

2021 Annual Groundwater Monitoring and Corrective Action Report

PLANT McMANUS
Inactive Ash Pond 1 (AP-1)
Brunswick, Glynn County, Georgia

Prepared for:

GEORGIA POWER COMPANY

Atlanta, Georgia



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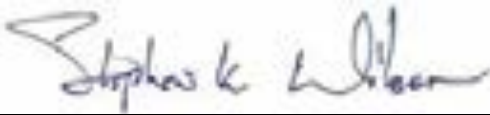
July 30, 2021

Georgia Power Company

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July 30, 2021



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CERTIFICATION STATEMENT

This 2021 Annual 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:

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Date:

July 30, 2021

SUMMARY

This summary of the 2021 Annual Groundwater Monitoring and Corrective Action Report provides the status of groundwater monitoring and corrective action program through June 2021 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 6¹ 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 Crispin 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 EPD on November 27, 2019. Based on review of the report and an inspection of AP-1 on December 13, 2019, 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)).



Figure 1. Former Ash Pond (AP-1) and Site.

Groundwater at the Site is monitored using a multi-unit monitoring system comprised of 16 wells: 8 upgradient, 3 side gradient, 4 downgradient, and 1 vertical extent, that meet federal and state monitoring requirements. Initial monitoring wells were installed between June and September 2016. Additional monitoring wells were installed in October 2019 and March 2020. 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 on 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 reporting period, the Site remained in assessment monitoring as corrective measures were evaluated.

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

During the 2021 Annual reporting period, Resolute conducted three groundwater sampling events in August, October 2020, and March 2021, as well as a resampling event in January 2021. Groundwater 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 III² and Appendix IV³ parameters in wells provided in the table below.

Appendix III Parameter	October 2020	March 2021
Boron	MCM-06, MCM-07, and MCM-17	None identified
Calcium	MCM-06 and MCM-07	MCM-06, MCM-07, MCM-14
pH	MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, and MCM-17	MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, MCM-17
TDS	MCM-06, MCM-07, and MCM-14	MCM-07
Appendix IV Parameter⁴	October 2020	March 2021
Arsenic	<i>Federal and State:</i> MCM-06	<i>Federal and State:</i> MCM-06
Lithium ⁵	Federal and State MCM-06	Federal and State MCM-06 <i>State Only:</i> MCM-14

Based on review of the Appendix III and Appendix IV statistical results, the Site will continue in assessment monitoring. Georgia Power will continue routine groundwater monitoring and reporting, and groundwater remedy evaluation at the Site. Reports will be posted to the website and provided to 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 MCL, if available, or the calculated background interwell prediction limit. A federal SSL-related constituent is determined by comparing the confidence intervals developed to either the constituent's MCL, if available, the USEPA RSL, if no MCL is available, or the calculated background interwell prediction limit.

⁵ GA EPD provided conditional concurrence of a lithium alternate source demonstration (ASD) at MCM-06 submitted November 17, 2020 on April 22, 2021.

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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 (EPD) Rules for Solid Waste Management 391-3-4-.10, this *2021 Annual 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 annual monitoring activities completed August 2020 through July 2021 (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 EPD on November 27, 2019. Based on review of the report and an inspection of AP-1 on December 13, 2019, EPD acknowledged the completion of CCR removal on January 10, 2020. Closure Permit No. 063-030D(CCR) was approved by Georgia EPD on June 18, 2021.

1.1.1 Regional Geology

The Brunswick area is underlain by three regional aquifer systems which extend to depths exceeding 1,100 feet. 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 and others (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. 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, 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, side gradient monitoring points, or downgradient monitoring points based on groundwater flow direction (Tables 1 and 2). The compliance monitoring network for the former AP-1 currently consists of 16 monitoring wells, including well DPZ-02 (Figure 2). As part of the assessment monitoring program, deep

piezometer DPZ-02 was reclassified as a delineation well during the October 2020 semiannual monitoring period. Pursuant to § 257.195(g)(1)(iv), the wells, classified as “delineation wells”, are 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

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;
- Redevelopment of older monitoring wells installed in 2016 as a part of scheduled maintenance; wells were redeveloped in August 2020 and included: MCM-01, -02, -04, -05, -06, -07, -11, -12, -14, -15, -16, and -17;
- Re-classifying deep piezometer DPZ-02 as a delineation well and incorporating it into the assessment monitoring well network in October 2020.

The Laboratory Reports, Data Verification Report (Validation Report), Field Reports and Calibration Reports for the Groundwater Monitoring can be found in Appendix A. The August 2020 redevelopment logs for the selected monitoring wells are located in Appendix B. The location of the transitioned piezometer, DPZ-02, is shown on Figure 2. DPZ-02 is located adjacent to monitoring well MCM-06 on the northern dike and is screened at a depth of 35 to 40 feet below ground surface, placing it in the Cypresshead formation approximately 16 feet deeper than well MCM-06, which is screened from approximately 14 to 24 feet below ground surface.

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 Alternative Source Demonstration (ASD) for lithium was prepared pursuant to regulations in § 257.95(g)(3)(ii) and described in Section 2.3 (Arcadis, 2020a). In accordance with § 257.96(b), groundwater continues to be monitored at the former AP-1 under the assessment monitoring program.

Pursuant to § 257.95(b), the 15 monitoring wells of the certified compliance monitoring network (Figure 2) were sampled for the full suite of Appendix IV constituents in August 2020 as the initial assessment monitoring event. Following receipt of the initial Appendix IV sample results, the October 2020 and March 2021 semiannual assessment monitoring events were conducted for 16 monitoring wells and piezometers, including DPZ-02. In October 2020 and March 2021, DPZ-02 was sampled and included in the assessment monitoring event as a vertical delineation well to assess the extent of arsenic at former AP-1. Sixteen wells were sampled and analyzed for Appendix III constituents and the following Appendix IV constituents that were detected during the August 2020 event: arsenic, barium, beryllium, cobalt, lead, lithium, combined radium 226/228, and selenium. In addition, resampling of monitoring well MCM-05 was performed in January 2021. The sequence of monitoring events conducted at the former AP-1 in 2020 and 2021 is summarized in Table 3. Details of these events and analytical results are discussed in Section 3 (and also provided in Table 7), while the statistical results are discussed in Section 4.

2.3 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). The ASD presents multiple lines of evidence that indicate that the lithium observed at former AP-1 is due to a natural source – i.e., the influx of 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 is provided in Appendix C of this report for reference. EPD approved the ASD for lithium at monitoring well MCM-06 on April 22, 2021 (Appendix C). 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.

2.4 ADDITIONAL SAMPLING EVENTS

Additional groundwater and surface water sampling events were performed during the reporting period to supplement existing groundwater data collected through previous assessment events and to further investigate the nature and the extent of parameters detected on Site. Additional parameters were sampled *July 1, 2021*, at MCM-14 to develop additional data to supplement the ASD. The laboratory report and results associated with the sampling event will be presented in the next semiannual report.

