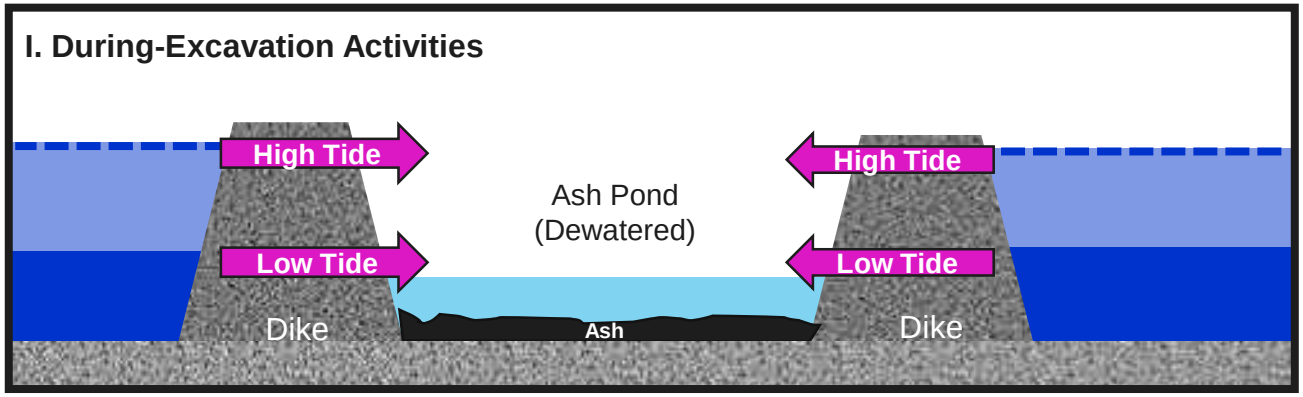
GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

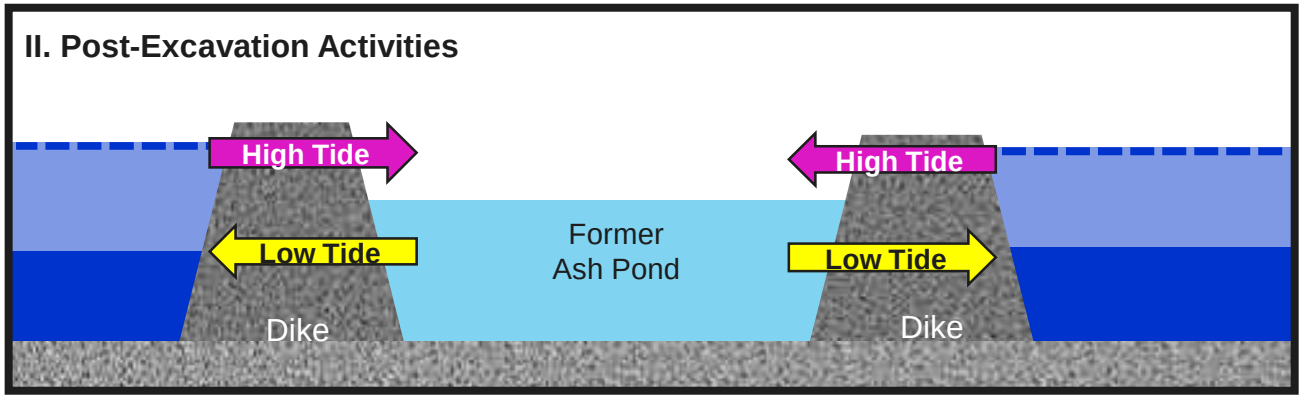
DEWATERING PROGRESSION AERIALS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION





Notes: not to scale, provided for illustrative purposes

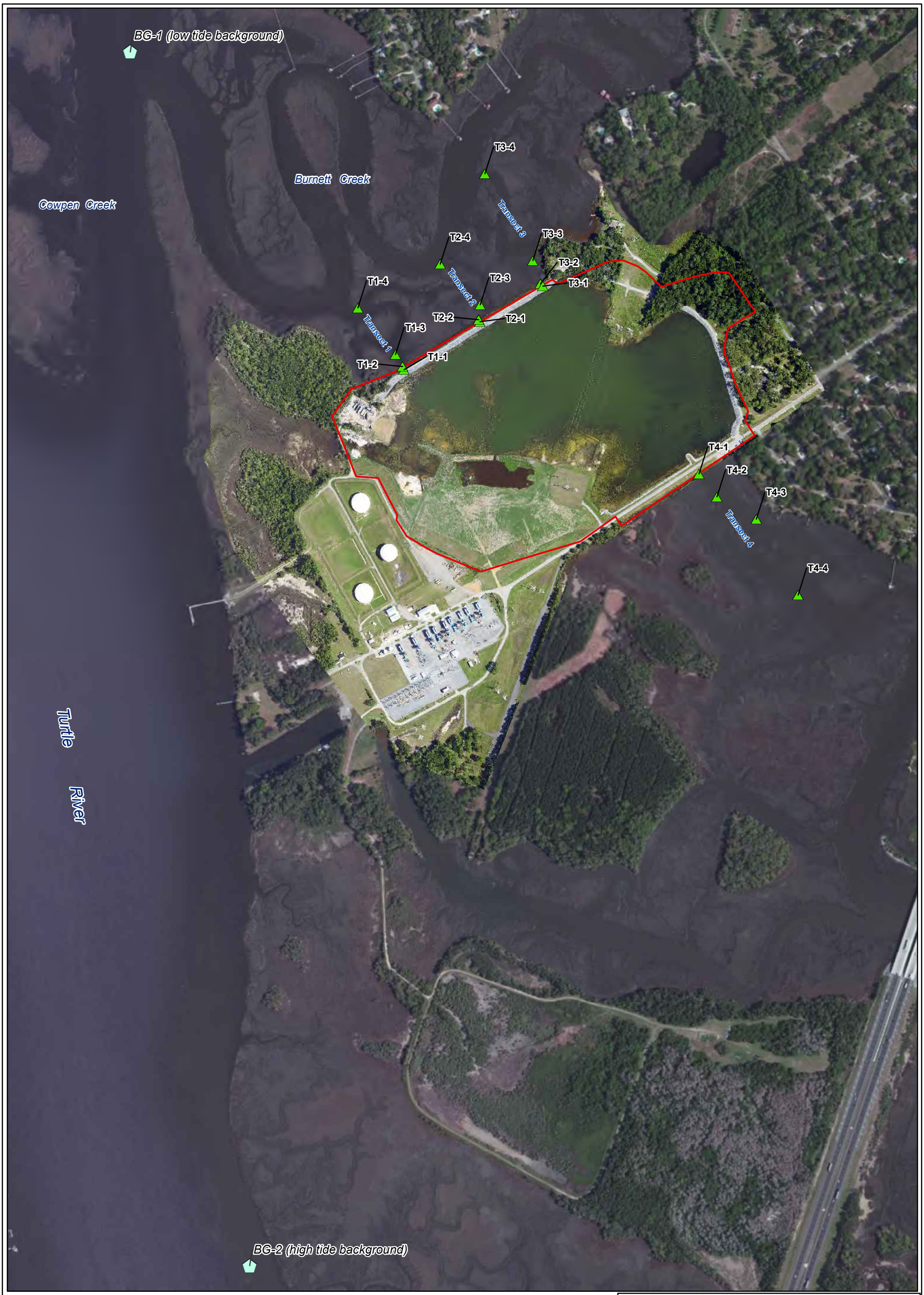
GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

SCHEMATIC: DEWATERING
HYDROLOGIC INFLUENCE

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION



Legend

- CCR PERMITTED BOUNDARY
- BACKGROUND SURFACE WATER SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION

Notes:
CCR - coal combustion residuals.
ASD - alternative source demonstration.
High tide and low tide samples collected at surface water sample location as shown on Table 2.

0 500
Feet

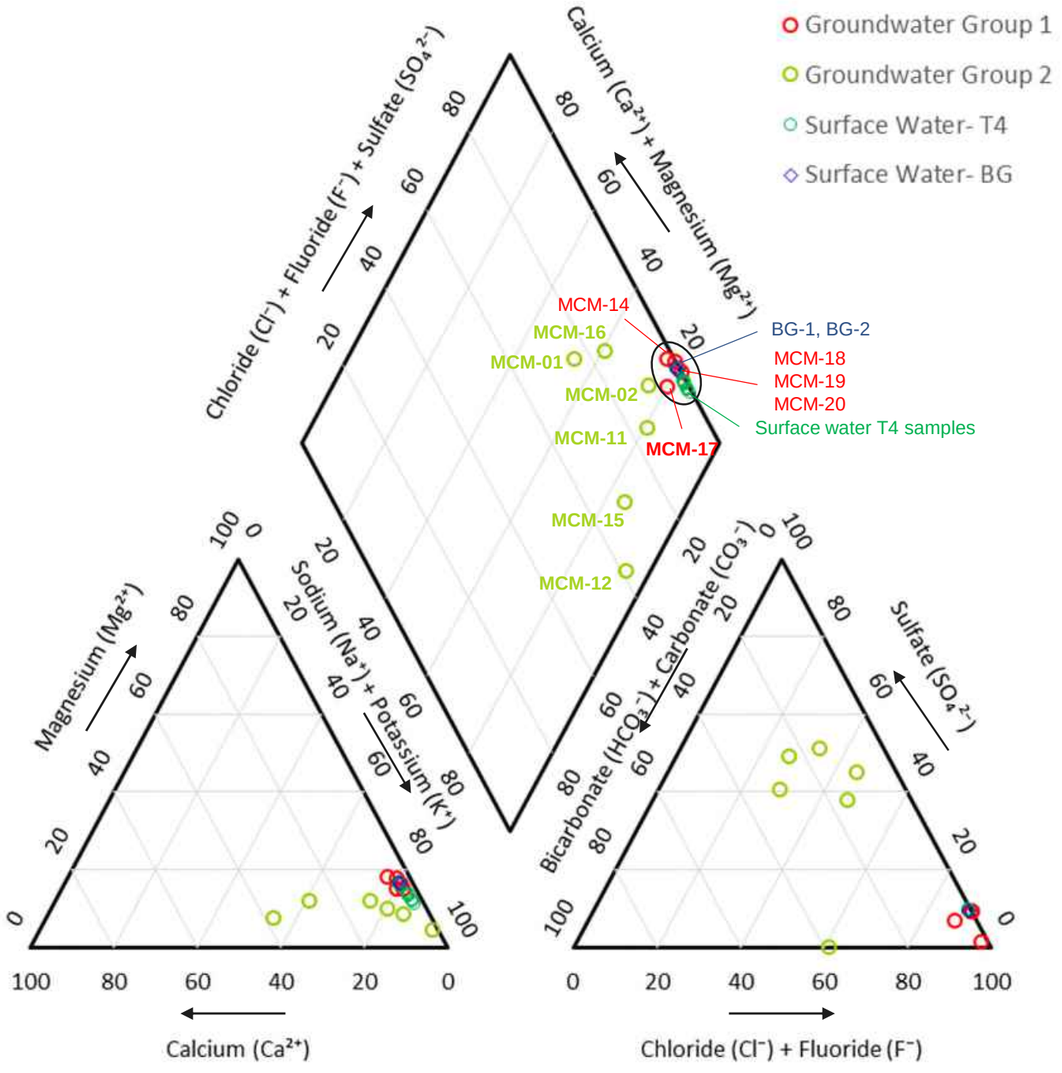
GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