2.4.1 Surface Water Sampling

Due to the presence of surface water adjacent to MCM-06, installation of wells to horizontally characterize this area is infeasible. Georgia Power proactively collected surface water samples from along four transects (T1 through T4) in the tidal marsh adjacent to wells MCM-05, MCM-06,

MCM-07, and MCM-14, respectively, in October and November 2020⁶, and March 2021, during both high (HT, HTS, HS, HB) and low tides (L, LT). In addition, samples from the surface water in the former ash pond were collected adjacent to MCM-05, MCM-06, MCM-07 and MCM-14. Samples were also 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 3-5. 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).

Surface water data will be collected for arsenic, lithium, and Appendix III parameters semiannually with routine groundwater sampling and reported in semiannual and annual groundwater monitoring reports. Additional parameters were added during this reporting period to the surface water analyses to develop additional data to supplement the ASD described in Section 2.3 and provided in Appendix C of this report. The results for the October and November 2020, and March 2021 events are summarized in Table 5. The laboratory reports associated with the sampling event are provided in Appendix D. Georgia Power will continue collecting the surface water samples semiannually.

2.4.2 Additional Characterization of Groundwater Parameters on the Northern Dike

Additional groundwater sampling was performed in October 2020 along the northern dike to develop additional data in support of remedy evaluation and selection. Samples were collected from monitoring wells, MCM-05, -06, -07, -14: deep piezometer DPZ-02: and the 10 former dewatering wells located on the northern dike (RW-1 through RW-10). Groundwater was analyzed for dissolved and total metals (arsenic, iron, and manganese), nitrate, sulfate, sulfide, TOC, BOD, orthophosphate, alkalinity (carbonate and bicarbonate), boron, TDS, cations (magnesium, calcium, sodium, and potassium), anions (chloride). In October 2020 and April 2021 samples were collected for arsenic speciation (As [III], As [V], MMAs, DMAs, and sum of unknown arsenic species). The scope, sampling methodologies, and results of the October 2020 event were presented in the Semiannual Remedy Selection and Design Progress Report prepared by Arcadis (Arcadis, 2021). The scope, sampling methodologies, and results of the April 2021 event can be found in the 2021 Semiannual Remedy Selection and Design Progress Report prepared by Arcadis in Appendix E.

⁶ A November 2020 resampling event was conducted to replace samples lost during shipping; the full parameter suite was resampled, including metals.

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 August 2020 through July 2021.

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 12 piezometers (MCM-03, -08, -13, DPZ-01, and DPZ-03 through -06, PZ-9 through PZ-12). The remaining piezometers in the network were gauged by hand using a Heron water level indicator. Groundwater elevations calculated during the August and October 2020 and March 2021 monitoring events are summarized in Table 4. Groundwater elevation data were used to develop a high tide and low tide potentiometric surface elevation contour map for each event (Figures 6-11). 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:

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

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

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

$$\eta_e = \text{Effective porosity}$$

Horizontal groundwater flow velocities were calculated for two well pairs at high and low tide using groundwater elevations collected from transducers on October 14, 2020, and manual readings were recorded on March 1, 2021, and March 5, 2021 for low tide and high tide, respectively. Groundwater flow velocities representing groundwater flowing from the mainland to former AP-1 (between MCM-02 and MCM-16) remained fairly constant, and from the island to former AP-1

(between MCM-11 and MCM-12) increased slightly during high tide compared to low tide (Table 6). Groundwater flow between MCM-02 and MCM-16 was 0.0611 feet per day (ft/day) at low tide and 0.0622 ft/day at high tide in October 2020, while groundwater flow for MCM-11 and MCM-12 was 0.0516 ft/day at low tide and 0.0537 ft/day at high tide during October 2020. Groundwater flow between MCM-16 and MCM-02 was 0.0424 ft/day for both high and low tide, and groundwater flow between MCM-11 and MCM-12 was 0.0597 ft/day during low tide and 0.0714 ft/day during high tide in March 2021. 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 0.056 ft/day or 20.58 feet per year (ft/year) at high tide and 0.058 ft/day or 21.15 ft/yr at low tide in October 2020. In March 2021, average groundwater velocities were 0.051 ft/day or 18.64 ft/yr during low tide and 0.057 ft/day or 20.77 ft/yr during high 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
- $\pm 5\%$ for specific conductance
- ± 0.2 milligrams per liter (mg/L) or $\pm 10\%$, 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. The field sampling and equipment calibration forms generated during the monitoring events are provided in Appendix A. Upon completion of the sampling events, samples were submitted to Pace Analytical Services, LLC (Pace) following chain-of-custody protocol.

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 initial assessment event conducted in August 2020, the semiannual assessment monitoring events conducted in October 2020 and March 2021, and the resample event conducted in January 2021 are summarized in Table 7. The Pace laboratory analytical reports are provided in Appendix A. The pH field measurements recorded during the sampling events are also provided in Table 7.

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 Appendix A.

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 August and October 2020 and March 2021 are acceptable for use in determining the compliance status of the Site. The Stage 2 Data Verification Report containing the data validation results is provided in Appendix A 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 F (GSC, 2020 and 2021). 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 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 F 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 October 2020 and March 2021 sample events.

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 an 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 F, 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 current reporting period:

October 2020 Assessment Monitoring Event

Federal	State
Arsenic: MCM-06	Arsenic: MCM-06
Lithium: MCM-06	Lithium: MCM-06

March 2021 Assessment Monitoring Event

Federal	State
Arsenic: MCM-06	Arsenic: MCM-06
Lithium: MCM-06	Lithium: MCM-06 and MCM-14

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 is addressed with the ASD included in Appendix C and was submitted to Georgia EPD on November 17, 2020, and approved by EPD on April 22, 2021. An ASD addendum for the new SSL of lithium identified at MCM-14 above the state GWPS, but not the federal GWPS, will be submitted by October 29, 2021.

4.2.1 Delineation Data

Results from delineation well, DPZ-02, installed to assess the extent of arsenic in groundwater at former AP-1, indicate that arsenic is vertically delineated at MCM-06. The current Appendix IV data set for DPZ-02 is limited to less than four independent sampling events which is the required

number to construct confidence intervals to statistically evaluate the results with respect to GWPS. Georgia Power will continue to monitor this well until an adequately sized data set is available to complete statistical analyses.

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 proactively 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 laboratory reporting limit of 0.050 mg/L in surface water samples collected to date; therefore, no impacts to surface water have been detected and horizontal delineation is complete.

5.0 MONITORING PROGRAM STATUS

5.1 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.

5.2 ASSESSMENT OF CORRECTIVE MEASURES

An ACM report was submitted to EPD on December 4, 2020. The ACM efforts completed during the reporting period covered by this groundwater monitoring and corrective action report are presented in the *Semiannual Remedy Selection and Design Progress Report* provided in Appendix E. 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.

6.0 CONCLUSIONS & FUTURE ACTIONS

This 2021 Annual 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 October 2020 and March 2021 at the former AP-1 identified the continued presence of an SSL of arsenic and lithium in monitoring well MCM-06. The analysis also identified a new state SSL of lithium in well MCM-14. The lithium SSL in MCM-06 is addressed with an ASD. An ASD addendum for the new SSL of lithium above the state GWPS identified at MCM-14 will be submitted by October 29, 2021. 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 show impacts in adjacent surface water. Surface water data will be collected semiannually with routine groundwater sampling 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 E.

The next semiannual assessment sampling event is planned for September 2021. The September semiannual assessment monitoring event will be a combined event to meet the requirements of 40 C.F.R. §257.95(b) and (d)(1) and will include sampling and analysis of all Appendix III and IV constituents.

7.0 REFERENCES

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TABLES

Table 1
Monitoring Network Summary
Plant McManus
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. Georgia 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: VF 1/8/21
Checked by: KMS 1/11/21

Table 2
Piezometer Network Summary
Plant McManus
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-08	Piezometer	443310.0596	849977.9965	8.95	NA	27.70	-3.70	-18.70		
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-09	Piezometer	443252.1584	850147.7478	Abandoned						
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-1	Piezometer for Dewatering	444127.6813	850308.3200	Abandoned						
PZ-2	Piezometer for Dewatering	444196.6588	850423.4598	Abandoned						
PZ-3	Piezometer for Dewatering	444264.8108	850540.0935	Abandoned						
PZ-4	Piezometer for Dewatering	444335.4506	850656.4801	Abandoned						
PZ-5	Piezometer for Dewatering	444471.1060	850888.7994	Abandoned						
PZ-6	Piezometer for Dewatering	444538.4862	851005.4620	Abandoned						
PZ-7	Piezometer for Dewatering	444605.9569	851121.6527	Abandoned						
PZ-8	Piezometer for Dewatering	444674.4265	851238.6722	Abandoned						
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. Georgia 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. MCM-09 was abandoned in 2020
- NA - Not Available
Updated by : VF 1/8/21
Checked by: KMS 1/11/21

Table 3
Groundwater Sampling Event Summary
Plant McManus
Brunswick, GA

Well ID	Hydraulic Location	August 2020	October 2020	January 2021	March 2021	Status of Monitoring Well
Purpose of Sampling Event		Appendix IV Annual	Assessment	Resample	Appendix IV Semi-Annual	
MCM-01	Upgradient	X	X	--	X	Assessment
MCM-02	Upgradient	X	X	--	X	Assessment
MCM-04	Downgradient	X	X	--	X	Assessment
MCM-05	Downgradient	X	X	X	X	Assessment
MCM-06	Downgradient	X	X	--	X	Assessment
MCM-07	Downgradient	X	X	--	X	Assessment
MCM-11	Upgradient	X	X	--	X	Assessment
MCM-12	Sidegradient	X	X	--	X	Assessment
MCM-14	Sidegradient	X	X	--	X	Assessment
MCM-15	Upgradient	X	X	--	X	Assessment
MCM-16	Upgradient	X	X	--	X	Assessment
MCM-17	Sidegradient	X	X	--	X	Assessment
MCM-18	Upgradient	X	X	--	X	Assessment
MCM-19	Upgradient	X	X	--	X	Assessment
MCM-20	Upgradient	X	X	--	X	Assessment
DPZ-02	Vertical Delineation Well	--	X	--	X	Assessment

Notes:

X - Sampled

-- Not Sampled

Updated By: JB 5/18/21

Checked By: KMS 5/18/21

Table 4
Summary of Groundwater Elevations
Plant McManus
Brunswick, Georgia

		Collection Date			August 24, 2020	August 24, 2020	October 14, 2020	October 14, 2020	March 1, 2021	March 5, 2021
		High Tide			14:28		7:38			13:34
		Low Tide				7:47		13:32	16:02	
		Start Collection			15:37	N/A	8:38	N/A	15:32	12:30
		Stop Collection			16:45	N/A	9:16	N/A	16:58	14:12
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)	High Tide GW Elevation (ft NAVD 88) ¹	Low Tide GW Elevation (ft NAVD 88) ¹	High Tide GW Elevation (ft NAVD 88) ¹	Low Tide GW Elevation (ft NAVD 88) ¹	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	3.89	3.75	4.88	4.67	4.08	4.42
MCM-02	10.58	11.25	0.67	-16.77	6.30	6.33	7.27	7.27	6.98	7.18
MCM-03	10.00	9.97	-0.03	-17.70	2.37	2.39	3.45	3.44	2.73	2.88
MCM-04	12.47	12.39	-0.08	-16.10	2.72	2.14	4.09	3.49	3.11	3.47
MCM-05	10.09	10.04	-0.05	-17.96	2.43	1.10	3.33	1.92	1.51	2.35
MCM-06	10.17	10.15	-0.02	-17.03	2.45	0.68	3.20	1.25	1.19	1.94
MCM-07	10.22	10.20	-0.02	-13.53	2.58	1.89	3.03	2.03	1.98	2.26
MCM-08	9.41	9.42	0.01	-18.88	3.35	3.41	3.66	3.66	3.52	4.07
MCM-09										
MCM-10	11.77	11.75	-0.02	-12.19	NM	NM	6.43	NM	6.67	7.11
MCM-11	10.37	10.23	-0.14	-13.63	5.68	5.62	5.78	5.77	5.82	6.5
MCM-12	12.03	11.87	-0.16	-16.97	2.61	2.74	3.24	3.33	3.00	3.13
MCM-13	12.67	12.56	-0.11	-14.79	2.29	2.16	2.83	2.69	2.36	2.35
MCM-14	11.66	11.50	-0.16	-16.45	2.77	0.65	3.43	1.15	0.85	2.46
MCM-15	12.87	12.84	-0.03	-13.73	3.47	3.32	4.68	4.49	4.01	4.16
MCM-16	15.81	16.02	0.21	-12.58	6.53	6.54	7.76	7.75	7.31	7.51
MCM-17	11.67	11.49	-0.18	-15.77	2.39	1.76	2.98	2.32	2.02	2.29
MCM-18	9.00	9.00	0.00	-18.86	3.03	3.12	3.67	3.69	3.55	3.56
MCM-19	8.71	8.71	0.00	-19.61	3.24	1.65	3.77	2.07	2.32	2.89
MCM-20	10.07	10.07	0.00	-12.98	3.21	1.43	4.28	2.29	2.38	3.84
MW-01R	12.61	NS	NS	-14.83	NM	NM	NM	NM	3.79	4.41
MW-02	11.10	NS	NS	-15.28	2.97	NM	NM	NM	3.02	3.5
MW-03	11.26	NS	NS	-15.34	2.95	NM	NM	NM	2.7	2.84
MW-04	9.20	NS	NS	-17.85	2.75	NM	3.3	NM	2.8	2.83
MW-05	13.24	NS	NS	-14.21	NM	NM	NM	NM	NM	NM
MW-06										
MW-06R	13.31	NS	NS	-10.29	NM	NM	7.65	NM	NM	NM
MW-07	9.94	NS	NS	-11.62	NM	NM	NM	NM	NM	NM
MW-08										
MW-09	10.10	NS	NS	-14.05	4.42	NM	4.04	NM	NM	NM
MW-10	10.24	NS	NS	-17.06	2.51	NM	3.14	NM	1.97	2.32
MW-11	10.35	NS	NS	-23.05	2.33	NM	3.00	NM	0.75	1.61
MW-12	10.08	NS	NS	-23.47	5.24	NM	3.35	NM	1.44	2.35
PZ-1										
PZ-2										
PZ-3										
PZ-4										
PZ-5										
PZ-6										
PZ-7										
PZ-8										
PZ-9	9.41	9.41	0.00	-14.64	NM	NM	4.04	NM	3.32	4.05
PZ-10	12.17	12.17	0.00	-10.74	NM	NM	4.37	NM	3.01	3.77
PZ-11	9.37	9.37	0.00	-9.71	NM	NM	4.44	NM	4.35	4.89
PZ-12	7.90	7.90	0.00	-10.80	NM	NM	3.23	NM	2.61	3.15
DPZ-01	9.71	9.71	0.00	-8.99	2.52	0.86	3.51	1.73	1.47	2.38
DPZ-02	9.54	9.54	0.00	-9.16	2.60	0.80	3.23	1.29	1.26	1.82
DPZ-03	9.46	9.46	0.00	-9.24	2.65	1.29	3.27	1.86	1.66	2.21
DPZ-04	11.45	11.45	0.00	-7.25	2.75	1.67	3.42	2.25	1.92	2.59
DPZ-05	11.00	11.00	0.00	-7.70	3.25	1.73	4.00	2.43	1.96	3.21
DPZ-06	12.04	12.04	0.00	-6.66	2.71	2.63	4.06	3.94	3.26	3.41
RW-1	9.39	NS	NS	-17.03	NM	NM	2.64	NM	NM	NM
RW-2	9.96	NS	NS	-17.31	NM	NM	2.51	NM	NM	NM
RW-3	9.89	NS	NS	-22.40	NM	NM	3.31	NM	NM	NM
RW-4	9.49	NS	NS	-17.39	NM	NM	2.82	NM	NM	NM
RW-5	10.11	NS	NS	-27.11	NM	NM	3.05	NM	NM	NM
RW-6	10.25	NS	NS	-26.34	NM	NM	3.38	NM	NM	NM
RW-7	10.19	NS	NS	-27.99	NM	NM	3.27	NM	NM	NM
RW-8	10.22	NS	NS	-21.40	NM	NM	3.38	NM	NM	NM
RW-9	10.26	NS	NS	-27.45	NM	NM	3.16	NM	NM	NM
RW-10	10.56	NS	NS	-27.24	NM	NM	3.20	NM	NM	NM
TPZ-1	Transducer	NM	NM	NM	NM	NM	NM	NM	NM	NM
TPZ-2	Transducer	NM	NM	NM	NM	NM	NM	NM	NM	NM
TPZ-3	Transducer									
TPZ-4	Transducer									
TPZ-5	Transducer									
Staff Gauge	Direct Read	NM	NM	NM	NM	NM	NM	NM	NM	NM
Tide Gauge	NOAA Report	NM	NM	NM	NM	NM	NM	NM	NM	NM
AP Monitor	Transducer	NM	NM	NM	1.75	1.84	2.99	2.98	2.07	2.21
Oil Dock Monitor	Transducer	NM	NM	NM	4.09	-4.81	4.21	-4.43	-6.30	3.40

Notes:
¹Values calculated using April 16, 2020 survey data;
 NS = Not Surveyed
 NM = Not Measured
 NA = Not Applicable
 Updated by JB 5/18/21; Checked by WL 5/18/21

Table 5
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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	10/28/2020	7.33	171	548	160	5690	0.0021 J	2.5	0.095	107	5	107				
	11/18/2020	7.45	138	492	145	6810	0.0026 J	2.7	0.11	114	<5.0	114	27100	11500	<10.0	1530
	3/2/2021	7.40	157	470	158	4130	<0.0043	2.3 J	0.074 J	83.6	<5.0	83.6	16200	6660	<10.0	929
BG-2HT	10/27/2020	7.40	175	601	168	6230	0.0025 J	2.9	0.11	111	5	111				
	11/17/2020	7.49	154	553	161	7310	0.0033 J	2.9	0.11	116	<5.0	116	23800	12300	<10.0	1630
	3/3/2021	7.49	178	537	180	4930	<0.0043	2.4 J	0.084 J	92.4	<5.0	92.4	15900	8060	<10.0	1150
T1-1HT	10/28/2020	7.43	202	647	189	3070	0.0022 J	2.4	0.089	103	5	103	21900	10300	0.05	1460
	3/2/2021	7.56	147	440	147	3870	<0.0043	2 J	0.074 J	79.8	<5.0	79.8	14200	6500	<10.0	818
T1-1LT	10/27/2020	7.48	180	562	169	2940	0.0024 J	2.2	0.075	99.2	5	99.2	18900	9880	0.05	1360
	3/4/2021	7.35	126	381	125	3300	<0.0043	1.6 J	0.066 J	73.4	<5.0	73.4	14000	6160	<10.0	774
T1-2HT	10/28/2020	7.30	197	636	187	3500	0.0023 J	2.5	0.09	110	5	110	21800	11700	0.05	1620
	3/2/2021	7.36	178	532	177	4480	<0.0043	2 J	0.084 J	85.1	<5.0	85.1	17500	7070	<10.0	919
T1-2HTS	10/28/2020	7.37	210	668	199	3990	0.0023 J	2.5	0.089	111	5	111	20800	17100	0.05	2480
	3/2/2021	7.47	154	460	153	3980	0.0084 J	1.8 J	0.072 J	78.7	<5.0	78.7	15000	6250	<10.0	902
T1-2LT	10/27/2020	7.51	182	560	175	3870	0.0026 J	2.3	0.083	102	5	102	18700	14500	0.05	2060
	3/4/2021	7.34	137	406	137	3550	<0.0043	1.6 J	0.063 J	73.8	<5.0	73.8	12700	5680	<10.0	764
T1-3HT	10/28/2020	7.26	221	683	214	4000	0.0024 J	2.5	0.091	109	5	109	21400	17300	0.05	1410
	3/2/2021	7.36	155	469	157	4190	<0.0043	2 J	0.077 J	82.7	<5.0	82.7	17200	7020	<10.0	1020
T1-3HTS	10/28/2020	7.34	1.9	1.4	60.8	12.2	0.0023 J	2.5	0.096	107	5	107	20600	15400	0.05	2220
	3/2/2021	7.42	157	470	158	4050	<0.0043	1.9 J	0.073 J	83.5	<5.0	83.5	15600	6540	<10.0	993
T1-3LT	10/27/2020	7.92	66.4	139	60.8	1200	0.0024 J	0.78	0.027 J	48.6	5	48.6	7400	2190	0.32	359
	3/4/2021	7.34	133	385	130	3360	0.0068 J	1.7 J	0.061 J	71.4	<5.0	71.4	14000	5390	<10.0	901
T1-4HLT	10/27/2020	7.34	203	671	188	4650	0.0026 J	2.5	0.09	104	5	104	22300	12600	0.05	1800