ASD SURFACE WATER SAMPLE LOCATIONS (MARCH 2021)

ARCADIS

FIGURE
4

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION



Notes:
Units in mg/l
Data presented in Piper plot include those locations sampled during the March 2021 sampling event.
Service Layer Credit: Source Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

CCR PERMITTED BOUNDARY
SURFACE WATER SAMPLE LOCATIONS (JUNE 2020)
MONITORING WELLS
DEEP PIEZOMETER WELLS

0 600 1,200
Feet

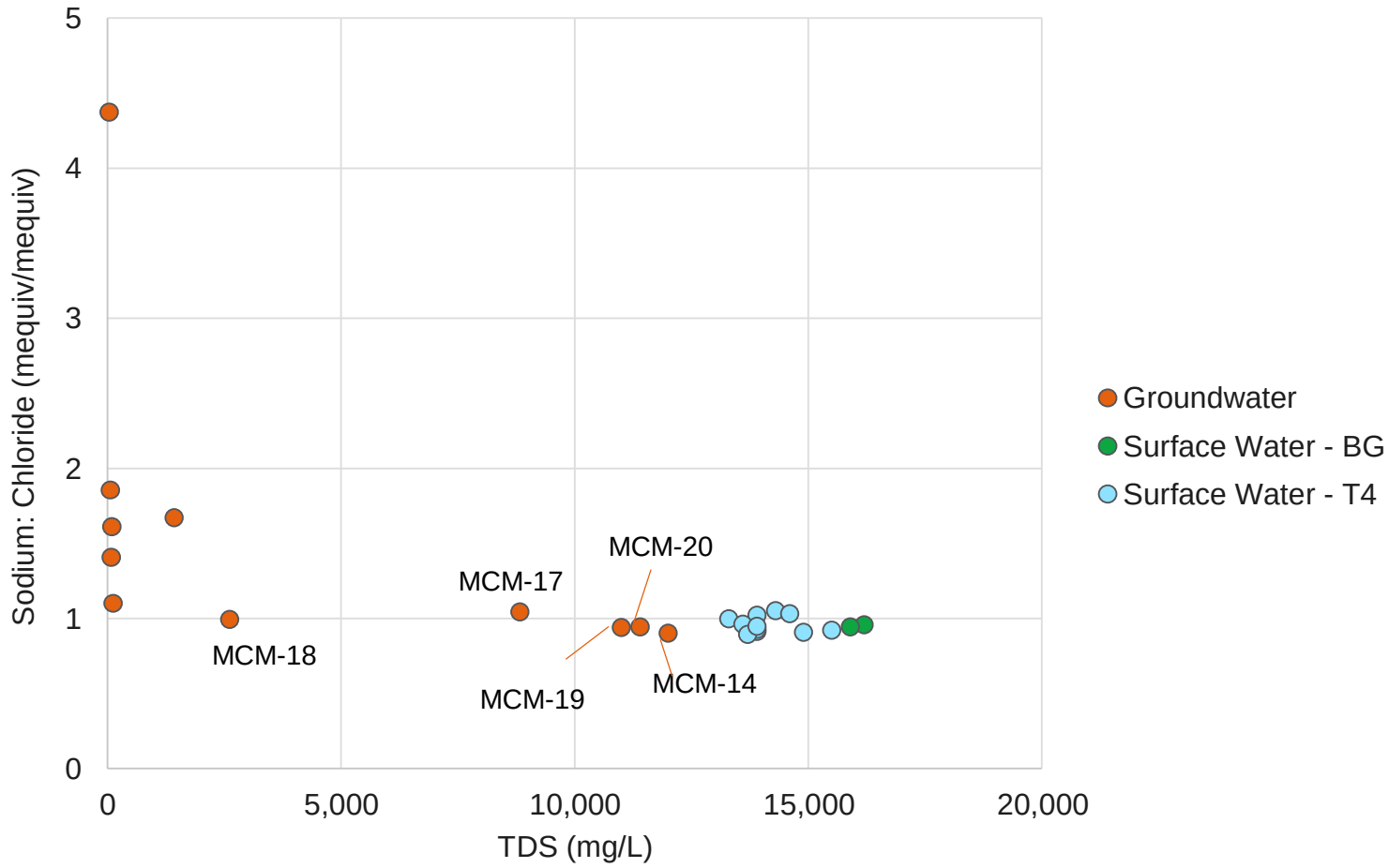
GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

SURFACE AND GROUNDWATER GEOCHEMISTRY

ARCADIS

FIGURE 5

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION



Notes
mequiv = milliequivalent
mg/L = milligrams per liter

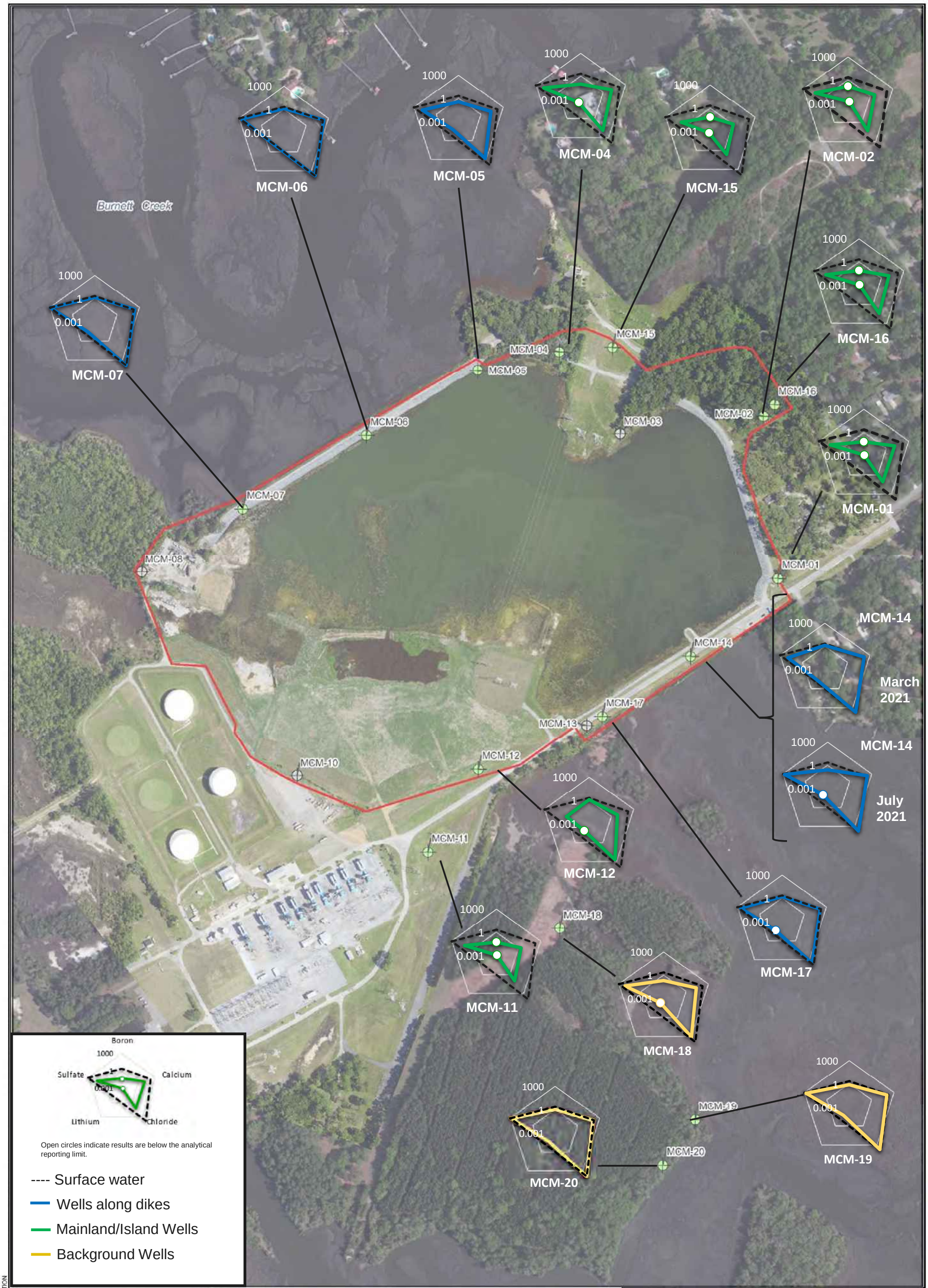
GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

SODIUM TO CHLORIDE RATIOS VERSUS TOTAL DISSOLVED SOLIDS

ARCADIS

FIGURE
6

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION



Legend

- CCR PERMITTED BOUNDARY
- MONITORING WELL
- PIEZOMETER

Note:
CCR – Coal combustion residual
Surface water sample BG-2HT collected March 2021 used for comparison.
Recent data presented collected during March 2021 and July 2021 sampling events. Data reported in Resolute 2021 (March 2021 Event) and Appendix B of this report (July 2021 Event).