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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)
T1-4HT	10/28/2020	7.39	202	658	187	4340	0.0026 J	2.6	0.09	104	5	104	19100	14700	0.05	2120
	3/2/2021	7.33	159	473	159	4270	0.012 J	2 J	0.079 J	81.9	<5.0	81.9	13800	6780	<10.0	1200
T1-4HTS	10/28/2020	7.36	202	665	186	3540	0.0025 J	2.6	0.085	105	5	105	19800	11200	0.05	1540
	3/2/2021	7.43	156	463	157	4150	<0.0043	2 J	0.072 J	82.1	<5.0	82.1	14000	7050	<10.0	921
T1-4LT	3/4/2021	7.30	126	370	125	3280	<0.0043	1.6 J	0.067 J	72	<5.0	72	12400	5370	<10.0	767
T2-1HT	10/28/2020	7.44	192	651	179	4450	0.0024 J	2.6	0.091	106	5	106	19800	12800	0.05	1820
	3/2/2021	7.43	172	518	174	4240	<0.0043	1.9 J	0.068 J	77.5	<5.0	77.5	16100	6300	<0.050	512
T2-2HT	10/28/2020	7.30	207	690	193	3940	0.0024 J	2.5	0.093	108	5	108	20800	11600	0.05	1590
	3/2/2021	7.36	188	561	191	4540	<0.0043	2.2 J	0.07 J	86.7	<5.0	86.7	18200	8240	<10.0	1180
T2-2HTS	10/28/2020	7.38	192	639	179	3590	0.0025 J	2.6	0.091	105	5	105	19400	11300	0.05	1540
	3/2/2021	7.35	165	496	166	4200	<0.0043	2.1 J	0.063 J	78.2	<5.0	78.2	15400	6610	<10.0	932
T2-2LT	10/27/2020	7.47	191	622	177	3910	0.0033 J	2.5	0.087	111	5	111	20200	11000	0.05	1560
	3/4/2021	7.31	124	367	122	3120	<0.0043	1.8 J	0.05 J	68.5	<5.0	68.5	11400	5100	<10.0	715
T2-3HT	10/28/2020	7.26	206	669	193	3910	0.0024 J	2.4	0.093	106	5	106	19700	11000	0.05	1520
	3/2/2021	7.37	181	542	184	4710	<0.0043	2.4 J	0.07 J	86.8	<5.0	86.8	18200	7390	<10.0	1050
T2-3HTS	10/28/2020	7.37	199	660	187	4070	0.0024 J	2.5	0.092	104	5	104	19800	12700	0.05	1870
	3/2/2021	7.44	160	481	161	4140	<0.0043	2.5 J	0.062 J	78.3	<5.0	78.3	15100	6590	<10.0	918
T2-3LT	10/27/2020	7.31	153	535	143	3120	0.0029 J	2.2	0.084	104	5	104	19300	9330	0.05	1260
	3/4/2021	7.34	136	407	135	3330	<0.0043	1.9 J	0.055 J	71	<5.0	71	13200	5860	<10.0	827
T2-4HT	10/28/2020	7.33	205	654	202	4200	0.0026 J	2.4	0.092	105	5	105	20600	9790	0.05	1330
	3/2/2021	7.34	172	513	174	4190	<0.0043	2.3 J	0.065 J	81.2	<5.0	81.2	16900	7410	<10.0	1040
T2-4HTS	10/28/2020	7.35	198	635	195	5200	0.0025 J	2.6	0.093	106	5	106	19900	13800	0.05	2150
	3/2/2021	7.44	164	494	166	4220	<0.0043	2.3 J	0.07 J	82.4	<5.0	82.4	15600	7010	<10.0	985
T2-4LT	10/27/2020	7.33	196	618	193	5270	0.0026 J	2.5	0.089	105	5	105	19600	10300	0.05	1430