0 325
Feet

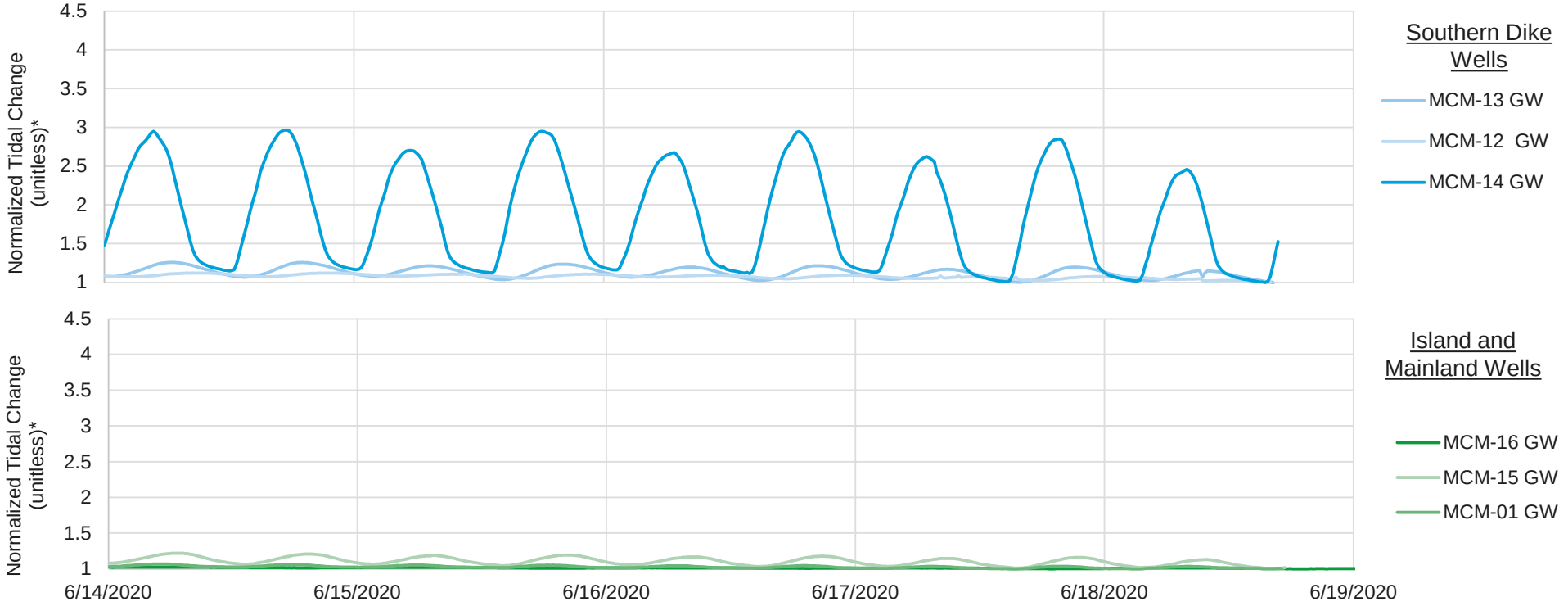
GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

ION COMPOSITION COMPARISON

ARCADIS

FIGURE 7

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION



Notes:
*Normalized Tidal Change determined by dividing water depth by minimum water depth over duration shown.
GW – Groundwater Depths, shown by solid lines
Data collected by Resolute Environmental and Water Resources Consulting June 2020.

GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

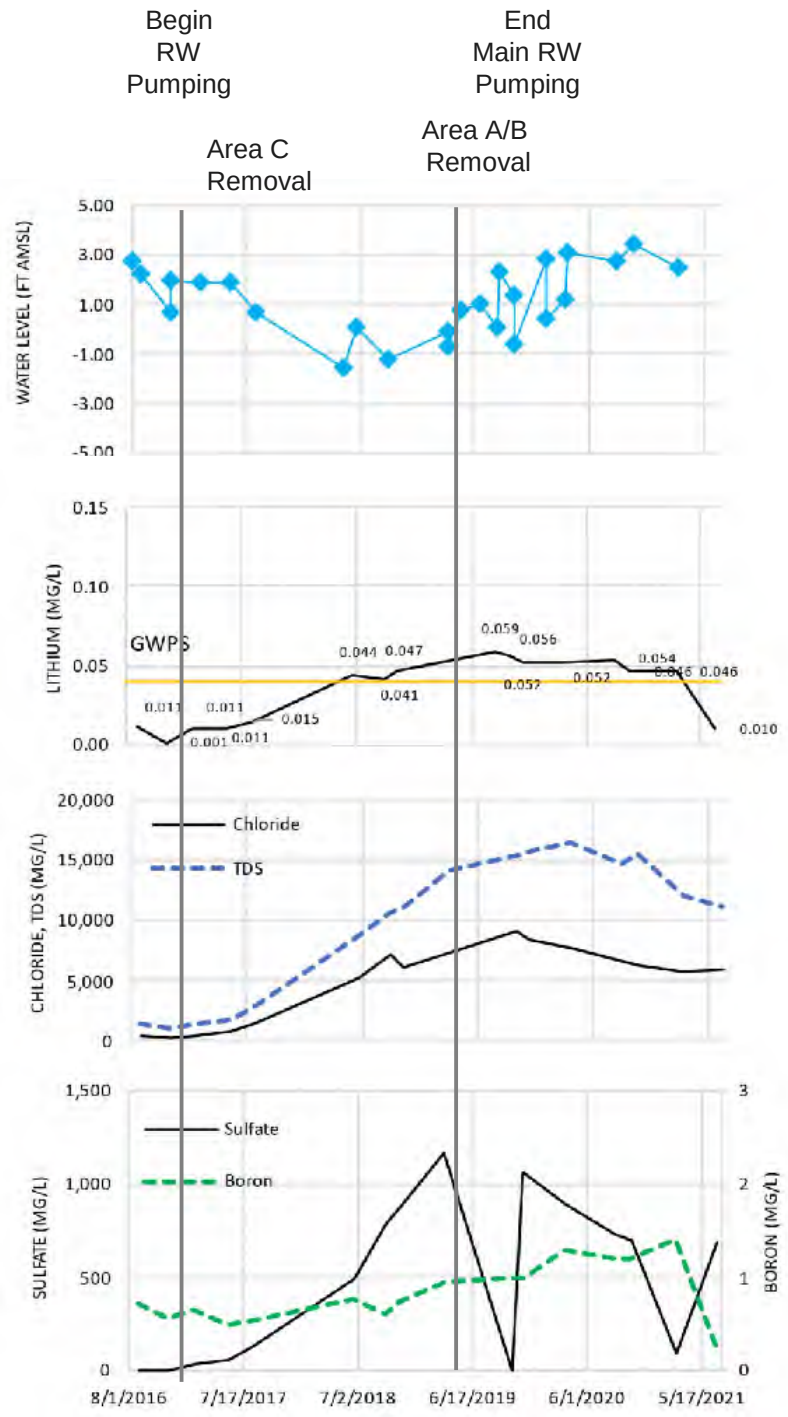
TIDAL INFLUENCE ON MONITORING WELLS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 8

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION

MCM-14



GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

CONCENTRATION TRENDS AT MCM-14

ARCADIS

FIGURE
9

2021 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION

APPENDIX A

Resolute Potentiometric Maps

N

0 250 500 1,000 1,500 2,000
Feet

Burnett Creek
-6.30

Turtle River
-6.30

Gibson Creek
-6.30

AP-1
2.07

PZ-10
3.01

MCM-04
3.11

MCM-15
4.01

MCM-05
1.51

MW-12
1.44

DPZ-06
3.26*

DPZ-01
1.47*

MCM-16
7.31

MCM-03
2.73

MCM-06
1.19

DPZ-02
1.26*

MCM-02
6.98

MW-11
0.75

PZ-09
3.32

MCM-07
1.98

MW-10
1.97

DPZ-03
1.66*

MCM-08
3.52

MCM-01
4.08

PZ-12
2.61

MCM-14
0.85

DPZ-05
1.96*

PZ-11
4.35

MCM-13
2.36

MCM-17
2.02

DPZ-04
1.92*

MCM-12
3.00

MCM-10
6.67

MCM-11
5.82

MCM-18
3.55

MCM-19
2.32

MCM-20
2.38

Legend

- Deep Piezometer
- Monitoring Well
- Piezometer
- Vertical Delineation Well
- Groundwater Potentiometric Contour
- Groundwater Flow Direction
- CCR Permitted Boundary

MCM-12 3.00 Groundwater Elevation (Monitoring Well)

MCM-08 3.52 Groundwater Elevation (Piezometer)

DPZ-01 1.47* Groundwater Elevation (Deep Piezometer)

DPZ-02 1.26* Groundwater Elevation (Vertical Delineation Well)

Notes:
Potentiometric surface elevations shown in ft NAVD 88.
*Deep piezometers not utilized for contouring. DPZ-02 has been reclassified as a vertical delineation welll.

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | May 2021

Plant McManus
Former AP-1
Potentiometric Surface Map
Low Tide March 1, 2021
Brunswick, GA

Figure

A-1

Document Path: C:\Users\resol\Resolute Environmental\RE_SP - Environmental\ArcGIS\McManus\2021\CCR\Annual Report\Figure 7 - Potentiometric Surface Map - Low Tide March 1, 2021.mxd

N

0 250 500 1,000 1,500 2,000
Feet

Burnett Creek
3.40

Turtle River
3.40

Gibson Creek
3.40

PZ-10
3.77

MCM-04
3.47

MCM-15
4.16

MCM-05
2.35

MW-12
2.35

DPZ-06
3.41*

DPZ-01
2.38*

MCM-16
7.51

MCM-03
2.88

MCM-06
1.94

DPZ-02
1.82*

MCM-02
7.18

MW-11
1.61

PZ-09
4.05

MCM-07
2.26

MW-10
2.32

DPZ-03
2.21*

MCM-08
4.07

AP-1
2.21

MCM-01
4.42

PZ-12
3.15

MCM-14
2.46

DPZ-05
3.21*

PZ-11
4.89

MW-03
2.84

MCM-17
2.29

DPZ-04
2.59*

MCM-13
2.35

MCM-12
3.13

MCM-10
7.11

MW-04
2.83

MCM-11
6.50

MCM-18
3.56

MCM-19
2.89

MCM-20
3.84

Legend

- Deep Piezometer
- Monitoring Well
- Piezometer
- Vertical Delineation Well
- Groundwater Potentiometric Contour
- Groundwater Flow Direction
- CCR Permitted Boundary

MCM-12 3.13 Groundwater Elevation (Monitoring Well)

MCM-08 4.07 Groundwater Elevation (Piezometer)

DPZ-01 2.38* Groundwater Elevation (Deep Piezometer)

DPZ-02 1.82* Groundwater Elevation (Vertical Delineation Well)

Notes:
Potentiometric surface elevations shown in ft NAVD 88.
*Deep piezometers not utilized for contouring. DPZ-02 has been reclassified as a vertical delineation welll.

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | May 2021

Plant McManus
Former AP-1
Potentiometric Surface Map
High Tide March 5, 2021
Brunswick, GA

Figure
A-2

Document Path: C:\Users\resol\Resolute Environmental\RE_SP - Environmental\ArcGIS\McManus\2021\CCR\Annual Report\Figure 9 - Potentiometric Surface Map - High Tide March 5, 2021.mxd

N

0 125 250 500 750 1,000

Feet

MCM-04 -1.37

MCM-15 -0.32

MCM-05 -4.51

MCM-16 4.51

MCM-02 3.60

TPZ-2 2.19

MCM-06 -3.25

MCM-03 -3.39

TPZ-3 -6.56

MCM-07 0.41

TPZ-5 -6.56

MCM-08 2.50

MCM-01 1.16

TPZ-4 -3.79

MCM-14 -1.03

TPZ-1 3.02

MCM-09 2.37

MCM-13 -0.21

MCM-17 -0.34

MCM-12 0.35

MCM-10 4.95

MCM-11 4.10

Legend

- Monitoring Well
- Piezometer
- Groundwater Flow
- Groundwater Contours
- CCR Permitted Boundary

MCM-07 0.41 Groundwater Elevation (Monitoring Well)

MW-10 0.54 Groundwater Elevation (Piezometer)

Notes:
Potentiometric surface elevations shown in ft NAVD 88.