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T2-4LT	3/4/2021	7.36	138	408	135	3520	<0.0043	2 J	0.046 J	70.9	<5.0	70.9	12300	5530	<10.0	769
T3-1HT	10/28/2020	7.24	187	605	182	5770	0.0021 J	2.4	0.095	106	5	106				
	11/17/2020	7.43	17.5	57.4	17.4	6760	0.0019 J	2.4	0.093	110	<5.0	110	20900	10600	<0.050	1330
	3/2/2021	7.29	160	482	160	3940	<0.0043	2.3 J	0.068 J	80.4	<5.0	80.4	15500	6380	<10.0	888
T3-2HT	10/28/2020	7.25	228	704	219	5790	0.0024 J	2.5	0.1	106	5	106				
	11/17/2020	7.39	183	633	181	6800	0.0022 J	2.6	0.093	110	<5.0	110	20300	10900	<10.0	1400
	3/2/2021	7.25	164	490	165	4220	<0.0043	2.4 J	0.069 J	83.2	<5.0	83.2	17000	7130	<10.0	1000
T3-2HTS	10/28/2020	7.17	199	620	191	5880	0.0023 J	2.6	0.099	106	5	106				
	11/17/2020	7.43	178	585	176	6900	0.0026 J	2.7	0.099	111	<5.0	111	22000	10800	<10.0	1370
	3/2/2021	7.29	163	492	165	4240	<0.0043	2.3 J	0.063 J	81.1	<5.0	81.1	15500	6740	<10.0	946
T3-2LT	10/27/2020	7.50	190	588	181	4660	0.0029 J	2.6	0.095	108	5	108				
	11/18/2020	7.60	157	545	158	6800	0.0023 J	2.5	0.095	112	<5.0	112	24000	11000	<10.0	1420
	3/4/2021	7.24	114	333	110	2860	<0.0043	1.7 J	0.043 J	66.1	<5.0	66.1	10500	4650	<10.0	636
T3-3HT	10/28/2020	7.29	206	647	199	3980	0.0026 J	2.7	0.1	106	5	106				
	11/17/2020	7.37	171	571	172	6800	0.0022 J	2.7	0.093	111	<5.0	111	21900	11200	<10.0	1430
	3/2/2021	7.32	168	508	171	4350	<0.0043	2.4 J	0.069 J	84.7	<5.0	84.7	17300	7100	<10.0	1000
T3-3HTS	10/28/2020	7.40	188	586	180	5610	0.0024 J	2.6	0.1	107	5	107				
	11/17/2020	7.50	153	529	154	6710	0.002 J	2.5	0.09	113	<5.0	113	20400	11000	<10.0	1400
	3/2/2021	7.31	158	480	161	3580	<0.0043	2.2 J	0.069 J	81.1	<5.0	81.1	15800	6770	<10.0	958
T3-3LT	10/27/2020	7.42	167	542	159	5680	0.0022 J	2.4	0.098	105	5	105				
	11/18/2020	7.58	154	514	157	6580	0.002 J	2.4	0.093	110	<5.0	110	26100	11000	<10.0	1370
	3/4/2021	7.20	106	306	101	2520	<0.0043	1.4 J	0.046 J	63.3	<5.0	63.3	9700	4640	<10.0	638
T3-4HT	10/28/2020	7.30	172	570	165	5480	0.0025 J	2.6	0.093	104	5	104				
	11/17/2020	7.42	161	560	165	6850	0.0024 J	2.8	0.1	114	<5.0	114	22700	11300	<10.0	1480

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T3-4HT	3/2/2021	7.33	175	538	180	4660	<0.0043	2.3 J	0.069 J	83.9	<5.0	83.9	17600	7540	<10.0	1080
T3-4HTS	10/28/2020	7.39	171	544	163	5840	0.0027 J	2.6	0.095	103	5	103				
	11/17/2020	7.48	167	561	170	7080	0.0025 J	2.7	0.1	114	<5.0	114	21900	11500	<10.0	1500
	3/2/2021	7.43	161	489	164	4160	<0.0043	3.8	0.11 J	80.4	<5.0	80.4	16900	6810	<10.0	951
T3-4LT	10/27/2020	7.29	149	497	142	5090	0.0029 J	2.6	0.1	107	5	107				
	11/18/2020	7.54	156	524	160	6680	0.0026 J	2.7	0.099	112	<5.0	112	32200	11300	<10.0	1490
	3/4/2021	7.33	132	393	137	3340	<0.0043	2.1 J	0.055 J	70.9	<5.0	70.9	12600	5700	<10.0	792
T4-1HB	10/29/2020	7.25	218	686	220	5970	0.0029 J	2.6	0.1	114	5	114	21100	14600	0.05	1450
	3/3/2021	7.42	112	334	111	4410	<0.0043	1.8 J	0.072 J	84.5	<5.0	84.5	13900	7320	<10.0	1020
T4-1HS	10/29/2020	7.19	213	675	213	5760	0.003 J	2.8	0.11	114	5	114	20300	10700	0.05	1480
	3/3/2021	7.57	133	394	130	4490	<0.0043	2 J	0.075 J	85.2	<5.0	85.2	14300	6780	<10.0	959
T4-1L	10/28/2020	7.66	199	667	193	5870	0.0037 J	2.6	0.1	110	5	110	21000	11200	0.05	1570
	3/3/2021	7.49	104	306	103	4390	<0.0043	1.9 J	0.076 J	82.4	<5.0	82.4	13300	6450	<10.0	900
T4-2HB	10/29/2020	7.34	174	623	171	5820	0.0028 J	2.6	0.1	113	5	113	22300	17100	0.05	1460
	3/3/2021	7.45	113	335	112	4430	<0.0043	2 J	0.067 J	84.3	<5.0	84.3	14900	6850	<10.0	980
T4-2HS	10/29/2020	7.37	190	667	184	5140	0.0029 J	2.6	0.1	114	5	114	20200	13300	0.05	1440
	3/3/2021	7.52	120	360	119	4170	<0.0043	2 J	0.078 J	83.9	<5.0	83.9	14600	7090	<10.0	988
T4-2L	10/28/2020	7.49	196	662	193	5680	0.0034 J	2.5	0.098	114	5	114	22200	13200	0.05	1430
	3/3/2021	7.47	110	331	111	4420	<0.0043	2 J	0.066 J	83.4	<5.0	83.4	13900	6620	<10.0	929
T4-3HB	10/29/2020	7.29	199	650	200	5370	0.0027 J	2.6	0.1	114	5	114	20700	13600	0.05	1440
	3/3/2021	7.45	118	355	118	4010	<0.0043	2 J	0.066 J	83.6	<5.0	83.6	13900	6780	<10.0	966
T4-3HS	10/29/2020	7.37	170	579	172	4650	0.0028 J	2.7	0.11	113	5	113	22100	12700	0.05	1450
	3/3/2021	7.54	150	446	149	4150	<0.0043	2.1 J	0.083 J	84.2	<5.0	84.2	13600	6910	<10.0	990
T4-3L	10/28/2020	7.49	206	668	205	5020	0.0037 J	2.7	0.1	114	5	114	23800	13600	0.05	1460

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T4-3L	3/3/2021	7.47	125	368	123	4290	<0.0043	2 J	0.079 J	86	<5.0	86	13700	6880	<10.0	991
T4-4HB	10/29/2020	7.33	157	552	150	5380	0.0023 J	2.8	0.11	109	5	109				
	11/17/2020	7.49	164	567	171	7080	0.0025 J	2.9	0.11	117	<5.0	117	23900	12400	<10.0	1650
	3/3/2021	7.47	114	343	114	4090	<0.0043	2.1 J	0.075 J	87.1	<5.0	87.1	15500	7070	<10.0	1020
T4-4HS	10/29/2020	7.40	207	670	207	4770	0.0028 J	2.7	0.1	111	5	111	20700	14900	0.05	1470
	3/3/2021	7.54	156	465	156	4200	<0.0043	2.1 J	0.08 J	75.8	<5.0	75.8	13900	7040	<10.0	1020
T4-4L	10/28/2020	7.53	208	678	208	5430	0.0034 J	2.6	0.098	114	5	114	22300	11700	0.05	1420
	3/3/2021	7.38	158	468	158	4210	<0.0043	2 J	0.075 J	87.9	<5.0	87.9	14400	6860	<10.0	990

Notes:

1. < indicates the substance was not detected above the analytical Method Detection Limit (MDL)
2. J - Estimated value. Substance was detected above the MDL and below the laboratory's Reporting Limit (RL).
3. U - Estimated value for radium. Substance was detected below the Minimum Detection Concentration (MDC).
4. TDS - Total Dissolved Solids
5. Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring
6. Blank values indicate the parameter was not analyzed
7. pH - Parameter measured in the field
8. pH results reported in standard units (SU)

Table 6
 2021 Horizontal Groundwater Flow Velocity Calculations
 Plant McManus
 Brunswick, GA

	10/14/2020		10/14/2020		3/1/2021		3/5/2021	
Tide Level	Low	Low	High	High	Low	Low	High	High
Well 1	MCM-16	MCM-11	MCM-16	MCM-11	MCM-16	MCM-11	MCM-16	MCM-11
Well 2	MCM-02	MCM-12	MCM-02	MCM-12	MCM-02	MCM-12	MCM-02	MCM-12
Distance between	75.63	458.82	75.63	458.82	75.63	458.82	75.63	458.82
Head Well 1	7.75	5.77	7.76	5.78	7.31	5.82	7.51	6.50
Head Well 2	7.27	3.33	7.27	3.24	6.98	3.00	7.18	3.13
Hydraulic gradient i	0.00629	0.00531	0.00640	0.00553	0.00436	0.00615	0.00436	0.00734
K (cm/s site avg. from slug tests)	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
Effectivity Porosity Ne (0.35 from HAR)	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Velocity in cm/s	2.16E-05	1.82E-05	2.19E-05	1.90E-05	1.50E-05	2.11E-05	1.50E-05	2.52E-05
Velocity in ft/day	0.0611	0.0516	0.0622	0.0537	0.0424	0.0597	0.0424	0.0714
Velocity in ft/year	22.32	18.84	22.69	19.61	15.48	21.80	15.48	26.06
Average Velocity ft/day	0.056		0.058		0.051		0.057	
Average Velocity ft/year	20.58		21.15		18.64		20.77	

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

Created By: JB 5/18/21
 Checked By: WL 5/18/21

Georgia Power Company

Plant McManus

Table 7

October 2020 and March 2021 Groundwater Data Summary

WELL ID Sample Date	Appendix III							Appendix IV							
	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	pH	Arsenic	Barium	Beryllium	Cobalt	Lead	Lithium	Selenium	Radium
DPZ-02															
10/15/2020	2.1	225	8000	0.11	989	19300	7.08	0.021	0.071	<0.001	<0.001	<0.0015	0.093	<0.0012	6.65
3/4/2021	2.2 J	257	8280	<0.050	1060	19000	7.21	0.017 J	0.096	<0.0025	<0.0025	<0.0038	0.094 J	<0.0036	7.33
MCM-01															
8/26/2020	<0.12	10.5	13.2	<0.05	32.9	82	5.79	0.0079	0.056	<0.001	<0.001	<0.0015	<0.0078	<0.0012	0.491 U
10/13/2020	<0.12	9.8	13.5	<0.05	32.3	113	5.69	0.0061	0.06	<0.001	<0.001	<0.0015	<0.0078	<0.0012	0.855 U
3/3/2021	<0.42	14	13.6	<0.050	33.8	99	5.81	0.016 J	0.14	<0.0025	<0.0025	<0.0038	<0.025	<0.0036	1.01 U
MCM-02															
8/26/2020	<0.12	4.6	26.7	<0.05	28.0	89	5.03	<0.0017	0.092	<0.001	<0.001	0.0018 J	<0.0078	<0.0012	0.47 U
10/13/2020	<0.12	3.8	25.7	<0.05	27.6	118	5.03	<0.0017	0.086	<0.001	<0.001	<0.0015	<0.0078	<0.0012	0.56 U
3/3/2021	<0.42	4.0	20.5	<0.050	27.6	84	5.06	<0.0043	0.21	<0.0025	<0.0025	<0.0038	<0.025	<0.0036	0.474 U
MCM-04															
8/26/2020	<0.12	20.6	42	<0.05	112	289	4.95	0.0059	0.086	<0.001	0.015	<0.0015	<0.0078	<0.0012	5.28
10/13/2020	<0.12	12.5	54.4	<0.05	92.3	<25	5.25	0.0022 J	0.055	<0.001	0.0063	<0.0015	<0.0078	<0.0012	3.71
3/4/2021	0.11 J	15.1	69.6	<0.050	99.1	285	5.31	0.0018 J	0.062	<0.00025	0.006	<0.00038	<0.0025	0.00038 J	2.83
MCM-05															
8/26/2020	0.43 J	21.5	558	0.39	61.9	1260	6.59	<0.0017	0.0065 J	<0.001	<0.001	<0.0015	0.018 J	<0.0012	0.841 U
10/15/2020	0.61	69.1	1660	0.22	147	5100	6.53	0.024	0.45	<0.001	0.0019 J	<0.0015	0.57	0.0028 J	2.56
1/4/2021	0.99	107	2460	<0.05	262	7750	6.66	0.0072	0.051	0.003	0.001	0.0015	0.043 J	0.0012	
3/4/2021	0.4 J	23.4	652	0.45	82.2	1700	6.52	<0.0017	0.0082 J	<0.0010	<0.0010	<0.0015	0.017 J	<0.0014	1.43 U

Georgia Power Company
Plant McManus
Table 7
October 2020 and March 2021 Groundwater Data Summary