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | August 2019

Plant McManus
Former AP-1
Potentiometric Surface Map
High Tide
March 26, 2019
Brunswick, GA

Figure

A-3

N

0 125 250 500 750 1,000

Feet

MCM-04 -1.66

MCM-15 -0.40

MCM-05 -4.93

TPZ-2 -1.30

MCM-06 -3.59

TPZ-3 -6.48

MCM-03 -3.33

MCM-16 4.52

MCM-02 3.62

MCM-07 0.27

TPZ-5 -6.14

MCM-08 2.66

MCM-01 1.08

TPZ-4 -3.82

MCM-14 -1.66

TPZ-1 -0.10

MCM-09 2.27

MCM-13 -0.17

MCM-17 -0.43

MCM-12 0.59

MCM-10 4.77

MCM-11 4.06

Legend

- Monitoring Well
- Piezometer
- Groundwater Flow
- Groundwater Contours
- CCR Permitted Boundary

MCM-07 0.41 Groundwater Elevation (Monitoring Well)

MW-10 0.54 Groundwater Elevation (Piezometer)

Notes:
Potentiometric surface elevations shown in ft NAVD 88.

Resolute
Environmental & Water Resources Consulting

Woodstock, GA | August 2019

Plant McManus
Former AP-1
Potentiometric Surface Map
Low Tide
March 27, 2019
Brunswick, GA

Figure

A-4

APPENDIX B

Sampling Log and Analytical Reports

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

October 19, 2021

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

RE: Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 06, 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

This revision was issued on 9/8/21 to update the chloride results for samples "MCM-17" (92526099-005) and "MCM-20" (92526099-008).

This revision was issued on 10/19/21 to report all requested metals by 6010 and 6020, per client request.

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

Sincerely,

Nicole D'Oleo

Nicole D'Oleo for
Kevin Herring
kevin.herring@pacelabs.com
1(704)875-9092
HORIZON Database Administrator

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

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

CERTIFICATIONS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526099001	**MCM-01**	Water	03/03/21 15:04	03/06/21 11:15
92526099002	**MCM-02**	Water	03/03/21 16:10	03/06/21 11:15
92526099003	**MCM-11**	Water	03/03/21 13:35	03/06/21 11:15
92526099004	**MCM-16**	Water	03/03/21 12:46	03/06/21 11:15
92526099005	**MCM-17**	Water	03/03/21 10:48	03/06/21 11:15
92526099006	**MCM-18**	Water	03/03/21 14:57	03/06/21 11:15
92526099007	**MCM-19**	Water	03/03/21 10:38	03/06/21 11:15
92526099008	**MCM-20**	Water	03/03/21 11:24	03/06/21 11:15
92526099009	**FB-2**	Water	03/03/21 16:42	03/06/21 11:15
92526099010	**EB-1**	Water	03/03/21 16:41	03/06/21 11:15

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SAMPLE ANALYTE COUNT

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526099001	**MCM-01**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099002	**MCM-02**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099003	**MCM-11**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099004	**MCM-16**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099005	**MCM-17**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099006	**MCM-18**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099007	**MCM-19**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099008	**MCM-20**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A

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(770)734-4200

SAMPLE ANALYTE COUNT

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099009	**FB-2**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92526099010	**EB-1**	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

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Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92526099001	**MCM-01**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	5.81	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	14.0	mg/L	1.0	03/13/21 01:14	
EPA 6010D	Magnesium	1.7	mg/L	1.0	03/13/21 01:14	
EPA 6010D	Sodium	14.2J	mg/L	50.0	03/13/21 01:14	
EPA 6020B	Arsenic	0.016J	mg/L	0.050	03/11/21 13:34	
EPA 6020B	Barium	0.14	mg/L	0.050	03/11/21 13:34	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	15.8	mg/L	5.0	03/12/21 13:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	15.8	mg/L	5.0	03/12/21 13:57	
SM 2540C-2011	Total Dissolved Solids	99.0	mg/L	25.0	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	13.6	mg/L	1.0	03/08/21 07:11	
EPA 300.0 Rev 2.1 1993	Sulfate	33.8	mg/L	1.0	03/08/21 07:11	
92526099002	**MCM-02**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	5.06	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	4.0	mg/L	1.0	03/13/21 01:27	
EPA 6010D	Magnesium	2.3	mg/L	1.0	03/13/21 01:27	
EPA 6010D	Sodium	18.7J	mg/L	50.0	03/13/21 01:27	
EPA 6020B	Barium	0.21	mg/L	0.050	03/11/21 13:37	
SM 2540C-2011	Total Dissolved Solids	84.0	mg/L	25.0	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	20.5	mg/L	1.0	03/08/21 07:26	
EPA 300.0 Rev 2.1 1993	Sulfate	27.6	mg/L	1.0	03/08/21 07:26	
92526099003	**MCM-11**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	5.07	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	2.1	mg/L	1.0	03/13/21 01:30	
EPA 6010D	Magnesium	1.3	mg/L	1.0	03/13/21 01:30	
EPA 6010D	Sodium	11.3J	mg/L	50.0	03/13/21 01:30	
EPA 6020B	Arsenic	0.011J	mg/L	0.050	03/11/21 13:41	
EPA 6020B	Barium	0.090	mg/L	0.050	03/11/21 13:41	
SM 2540C-2011	Total Dissolved Solids	66.0	mg/L	25.0	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	9.4	mg/L	1.0	03/08/21 07:40	
EPA 300.0 Rev 2.1 1993	Fluoride	0.082J	mg/L	0.10	03/08/21 07:40	
EPA 300.0 Rev 2.1 1993	Sulfate	19.9	mg/L	1.0	03/08/21 07:40	
92526099004	**MCM-16**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	5.71	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	11.2	mg/L	1.0	03/13/21 01:34	
EPA 6010D	Magnesium	3.0	mg/L	1.0	03/13/21 01:34	
EPA 6010D	Sodium	19.7J	mg/L	50.0	03/13/21 01:34	
EPA 6020B	Arsenic	0.0012J	mg/L	0.010	03/22/21 14:36	
EPA 6020B	Barium	0.059	mg/L	0.010	03/22/21 14:36	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	10.7	mg/L	5.0	03/12/21 14:30	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92526099004	**MCM-16**					
SM 2320B-2011	Alkalinity, Total as CaCO3	10.7	mg/L	5.0	03/12/21 14:30	
SM 2540C-2011	Total Dissolved Solids	122	mg/L	25.0	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	27.6	mg/L	1.0	03/08/21 07:55	
EPA 300.0 Rev 2.1 1993	Sulfate	30.5	mg/L	1.0	03/08/21 07:55	
92526099005	**MCM-17**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	6.58	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	143	mg/L	1.0	03/13/21 01:50	
EPA 6010D	Magnesium	266	mg/L	1.0	03/13/21 01:50	
EPA 6010D	Potassium	107	mg/L	50.0	03/13/21 01:50	
EPA 6010D	Sodium	2650	mg/L	500	03/13/21 00:15	
EPA 6020B	Barium	0.17	mg/L	0.050	03/22/21 14:49	
EPA 6020B	Boron	1.7J	mg/L	2.5	03/22/21 14:49	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	407	mg/L	5.0	03/12/21 20:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	407	mg/L	5.0	03/12/21 20:02	
SM 2540C-2011	Total Dissolved Solids	8830	mg/L	833	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	3920	mg/L	100	03/08/21 17:46	
EPA 300.0 Rev 2.1 1993	Fluoride	0.58J	mg/L	0.90	03/08/21 14:24	
EPA 300.0 Rev 2.1 1993	Sulfate	420	mg/L	9.0	03/08/21 14:24	
92526099006	**MCM-18**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	4.37	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	26.0	mg/L	1.0	03/13/21 01:53	
EPA 6010D	Magnesium	86.5	mg/L	1.0	03/13/21 01:53	
EPA 6010D	Sodium	792	mg/L	50.0	03/13/21 01:53	
EPA 6020B	Arsenic	0.0014J	mg/L	0.010	03/22/21 14:53	
EPA 6020B	Barium	0.099	mg/L	0.010	03/22/21 14:53	
EPA 6020B	Beryllium	0.0030	mg/L	0.0010	03/22/21 14:53	
EPA 6020B	Boron	0.21J	mg/L	0.50	03/22/21 14:53	
EPA 6020B	Selenium	0.0012J	mg/L	0.020	03/22/21 14:53	
SM 2540C-2011	Total Dissolved Solids	2620	mg/L	417	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	1230	mg/L	27.0	03/08/21 14:38	
EPA 300.0 Rev 2.1 1993	Fluoride	0.32	mg/L	0.10	03/08/21 08:24	
EPA 300.0 Rev 2.1 1993	Sulfate	171	mg/L	27.0	03/08/21 14:38	
92526099007	**MCM-19**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	5.10	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	123	mg/L	1.0	03/13/21 01:57	
EPA 6010D	Magnesium	377	mg/L	1.0	03/13/21 01:57	
EPA 6010D	Potassium	52.6	mg/L	50.0	03/13/21 01:57	
EPA 6010D	Sodium	3150	mg/L	500	03/13/21 00:28	
EPA 6020B	Arsenic	0.0086J	mg/L	0.020	03/22/21 14:56	
EPA 6020B	Barium	0.14	mg/L	0.020	03/22/21 14:56	

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

SUMMARY OF DETECTION

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92526099007	**MCM-19**					
EPA 6020B	Beryllium	0.015	mg/L	0.0020	03/22/21 14:56	
EPA 6020B	Boron	0.79J	mg/L	1.0	03/22/21 14:56	
EPA 6020B	Lithium	0.019J	mg/L	0.050	03/22/21 14:56	
EPA 6020B	Selenium	0.013J	mg/L	0.040	03/22/21 14:56	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	5.6	mg/L	5.0	03/12/21 15:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	5.6	mg/L	5.0	03/12/21 15:01	
SM 2540C-2011	Total Dissolved Solids	11000	mg/L	1250	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	5170	mg/L	100	03/08/21 18:00	
EPA 300.0 Rev 2.1 1993	Sulfate	708	mg/L	11.0	03/08/21 15:21	
92526099008	**MCM-20**					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	3.36	Std. Units		03/11/21 14:01	
EPA 6010D	Calcium	110	mg/L	1.0	03/13/21 02:00	
EPA 6010D	Magnesium	334	mg/L	1.0	03/13/21 02:00	
EPA 6010D	Potassium	68.2	mg/L	50.0	03/13/21 02:00	
EPA 6010D	Sodium	3360	mg/L	500	03/13/21 00:32	
EPA 6020B	Arsenic	0.016J	mg/L	0.020	03/22/21 14:59	
EPA 6020B	Barium	0.12	mg/L	0.020	03/22/21 14:59	
EPA 6020B	Beryllium	0.014	mg/L	0.0020	03/22/21 14:59	
EPA 6020B	Boron	0.91J	mg/L	1.0	03/22/21 14:59	
EPA 6020B	Cobalt	0.033	mg/L	0.020	03/22/21 14:59	
EPA 6020B	Lithium	0.018J	mg/L	0.050	03/22/21 14:59	
EPA 6020B	Selenium	0.0094J	mg/L	0.040	03/22/21 14:59	
SM 2540C-2011	Total Dissolved Solids	11400	mg/L	2500	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	5500	mg/L	100	03/08/21 15:35	
EPA 300.0 Rev 2.1 1993	Sulfate	743	mg/L	100	03/08/21 15:35	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-01 **Lab ID: 92526099001** Collected: 03/03/21 15:04 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**5.81**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**14.0**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:14	7440-70-2	
Magnesium	**1.7**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:14	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:14	7440-09-7	M6
Sodium	**14.2J**	mg/L	50.0	6.1	10	03/09/21 01:10	03/13/21 01:14	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.016J**	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 13:34	7440-38-2	
Barium	**0.14**	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:34	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:34	7440-41-7	
Boron	ND	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:34	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:34	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:34	7439-92-1	
Lithium	ND	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:34	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:34	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**15.8**	mg/L	5.0	5.0	1		03/12/21 13:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 13:57		
Alkalinity, Total as CaCO3	**15.8**	mg/L	5.0	5.0	1		03/12/21 13:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**99.0**	mg/L	25.0	25.0	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**13.6**	mg/L	1.0	0.60	1		03/08/21 07:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 07:11	16984-48-8	
Sulfate	**33.8**	mg/L	1.0	0.50	1		03/08/21 07:11	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-02 **Lab ID: 92526099002** Collected: 03/03/21 16:10 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**5.06**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**4.0**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:27	7440-70-2	
Magnesium	**2.3**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:27	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:27	7440-09-7	
Sodium	**18.7J**	mg/L	50.0	6.1	10	03/09/21 01:10	03/13/21 01:27	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 13:37	7440-38-2	
Barium	**0.21**	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:37	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:37	7440-41-7	
Boron	ND	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:37	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:37	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:37	7439-92-1	
Lithium	ND	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:37	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:37	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:22		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 14:22		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**84.0**	mg/L	25.0	25.0	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**20.5**	mg/L	1.0	0.60	1		03/08/21 07:26	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 07:26	16984-48-8	
Sulfate	**27.6**	mg/L	1.0	0.50	1		03/08/21 07:26	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-11 **Lab ID: 92526099003** Collected: 03/03/21 13:35 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**5.07**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**2.1**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:30	7440-70-2	
Magnesium	**1.3**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:30	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:30	7440-09-7	
Sodium	**11.3J**	mg/L	50.0	6.1	10	03/09/21 01:10	03/13/21 01:30	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.011J**	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 13:41	7440-38-2	
Barium	**0.090**	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:41	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:41	7440-41-7	
Boron	ND	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:41	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:41	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:41	7439-92-1	
Lithium	ND	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:41	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:41	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:27		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:27		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 14:27		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**66.0**	mg/L	25.0	25.0	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**9.4**	mg/L	1.0	0.60	1		03/08/21 07:40	16887-00-6	
Fluoride	**0.082J**	mg/L	0.10	0.050	1		03/08/21 07:40	16984-48-8	
Sulfate	**19.9**	mg/L	1.0	0.50	1		03/08/21 07:40	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-16 **Lab ID: 92526099004** Collected: 03/03/21 12:46 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**5.71**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**11.2**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:34	7440-70-2	
Magnesium	**3.0**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:34	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:34	7440-09-7	
Sodium	**19.7J**	mg/L	50.0	6.1	10	03/09/21 01:10	03/13/21 01:34	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0012J**	mg/L	0.010	0.00087	10	03/09/21 01:07	03/22/21 14:36	7440-38-2	
Barium	**0.059**	mg/L	0.010	0.0021	10	03/09/21 01:07	03/22/21 14:36	7440-39-3	
Beryllium	ND	mg/L	0.0010	0.00050	10	03/09/21 01:07	03/22/21 14:36	7440-41-7	
Boron	ND	mg/L	0.50	0.085	10	03/09/21 01:07	03/22/21 14:36	7440-42-8	M6
Cobalt	ND	mg/L	0.010	0.00050	10	03/09/21 01:07	03/22/21 14:36	7440-48-4	
Lead	ND	mg/L	0.010	0.00077	10	03/09/21 01:07	03/22/21 14:36	7439-92-1	
Lithium	ND	mg/L	0.025	0.0050	10	03/09/21 01:07	03/22/21 14:36	7439-93-2	
Selenium	ND	mg/L	0.020	0.00072	10	03/09/21 01:07	03/22/21 14:36	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**10.7**	mg/L	5.0	5.0	1		03/12/21 14:30		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:30		
Alkalinity, Total as CaCO3	**10.7**	mg/L	5.0	5.0	1		03/12/21 14:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**122**	mg/L	25.0	25.0	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**27.6**	mg/L	1.0	0.60	1		03/08/21 07:55	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 07:55	16984-48-8	
Sulfate	**30.5**	mg/L	1.0	0.50	1		03/08/21 07:55	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-17 **Lab ID: 92526099005** Collected: 03/03/21 10:48 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**6.58**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**143**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:50	7440-70-2	
Magnesium	**266**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:50	7439-95-4	
Potassium	**107**	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:50	7440-09-7	
Sodium	**2650**	mg/L	500	61.1	100	03/09/21 01:10	03/13/21 00:15	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.050	0.0043	50	03/09/21 01:07	03/22/21 14:49	7440-38-2	
Barium	**0.17**	mg/L	0.050	0.011	50	03/09/21 01:07	03/22/21 14:49	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/22/21 14:49	7440-41-7	
Boron	**1.7J**	mg/L	2.5	0.42	50	03/09/21 01:07	03/22/21 14:49	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/22/21 14:49	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/22/21 14:49	7439-92-1	
Lithium	ND	mg/L	0.12	0.025	50	03/09/21 01:07	03/22/21 14:49	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/22/21 14:49	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**407**	mg/L	5.0	5.0	1		03/12/21 20:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 20:02		
Alkalinity, Total as CaCO3	**407**	mg/L	5.0	5.0	1		03/12/21 20:02		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**8830**	mg/L	833	833	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**3920**	mg/L	100	60.0	100		03/08/21 17:46	16887-00-6	
Fluoride	**0.58J**	mg/L	0.90	0.45	9		03/08/21 14:24	16984-48-8	
Sulfate	**420**	mg/L	9.0	4.5	9		03/08/21 14:24	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-18 **Lab ID: 92526099006** Collected: 03/03/21 14:57 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**4.37**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**26.0**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:53	7440-70-2	
Magnesium	**86.5**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:53	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:53	7440-09-7	
Sodium	**792**	mg/L	50.0	6.1	10	03/09/21 01:10	03/13/21 01:53	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0014J**	mg/L	0.010	0.00087	10	03/09/21 01:07	03/22/21 14:53	7440-38-2	
Barium	**0.099**	mg/L	0.010	0.0021	10	03/09/21 01:07	03/22/21 14:53	7440-39-3	
Beryllium	**0.0030**	mg/L	0.0010	0.00050	10	03/09/21 01:07	03/22/21 14:53	7440-41-7	
Boron	**0.21J**	mg/L	0.50	0.085	10	03/09/21 01:07	03/22/21 14:53	7440-42-8	
Cobalt	ND	mg/L	0.010	0.00050	10	03/09/21 01:07	03/22/21 14:53	7440-48-4	
Lead	ND	mg/L	0.010	0.00077	10	03/09/21 01:07	03/22/21 14:53	7439-92-1	
Lithium	ND	mg/L	0.025	0.0050	10	03/09/21 01:07	03/22/21 14:53	7439-93-2	
Selenium	**0.0012J**	mg/L	0.020	0.00072	10	03/09/21 01:07	03/22/21 14:53	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:46		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 14:46		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 14:46		M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**2620**	mg/L	417	417	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**1230**	mg/L	27.0	16.2	27		03/08/21 14:38	16887-00-6	
Fluoride	**0.32**	mg/L	0.10	0.050	1		03/08/21 08:24	16984-48-8	
Sulfate	**171**	mg/L	27.0	13.5	27		03/08/21 14:38	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-19 **Lab ID: 92526099007** Collected: 03/03/21 10:38 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**5.10**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**123**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 01:57	7440-70-2	
Magnesium	**377**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 01:57	7439-95-4	
Potassium	**52.6**	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 01:57	7440-09-7	
Sodium	**3150**	mg/L	500	61.1	100	03/09/21 01:10	03/13/21 00:28	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.0086J**	mg/L	0.020	0.0017	20	03/09/21 01:07	03/22/21 14:56	7440-38-2	
Barium	**0.14**	mg/L	0.020	0.0043	20	03/09/21 01:07	03/22/21 14:56	7440-39-3	
Beryllium	**0.015**	mg/L	0.0020	0.0010	20	03/09/21 01:07	03/22/21 14:56	7440-41-7	
Boron	**0.79J**	mg/L	1.0	0.17	20	03/09/21 01:07	03/22/21 14:56	7440-42-8	
Cobalt	ND	mg/L	0.020	0.0010	20	03/09/21 01:07	03/22/21 14:56	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	03/09/21 01:07	03/22/21 14:56	7439-92-1	
Lithium	**0.019J**	mg/L	0.050	0.010	20	03/09/21 01:07	03/22/21 14:56	7439-93-2	
Selenium	**0.013J**	mg/L	0.040	0.0014	20	03/09/21 01:07	03/22/21 14:56	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**5.6**	mg/L	5.0	5.0	1		03/12/21 15:01		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 15:01		
Alkalinity, Total as CaCO3	**5.6**	mg/L	5.0	5.0	1		03/12/21 15:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11000**	mg/L	1250	1250	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5170**	mg/L	100	60.0	100		03/08/21 18:00	16887-00-6	
Fluoride	ND	mg/L	1.1	0.55	11		03/08/21 15:21	16984-48-8	
Sulfate	**708**	mg/L	11.0	5.5	11		03/08/21 15:21	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: MCM-20 **Lab ID: 92526099008** Collected: 03/03/21 11:24 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		03/11/21 14:01		
pH	**3.36**	Std. Units			1		03/11/21 14:01		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**110**	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:00	7440-70-2	
Magnesium	**334**	mg/L	1.0	0.68	10	03/09/21 01:10	03/13/21 02:00	7439-95-4	
Potassium	**68.2**	mg/L	50.0	30.4	10	03/09/21 01:10	03/13/21 02:00	7440-09-7	
Sodium	**3360**	mg/L	500	61.1	100	03/09/21 01:10	03/13/21 00:32	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.016J**	mg/L	0.020	0.0017	20	03/09/21 01:07	03/22/21 14:59	7440-38-2	
Barium	**0.12**	mg/L	0.020	0.0043	20	03/09/21 01:07	03/22/21 14:59	7440-39-3	
Beryllium	**0.014**	mg/L	0.0020	0.0010	20	03/09/21 01:07	03/22/21 14:59	7440-41-7	
Boron	**0.91J**	mg/L	1.0	0.17	20	03/09/21 01:07	03/22/21 14:59	7440-42-8	
Cobalt	**0.033**	mg/L	0.020	0.0010	20	03/09/21 01:07	03/22/21 14:59	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	03/09/21 01:07	03/22/21 14:59	7439-92-1	
Lithium	**0.018J**	mg/L	0.050	0.010	20	03/09/21 01:07	03/22/21 14:59	7439-93-2	
Selenium	**0.0094J**	mg/L	0.040	0.0014	20	03/09/21 01:07	03/22/21 14:59	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 16:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 16:51		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 16:51		M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11400**	mg/L	2500	2500	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5500**	mg/L	100	60.0	100		03/08/21 15:35	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 09:36	16984-48-8	
Sulfate	**743**	mg/L	100	50.0	100		03/08/21 15:35	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: FB-2 **Lab ID: 92526099009** Collected: 03/03/21 16:42 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	03/09/21 01:10	03/13/21 00:35	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	03/09/21 01:10	03/13/21 00:35	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	03/09/21 01:10	03/13/21 00:35	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	03/09/21 01:10	03/13/21 00:35	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0010	0.000087	1	03/09/21 01:07	03/16/21 13:29	7440-38-2	
Barium	ND	mg/L	0.0010	0.00021	1	03/09/21 01:07	03/16/21 13:29	7440-39-3	
Beryllium	ND	mg/L	0.00010	0.000050	1	03/09/21 01:07	03/16/21 13:29	7440-41-7	
Boron	ND	mg/L	0.050	0.0085	1	03/09/21 01:07	03/16/21 13:29	7440-42-8	
Cobalt	ND	mg/L	0.0010	0.000050	1	03/09/21 01:07	03/16/21 13:29	7440-48-4	
Lead	ND	mg/L	0.0010	0.000077	1	03/09/21 01:07	03/16/21 13:29	7439-92-1	
Lithium	ND	mg/L	0.0025	0.00050	1	03/09/21 01:07	03/16/21 13:29	7439-93-2	
Selenium	ND	mg/L	0.0020	0.000072	1	03/09/21 01:07	03/16/21 13:29	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 16:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 16:58		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 16:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		03/08/21 09:50	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 09:50	16984-48-8	M1,R1
Sulfate	ND	mg/L	1.0	0.50	1		03/08/21 09:50	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Sample: EB-1 **Lab ID: 92526099010** Collected: 03/03/21 16:41 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	ND	mg/L	0.10	0.094	1	03/09/21 01:10	03/13/21 00:38	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	03/09/21 01:10	03/13/21 00:38	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	03/09/21 01:10	03/13/21 00:38	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	03/09/21 01:10	03/13/21 00:38	7440-23-5	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0010	0.000087	1	03/09/21 01:07	03/16/21 13:32	7440-38-2	
Barium	ND	mg/L	0.0010	0.00021	1	03/09/21 01:07	03/16/21 13:32	7440-39-3	
Beryllium	ND	mg/L	0.00010	0.000050	1	03/09/21 01:07	03/16/21 13:32	7440-41-7	
Boron	ND	mg/L	0.050	0.0085	1	03/09/21 01:07	03/16/21 13:32	7440-42-8	
Cobalt	ND	mg/L	0.0010	0.000050	1	03/09/21 01:07	03/16/21 13:32	7440-48-4	
Lead	ND	mg/L	0.0010	0.000077	1	03/09/21 01:07	03/16/21 13:32	7439-92-1	
Lithium	ND	mg/L	0.0025	0.00050	1	03/09/21 01:07	03/16/21 13:32	7439-93-2	
Selenium	ND	mg/L	0.0020	0.000072	1	03/09/21 01:07	03/16/21 13:32	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 17:16		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 17:16		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		03/09/21 18:56		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		03/08/21 10:34	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 10:34	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/08/21 10:34	14808-79-8	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 605089
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

METHOD BLANK: 3187889 Matrix: Water
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/12/21 23:46	
Magnesium	mg/L	ND	0.10	0.068	03/12/21 23:46	
Potassium	mg/L	ND	5.0	3.0	03/12/21 23:46	
Sodium	mg/L	ND	5.0	0.61	03/12/21 23:46	

LABORATORY CONTROL SAMPLE: 3187890

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.9	98	80-120	
Magnesium	mg/L	5	4.9	99	80-120	
Potassium	mg/L	5	4.6J	92	80-120	
Sodium	mg/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187891 3187892

Parameter	Units	92526099001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	14.0	5	5	18.4	18.9	88	98	75-125	3	20	
Magnesium	mg/L	1.7	5	5	7.0	7.0	106	106	75-125	0	20	
Potassium	mg/L	ND	5	5	ND	ND	0	0	75-125		20	M6
Sodium	mg/L	14.2J	5	5	18.7J	19.4J	91	104	75-125		20	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 605091
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099001, 92526099002, 92526099003

METHOD BLANK: 3187897 Matrix: Water
Associated Lab Samples: 92526099001, 92526099002, 92526099003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/10/21 17:17	
Barium	mg/L	ND	0.0010	0.00021	03/10/21 17:17	
Beryllium	mg/L	ND	0.00010	0.000050	03/10/21 17:17	
Boron	mg/L	ND	0.050	0.0085	03/10/21 17:17	
Cobalt	mg/L	ND	0.0010	0.000050	03/10/21 17:17	
Lead	mg/L	ND	0.0010	0.000077	03/10/21 17:17	
Lithium	mg/L	ND	0.0025	0.00050	03/10/21 17:17	
Selenium	mg/L	ND	0.0020	0.000072	03/10/21 17:17	

LABORATORY CONTROL SAMPLE: 3187898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.0099	99	80-120	
Barium	mg/L	0.05	0.050	100	80-120	
Beryllium	mg/L	0.01	0.0099	99	80-120	
Boron	mg/L	0.05	0.048J	96	80-120	
Cobalt	mg/L	0.01	0.010	102	80-120	
Lead	mg/L	0.05	0.048	97	80-120	
Lithium	mg/L	0.05	0.049	98	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187899 3187900

Parameter	Units	92526014042 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	0.01	0.01	0.013J	0.013J	94	98	75-125		20	
Barium	mg/L	0.022J	0.05	0.05	0.072	0.077	99	110	75-125	7	20	
Beryllium	mg/L	ND	0.01	0.01	0.0091	0.012	91	120	75-125	28	20	
Boron	mg/L	2.0J	0.05	0.05	2.0J	2.0J	46	79	75-125		20	M6
Lead	mg/L	ND	0.05	0.05	0.056	0.056	113	112	75-125	1	20	
Lithium	mg/L	0.084J	0.05	0.05	0.13	0.12J	86	82	75-125		20	
Selenium	mg/L	ND	0.05	0.05	0.052J	0.053J	102	104	75-125		20	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 605092
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

METHOD BLANK: 3187901 Matrix: Water
Associated Lab Samples: 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/16/21 13:16	
Barium	mg/L	ND	0.0010	0.00021	03/16/21 13:16	
Beryllium	mg/L	ND	0.00010	0.000050	03/16/21 13:16	
Boron	mg/L	ND	0.050	0.0085	03/16/21 13:16	
Cobalt	mg/L	ND	0.0010	0.000050	03/16/21 13:16	
Lead	mg/L	ND	0.0010	0.000077	03/16/21 13:16	
Lithium	mg/L	ND	0.0025	0.00050	03/16/21 13:16	
Selenium	mg/L	ND	0.0020	0.000072	03/16/21 13:16	

LABORATORY CONTROL SAMPLE: 3187902

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.011	106	80-120	
Barium	mg/L	0.05	0.052	105	80-120	
Beryllium	mg/L	0.01	0.010	104	80-120	
Boron	mg/L	0.05	0.054	108	80-120	
Cobalt	mg/L	0.01	0.011	105	80-120	
Lead	mg/L	0.05	0.053	105	80-120	
Lithium	mg/L	0.05	0.052	105	80-120	
Selenium	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187903 3187904

Parameter	Units	92526099004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0012J	0.01	0.01	0.011	0.012	100	108	75-125	8	20	
Barium	mg/L	0.059	0.05	0.05	0.11	0.11	103	102	75-125	1	20	
Beryllium	mg/L	ND	0.01	0.01	0.0085	0.0098	84	97	75-125	14	20	
Boron	mg/L	ND	0.05	0.05	0.11J	0.097J	93	74	75-125		20	M6
Cobalt	mg/L	ND	0.01	0.01	0.011	0.011	106	113	75-125	6	20	
Lead	mg/L	ND	0.05	0.05	0.058	0.058	116	116	75-125	0	20	
Lithium	mg/L	ND	0.05	0.05	0.041	0.048	81	96	75-125	17	20	
Selenium	mg/L	ND	0.05	0.05	0.042	0.048	84	96	75-125	14	20	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 606220 | Analysis Method: SM 2320B-2011
QC Batch Method: SM 2320B-2011 | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007

METHOD BLANK: 3193657 Matrix: Water
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/12/21 12:40	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/12/21 12:40	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/12/21 12:40	

LABORATORY CONTROL SAMPLE: 3193658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.4	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193659 3193660

Parameter	Units	92526098001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	496	50	50	506	510	20	28	80-120	1	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193661 3193662

Parameter	Units	92526099006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	25.2	25.5	50	51	80-120	1	25	M1

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QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 606222
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099008, 92526099009, 92526099010

METHOD BLANK: 3193668 Matrix: Water
Associated Lab Samples: 92526099008, 92526099009, 92526099010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/12/21 16:41	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/12/21 16:41	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/12/21 16:41	

LABORATORY CONTROL SAMPLE: 3193669

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.5	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193670 3193671

Parameter	Units	92526099008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	ND	ND	0	0	80-120		25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194100 3194101

Parameter	Units	92526099009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	ND	50	50	51.4	51.6	103	103	80-120	0	25	

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REPORT OF LABORATORY ANALYSIS

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 605313
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

METHOD BLANK: 3189077 Matrix: Water
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/09/21 18:55	

LABORATORY CONTROL SAMPLE: 3189078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	254	101	90-110	

SAMPLE DUPLICATE: 3189079

Parameter	Units	92526014031 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13900	14300	3	25	

SAMPLE DUPLICATE: 3189080

Parameter	Units	92526099006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2620	2670	2	25	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

QC Batch: 604773
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

METHOD BLANK: 3186355 Matrix: Water
Associated Lab Samples: 92526099001, 92526099002, 92526099003, 92526099004, 92526099005, 92526099006, 92526099007, 92526099008, 92526099009, 92526099010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/08/21 05:16	
Fluoride	mg/L	ND	0.10	0.050	03/08/21 05:16	
Sulfate	mg/L	ND	1.0	0.50	03/08/21 05:16	

LABORATORY CONTROL SAMPLE: 3186356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.7	99	90-110	
Fluoride	mg/L	2.5	2.5	101	90-110	
Sulfate	mg/L	50	50.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186357 3186358

Parameter	Units	92526098004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5520	50	50	5710	5750	381	460	90-110	1	10	M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	96.5	50	50	724	737	1260	1280	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186359 3186360

Parameter	Units	92526099009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	49.2	49.2	97	97	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	3.2	2.8	129	113	90-110	13	10	M1,R1
Sulfate	mg/L	ND	50	50	50.1	49.8	99	99	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1	RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526099001	**MCM-01**				
92526099002	**MCM-02**				
92526099003	**MCM-11**				
92526099004	**MCM-16**				
92526099005	**MCM-17**				
92526099006	**MCM-18**				
92526099007	**MCM-19**				
92526099008	**MCM-20**				
92526099001	**MCM-01**	EPA 3010A	605089	EPA 6010D	605105
92526099002	**MCM-02**	EPA 3010A	605089	EPA 6010D	605105
92526099003	**MCM-11**	EPA 3010A	605089	EPA 6010D	605105
92526099004	**MCM-16**	EPA 3010A	605089	EPA 6010D	605105
92526099005	**MCM-17**	EPA 3010A	605089	EPA 6010D	605105
92526099006	**MCM-18**	EPA 3010A	605089	EPA 6010D	605105
92526099007	**MCM-19**	EPA 3010A	605089	EPA 6010D	605105
92526099008	**MCM-20**	EPA 3010A	605089	EPA 6010D	605105
92526099009	**FB-2**	EPA 3010A	605089	EPA 6010D	605105
92526099010	**EB-1**	EPA 3010A	605089	EPA 6010D	605105
92526099001	**MCM-01**	EPA 3010A	605091	EPA 6020B	605104
92526099002	**MCM-02**	EPA 3010A	605091	EPA 6020B	605104
92526099003	**MCM-11**	EPA 3010A	605091	EPA 6020B	605104
92526099004	**MCM-16**	EPA 3010A	605092	EPA 6020B	605103
92526099005	**MCM-17**	EPA 3010A	605092	EPA 6020B	605103
92526099006	**MCM-18**	EPA 3010A	605092	EPA 6020B	605103
92526099007	**MCM-19**	EPA 3010A	605092	EPA 6020B	605103
92526099008	**MCM-20**	EPA 3010A	605092	EPA 6020B	605103
92526099009	**FB-2**	EPA 3010A	605092	EPA 6020B	605103
92526099010	**EB-1**	EPA 3010A	605092	EPA 6020B	605103
92526099001	**MCM-01**	SM 2320B-2011	606220		
92526099002	**MCM-02**	SM 2320B-2011	606220		
92526099003	**MCM-11**	SM 2320B-2011	606220		
92526099004	**MCM-16**	SM 2320B-2011	606220		
92526099005	**MCM-17**	SM 2320B-2011	606220		
92526099006	**MCM-18**	SM 2320B-2011	606220		
92526099007	**MCM-19**	SM 2320B-2011	606220		
92526099008	**MCM-20**	SM 2320B-2011	606222		
92526099009	**FB-2**	SM 2320B-2011	606222		
92526099010	**EB-1**	SM 2320B-2011	606222		
92526099001	**MCM-01**	SM 2540C-2011	605313		
92526099002	**MCM-02**	SM 2540C-2011	605313		
92526099003	**MCM-11**	SM 2540C-2011	605313		
92526099004	**MCM-16**	SM 2540C-2011	605313		
92526099005	**MCM-17**	SM 2540C-2011	605313		
92526099006	**MCM-18**	SM 2540C-2011	605313		
92526099007	**MCM-19**	SM 2540C-2011	605313		
92526099008	**MCM-20**	SM 2540C-2011	605313		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McManus CCR Sampling-Revised Report
Pace Project No.: 92526099

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526099009	**FB-2**	SM 2540C-2011	605313		
92526099010	**EB-1**	SM 2540C-2011	605313		
92526099001	**MCM-01**	EPA 300.0 Rev 2.1 1993	604773		
92526099002	**MCM-02**	EPA 300.0 Rev 2.1 1993	604773		
92526099003	**MCM-11**	EPA 300.0 Rev 2.1 1993	604773		
92526099004	**MCM-16**	EPA 300.0 Rev 2.1 1993	604773		
92526099005	**MCM-17**	EPA 300.0 Rev 2.1 1993	604773		
92526099006	**MCM-18**	EPA 300.0 Rev 2.1 1993	604773		
92526099007	**MCM-19**	EPA 300.0 Rev 2.1 1993	604773		
92526099008	**MCM-20**	EPA 300.0 Rev 2.1 1993	604773		
92526099009	**FB-2**	EPA 300.0 Rev 2.1 1993	604773		
92526099010	**EB-1**	EPA 300.0 Rev 2.1 1993	604773		

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Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville [X] Eden [ ] Greenwood [ ] Huntersville [ ] Raleigh [ ] Mechanicsville [ ] Atlanta [ ] Kernersville [ ]

Sample Condition Upon Receipt

Client Name: Georgia Power

Project # WO# : 92526099

92526099

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Custody Seal Present? [X] Yes [ ] No Seals Intact? [X] Yes [ ] No

Date/Initials Person Examining Contents: 3-6-21 AK

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] None [ ] Other

Biological Tissue Frozen? [ ] Yes [ ] No [X] N/A

Thermometer: [X] IR Gun ID: 93-TD71 Type of Ice: [X] Wet [ ] Blue [ ] None

Cooler Temp: 2.1 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 2.1

USDA Regulated Soil ([X] N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? [ ] Yes [ ] No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

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

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

Project # **WO# : 92526099**

PM: KLH1 Due Date: 03/15/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		1	1			1																						
2		1	1			1																						
3		1	1			1																						
4		1	1			1																						
5		1	1			1																						
6		1	1			1																						
7		1	1			1																						
8		1	1			1																						
9		1	1			1																						
10		1	1			1																						
11																												
12																												

pH Adjustment Log for Preserved Samples

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A	Section B	Section C
Required Client Information:	Required Project Information:	Invoice Information:
Company: Georgia Power	Report To: ~~Veronica Fay~~ Kevin Stephenson	Attention:
Address: 1003 Weatherstone Parkway	Copy To: Trent Eason	Company Name:
Suite 320, Woodstock, GA 30188		Address:
Email: veronica.fay@resoluteenv.com	Purchase Order #:	Pace Quote:
Phone: (404)358-8469 Fax:	Project Name: McManus CCR Spring Sampling	Pace Project Manager: kevin.herring@pacelabs.com,
Requested Due Date:	Project #:	Pace Profile #: 10768

Regulatory Agency: State / Location: GA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Analyses: Metals*	Cl, F, SO4	TDS	Residual Chlorine (Y/N)	
1	MCM-01			3/3/21	1504				3	2		1						X	X	X			5.81
2	MCM-02			3/3/21	1610				3	2		1						X	X	X			5.06
3	MCM-11			3/3/21	1335				3	2		1						X	X	X			5.07
4	MCM-16			3/3/21	1246				3	2		1						X	X	X			5.71
5	MCM-17			3/3/21	1048				3	2		1						X	X	X			6.58
6	MCM-18			3/3/21	1457				3	2		1						X	X	X			4.37
7	MCM-19			3/3/21	1038				3	2		1						X	X	X			5.10
8	MCM-20			3/3/21	1127				3	2		1						X	X	X			3.76
9	FB-2			3/3/21	1642				3	2		1						X	X	X			
10	EB-1			3/3/21	1641				3	2		1						X	X	X			
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
, As, Ba, Be, B, Co, Pb, Li, Se	Kevin Stephenson SCS	3/4/21	1600	FedEx						
				Ankur Patel/APACE/AVL	3-6-21	1105	2.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Trent Booth Kevin Stephenson

SIGNATURE of SAMPLER: DATE Signed: 3/3/21

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

Low-Flow Test Report:

Test Date / Time: 7/1/2021 2:28:24 PM
Project: June 2021 McManus CCR Resample
Operator Name: Kevin Stephenson

Location Name: MCM-14 **Well Diameter: 2 in** **Casing Type: PVC** **Screen Length: 10 ft** **Top of Screen: 18.11 ft** **Total Depth: 28.11 ft** **Initial Depth to Water: 9.37 ft**	**Pump Type: QED Dedicated** **Tubing Type: LDPE** **Pump Intake From TOC: 23.11 ft** **Estimated Total Volume Pumped: 3520 ml** **Flow Cell Volume: 90 ml** **Final Flow Rate: 220 ml/min** **Final Draw Down: 0.34 ft**	**Instrument Used: Aqua TROLL 400** **Serial Number: 789301**

Test Notes:
Pre-purged 3 liters

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
7/1/2021 2:28 PM	00:00	6.62 pH	25.01 °C	18,957 µS/cm	0.18 mg/L	1.23 NTU	-112.1 mV	9.70 ft	11.42 PSU	220.00 ml/min
7/1/2021 2:32 PM	04:00	6.64 pH	24.33 °C	18,896 µS/cm	0.12 mg/L	1.34 NTU	-110.0 mV	9.71 ft	11.37 PSU	220.00 ml/min
7/1/2021 2:36 PM	08:00	6.64 pH	24.26 °C	18,873 µS/cm	0.11 mg/L	0.93 NTU	-108.9 mV	9.71 ft	11.36 PSU	220.00 ml/min
7/1/2021 2:40 PM	12:00	6.64 pH	24.37 °C	18,784 µS/cm	0.10 mg/L	0.64 NTU	-106.3 mV	9.71 ft	11.30 PSU	220.00 ml/min
7/1/2021 2:44 PM	16:00	6.64 pH	24.60 °C	18,746 µS/cm	0.10 mg/L	0.90 NTU	-105.8 mV	9.71 ft	11.28 PSU	220.00 ml/min

Samples

Sample ID:	Description:
MCM-14	Metals, Inorganics, TDS, Alk, Ions, Sulfide

Created using VuSitu from In-Situ, Inc.

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

July 21, 2021

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

RE: Project: PLANT MCMANUS
Pace Project No.: 92547567

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 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

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

Sincerely,

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

Enclosures

cc: Joe Booth, Resolute Environmental & Water Resources
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Ms. Lauren Petty, Southern Company
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC

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110 Technology Parkway
Peachtree Corners, GA 30092
(770)734-4200

CERTIFICATIONS

Project: PLANT MCMANUS
Pace Project No.: 92547567

Pace Analytical Services Charlotte
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/NELAP Certification # LA170028
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PLANT MCMANUS
Pace Project No.: 92547567

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92547567001	**MCM-14**	Water	07/01/21 14:48	07/02/21 11:10

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SAMPLE ANALYTE COUNT

Project: PLANT MCMANUS
Pace Project No.: 92547567

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92547567001	**MCM-14**	EPA 6010D	CBV, SH1	4	PASI-A
		EPA 6020B	CRW	2	PASI-A
		SM 2320B-2011	ECH	2	PASI-A
		SM 2540C-2011	ZMC	1	PASI-A
		SM 4500-S2D-2011	JP1	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville
PASI-C = Pace Analytical Services - Charlotte

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SUMMARY OF DETECTION

Project: PLANT MCMANUS
Pace Project No.: 92547567

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92547567001	**MCM-14**					
	Performed by	CUSTOMER			07/02/21 13:38	
	pH	6.64	Std. Units		07/02/21 13:38	
EPA 6010D	Calcium	231	mg/L	2.0	07/21/21 01:18	
EPA 6010D	Magnesium	446	mg/L	2.0	07/21/21 01:18	
EPA 6010D	Potassium	119	mg/L	100	07/21/21 01:18	
EPA 6010D	Sodium	3460	mg/L	500	07/21/21 11:22	M1
EPA 6020B	Boron	0.26J	mg/L	1.0	07/09/21 13:55	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	263	mg/L	5.0	07/02/21 18:28	
SM 2540C-2011	Total Dissolved Solids	11200	mg/L	1250	07/06/21 14:30	
SM 4500-S2D-2011	Sulfide	21.0	mg/L	2.5	07/08/21 05:01	
EPA 300.0 Rev 2.1 1993	Chloride	5960	mg/L	100	07/03/21 18:57	
EPA 300.0 Rev 2.1 1993	Sulfate	693	mg/L	100	07/03/21 18:57	

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ANALYTICAL RESULTS

Project: PLANT MCMANUS
Pace Project No.: 92547567

Sample: MCM-14 **Lab ID: 92547567001** Collected: 07/01/21 14:48 Received: 07/02/21 11:10 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data	Analytical Method: Pace Analytical Services - Charlotte								
Performed by	**CUSTOMER**				1		07/02/21 13:38		
pH	**6.64**	Std. Units			1		07/02/21 13:38		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Calcium	**231**	mg/L	2.0	1.9	1	07/20/21 15:15	07/21/21 01:18	7440-70-2	
Magnesium	**446**	mg/L	2.0	1.4	1	07/20/21 15:15	07/21/21 01:18	7439-95-4	
Potassium	**119**	mg/L	100	60.8	1	07/20/21 15:15	07/21/21 01:18	7440-09-7	
Sodium	**3460**	mg/L	500	61.1	5	07/20/21 15:15	07/21/21 11:22	7440-23-5	M1
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Boron	**0.26J**	mg/L	1.0	0.17	1	07/09/21 08:30	07/09/21 13:55	7440-42-8	
Lithium	ND	mg/L	0.050	0.010	1	07/09/21 08:30	07/09/21 13:55	7439-93-2	
2320B Alkalinity	Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville								
Alkalinity,Bicarbonate (CaCO3)	**263**	mg/L	5.0	5.0	1		07/02/21 18:28		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		07/02/21 18:28		
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**11200**	mg/L	1250	1250	1		07/06/21 14:30		
4500S2D Sulfide Water	Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville								
Sulfide	**21.0**	mg/L	2.5	1.2	25		07/08/21 05:01	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	**5960**	mg/L	100	60.0	100		07/03/21 18:57	16887-00-6	
Fluoride	ND	mg/L	10.0	5.0	100		07/03/21 18:57	16984-48-8	D3
Sulfate	**693**	mg/L	100	50.0	100		07/03/21 18:57	14808-79-8	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS
Pace Project No.: 92547567

QC Batch: 634582
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92547567001

METHOD BLANK: 3332622 Matrix: Water
Associated Lab Samples: 92547567001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	07/21/21 01:11	
Magnesium	mg/L	ND	0.10	0.068	07/21/21 01:11	
Potassium	mg/L	ND	5.0	3.0	07/21/21 01:11	
Sodium	mg/L	ND	5.0	0.61	07/21/21 01:11	

LABORATORY CONTROL SAMPLE: 3332623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	99	80-120	
Magnesium	mg/L	5	5.3	107	80-120	
Potassium	mg/L	5	5.2	104	80-120	
Sodium	mg/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3332624 3332625

Parameter	Units	92547567001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	231	100	100	324	325	93	94	75-125	0	20	
Magnesium	mg/L	446	100	100	537	536	91	89	75-125	0	20	
Potassium	mg/L	119	100	100	221	218	101	99	75-125	1	20	
Sodium	mg/L	3460	100	100	3420	3290	-47	-179	75-125	4	20	M1

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QUALITY CONTROL DATA

Project: PLANT MCMANUS
Pace Project No.: 92547567

QC Batch: 631990
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92547567001

METHOD BLANK: 3320023 Matrix: Water
Associated Lab Samples: 92547567001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	mg/L	ND	0.050	0.0085	07/09/21 14:05	
Lithium	mg/L	ND	0.0025	0.00050	07/09/21 14:05	

LABORATORY CONTROL SAMPLE: 3320024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	mg/L	0.05	0.053	107	80-120	
Lithium	mg/L	0.05	0.052	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3320025 3320026

Parameter	Units	92547567001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	mg/L	0.26J	1	1	1.2	1.2	95	98	75-125	3	20	
Lithium	mg/L	ND	1	1	1.0	1.1	102	105	75-125	3	20	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS
Pace Project No.: 92547567

QC Batch: 631187
QC Batch Method: SM 2320B-2011
Analysis Method: SM 2320B-2011
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92547567001

METHOD BLANK: 3316049 Matrix: Water
Associated Lab Samples: 92547567001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	07/02/21 14:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	07/02/21 14:20	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS
Pace Project No.: 92547567

QC Batch: 631478
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92547567001

METHOD BLANK: 3317514 Matrix: Water
Associated Lab Samples: 92547567001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	07/06/21 14:29	

LABORATORY CONTROL SAMPLE: 3317515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	252	101	90-110	

SAMPLE DUPLICATE: 3317516

Parameter	Units	92547250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	703	781	11	25	

SAMPLE DUPLICATE: 3317517

Parameter	Units	92547567001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	11200	10800	5	25	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS
Pace Project No.: 92547567

QC Batch: 632020
QC Batch Method: SM 4500-S2D-2011
Analysis Method: SM 4500-S2D-2011
Analysis Description: 4500S2D Sulfide Water
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92547567001

METHOD BLANK: 3320093 Matrix: Water
Associated Lab Samples: 92547567001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	07/08/21 04:58	

LABORATORY CONTROL SAMPLE: 3320094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.48	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3320095 3320096

Parameter	Units	92547552003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.46	0.51	91	100	80-120	10	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3320097 3320098

Parameter	Units	92547919004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	0.5	0.5	0.49	0.49	97	98	80-120	1	10	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS
Pace Project No.: 92547567

QC Batch: 631408
QC Batch Method: EPA 300.0 Rev 2.1 1993
Analysis Method: EPA 300.0 Rev 2.1 1993
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92547567001

METHOD BLANK: 3317347 Matrix: Water
Associated Lab Samples: 92547567001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	07/03/21 13:05	
Fluoride	mg/L	ND	0.10	0.050	07/03/21 13:05	
Sulfate	mg/L	ND	1.0	0.50	07/03/21 13:05	

LABORATORY CONTROL SAMPLE: 3317348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	50	50.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3317349 3317350

Parameter	Units	92547372001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	35.9	50	50	87.8	88.4	104	105	90-110	1	10	
Fluoride	mg/L	3.0	2.5	2.5	4.4	4.4	55	55	90-110	0	10	M1
Sulfate	mg/L	43.0	50	50	96.1	96.5	106	107	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3317351 3317352

Parameter	Units	92547500001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	53.0	53.6	104	106	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	103	103	90-110	0	10	
Sulfate	mg/L	ND	50	50	52.6	53.0	105	105	90-110	1	10	

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QUALIFIERS

Project: PLANT MCMANUS
Pace Project No.: 92547567

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCMANUS
Pace Project No.: 92547567

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92547567001	**MCM-14**				
92547567001	**MCM-14**	EPA 3010A	634582	EPA 6010D	634701
92547567001	**MCM-14**	EPA 3010A	631990	EPA 6020B	632455
92547567001	**MCM-14**	SM 2320B-2011	631187		
92547567001	**MCM-14**	SM 2540C-2011	631478		
92547567001	**MCM-14**	SM 4500-S2D-2011	632020		
92547567001	**MCM-14**	EPA 300.0 Rev 2.1 1993	631408		

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Pace Analytical"	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: October 28, 2020 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.07	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☒ Eden ☐ Greenwood ☐ Huntersville ☐ Raleigh ☐ Mechanicsville ☐ Atlanta ☐ Kernersville ☐

Sample Condition Upon Receipt

Client Name: Georgia Power

Project #: WO# : 92547567

92547567

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

Custody Seal Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Date/Initials Person Examining Contents: 7.2.21 YG

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

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Thermometer: ☐ IR Gun ID: 93571 Type of Ice: ☒ Wet ☐ Blue ☐ None

Cooler Temp: 1.4°C Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 1.4°C

USDA Regulated Soil (☒ N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

SIGNATURE

Y SEAL DATE 7/1/21

Lot ID of split containers:

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:

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

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

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

Project # **WO# : 92547567**

PM: KLH1 Due Date: 07/19/21

CLIENT: GA-GA Power

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (CL)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (CL)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (CL)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (CL)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (CL)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(CL)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unpl (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK-(3 vials per kit)-MP5/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)2SO4 (5.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		2	1			1 ✓	1 ✓																					
2																												
3																												
4																												
5																												
6																												
7																												
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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.

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

Company:	Georgia Power
Address:	1003 Weatherstone Parkway, Woodstock, GA 30188
Email To:	kevin.stephenson@resoluteenv.com
Phone:	(470) 895-0653 Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	Stephen Wilson, Trent Godwin
Copy To:	
Purchase Order #:	
Project Name:	Plant McManus
Project Number:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	Kevin Herring
Pace Profile #:	

Regulatory Agency:

State / Location:

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N)	Analyses Test: Y/N	App. III Metals*	Lithium	TDS	Cl, F, SO4	Major Ions**	Sulfide	Alkalinity	Residual Chlorine (Y/N)	
1	MCM-14	WT	G	7/1/21	1448				5	3		1		1					X	X	X	X	X	X	X		pH: 6.64
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*App. III Metals: B, Ca	Kevin Stephenson	7/1/21	1604	FEDEX						
**Major Ions: Na, K, Mg				of Courier: Pace MK	7.2.21	1110	1.4°C	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kevin Stephenson

SIGNATURE of SAMPLER: [signature]

DATE Signed: 7/1/21

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

Arcadis U.S., Inc.

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Atlanta, Georgia 30339

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