WELL ID	Appendix III							Appendix IV								
	Sample Date	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	pH	Arsenic	Barium	Beryllium	Cobalt	Lead	Lithium	Selenium	Radium
MCM-06																
8/26/2020	1.6	254	6510	<0.05	514	14900	6.89	0.46	0.15 J	<0.0012	<0.0012	<0.0019	0.096 J	<0.0015	8.06	
10/14/2020	1.5	245	6930	<0.05	552	15200	6.93	0.43	0.14	<0.001	<0.001	<0.0015	0.11	<0.0012	8.97	
3/4/2021	1.4 J	233	6310	<0.050	596	14200	6.94	0.35	0.14	<0.0025	<0.0025	<0.0038	0.096 J	<0.0036	7.89	
MCM-07																
8/26/2020	1.6	259	7330	<0.05	895	19200	6.32	0.019	0.22	<0.001	<0.001	0.014	0.045 J	<0.0012	11.8	
10/14/2020	1.8	216	8170	<0.05	938	18400	6.32	0.013	0.19	<0.001	<0.001	<0.0015	0.039 J	<0.0012	13.1	
3/4/2021	1.6 J	244	7540	<0.050	982	17100	6.33	0.015 J	0.20	<0.0025	<0.0025	<0.0038	0.035 J	<0.0036	9.66	
MCM-11																
8/26/2020	<0.12	3.2	13.3	0.097 J	21.8	86	4.96	0.0044 J	0.041	<0.001	<0.001	<0.0015	<0.0078	<0.0012	0.424 U	
10/12/2020	<0.12	2.8	13.9	<0.05	19.3	94	5.00	0.0047 J	0.039	<0.001	<0.001	<0.0015	<0.0078	<0.0012	2.70	
3/3/2021	<0.42	2.1	9.4	0.082 J	19.9	66	5.07	0.011 J	0.090	<0.0025	<0.0025	<0.0038	<0.025	<0.0036	1.88	
MCM-12																
8/26/2020	1.4	7.5	529	1.2	<0.5	1700	6.32	<0.0017	0.10	0.001 J	<0.001	<0.0015	0.013 J	<0.0012	2.14	
10/12/2020	1.3	6.1	552	1.2	<0.5	1560	6.35	<0.0017	0.10	0.001 J	<0.001	<0.0015	0.011 J	<0.0012	2.66	
3/2/2021	1.4 J	6.5	459	1.0	1.20	1430	6.34	<0.0043	0.10	<0.0025	<0.0025	<0.0038	<0.025	<0.0036	2.20	
MCM-14																
8/26/2020	1.2	284	<0.6	<0.05	730	14700	6.62	<0.0017	0.12	<0.001	<0.001	<0.0015	0.054	<0.0012	9.60	
10/13/2020	1.1	40.9	6230	<0.05	695	15600	6.56	<0.0017	0.14	<0.001	<0.001	<0.0015	0.046 J	<0.0012	7.43	
10/14/2020	1.2	177	6230		682		6.50	<0.0017								
3/2/2021	1.4 J	205	<0.60	<0.050	97.5	12000	6.55	<0.0043	0.16	<0.0025	<0.0025	<0.0038	0.046 J	<0.0036	7.02	

Georgia Power Company
Plant McManus
Table 7
October 2020 and March 2021 Groundwater Data Summary

WELL ID	Appendix III							Appendix IV								
	Sample Date	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	pH	Arsenic	Barium	Beryllium	Cobalt	Lead	Lithium	Selenium	Radium
MCM-15																
8/26/2020	<0.12	5.8	14.4	<0.05	14	101	5.33	0.0024 J	0.039	<0.001	<0.001	<0.0015	<0.0078	<0.0012	1.29 U	
10/13/2020	<0.12	0.83	3.8	<0.05	7.6	63	5.02	0.0042 J	0.024	<0.001	<0.001	<0.0015	<0.0078	<0.0012	3.32	
3/2/2021	<0.42	1.4	4.2	<0.050	8.0	40	5.16	0.021 J	0.067	<0.0025	<0.0025	<0.0038	<0.025	<0.0036	1.74	
MCM-16																
8/26/2020	<0.12	5.6	22.2	<0.05	27.8	95	4.92	<0.0017	0.12	<0.001	<0.001	<0.0015	<0.0078	<0.0012	0.643 U	
10/13/2020	<0.12	5.7	23.3	<0.05	26.8	115	5.17	<0.0017	0.11	<0.001	<0.001	<0.0015	<0.0078	<0.0012	1.71	
3/3/2021	<0.085	11.2	27.6	<0.050	30.5	122	5.71	0.0012 J	0.059	<0.00050	<0.00050	<0.00077	<0.0050	<0.00072	1.81	
MCM-17																
8/26/2020	1.8	146	<0.60	<0.05	341	8400	6.65	<0.0017	0.15	<0.001	<0.001	<0.0015	0.027 J	<0.0012	8.51	
10/13/2020	1.8	86.4	3980	<0.05	378	8750	6.34	<0.0017	0.14	<0.001	<0.001	<0.0015	0.028 J	<0.0012	7.75	
3/3/2021	1.7 J	143	<0.60	<0.050	420	8830	6.58	<0.0043	0.17	<0.0025	<0.0025	<0.0038	<0.025	<0.0036	7.80	
MCM-18																
8/26/2020	0.25 J	25.7	<0.60	0.096 J	170	2980	4.27	0.0019 J	0.095	0.0042	<0.001	0.0035 J	<0.0078	0.0014 J	10.5	
10/12/2020	0.24 J	19.1	1340	0.34	191	2920	4.29	<0.0017	0.091	0.0041	<0.001	<0.0015	<0.0078	<0.0012	8.83	
3/3/2021	0.21 J	26.0	1230	0.32	171	2620	4.37	0.0014 J	0.099	0.003	<0.00050	<0.00077	<0.0050	0.0012 J	9.57	
MCM-19																
8/26/2020	0.91	121	5390	<0.05	854	13300	5.25	0.012	0.11	0.011	<0.001	<0.0015	0.018 J	0.006 J	22.6	
10/13/2020	0.73	125	5260	<0.05	609	6600	5.04	0.0089	0.12	0.015	<0.001	<0.0015	0.022 J	0.0076 J	14.1	
3/3/2021	0.79 J	123	5170	<0.050	<0.50	11000	5.10	0.0086 J	0.14	0.015	<0.0010	<0.0015	0.019 J	0.013 J	20.4	
MCM-20																
8/26/2020	1.0	110	5470	0.058 J	639	15100	3.78	0.018	0.12	0.018	0.034	<0.0015	0.026 J	0.0052 J	36.7	

Georgia Power Company

Plant McManus

Table 7

October 2020 and March 2021 Groundwater Data Summary

WELL ID	Appendix III							Appendix IV								
	Sample Date	Boron	Calcium	Chloride	Fluoride	Sulfate	TDS	pH	Arsenic	Barium	Beryllium	Cobalt	Lead	Lithium	Selenium	Radium
MCM-20																
	10/13/2020	1.1	128	5980	<0.05	638	13900	3.72	0.018	0.12	0.017	0.032	<0.0015	0.025 J	0.0056 J	30.3
	3/3/2021	0.91 J	110	<0.60	<0.050	743	11400	3.36	0.016 J	0.12	0.014	0.033	<0.0015	0.018 J	0.0094 J	31.5

Notes:

- < indicates the substance was not detected above the analytical Method Detection Limit (MDL)
- J - Estimated value. Substance was detected above the MDL and below the laboratory's Reporting Limit (RL).
- U - Estimated value for radium. Substance was detected below the Minimum Detection Concentration (MDC).
- TDS - Total Dissolved Solids
- Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring
- Blank values indicate the parameter was not analyzed
- pH - Parameter measured in the field
- pH results reported in standard units (SU)

Table 8
Federal Groundwater Protection Standards
Plant McManus
Brunswick, Georgia

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	0.03	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 F- Groundwater Stats Consulting, dated February and June 2021.

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 EPD Groundwater Protection Standards
 Plant McManus
 Brunswick, Georgia

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	0.03	0.03
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 F- Groundwater Stats Consulting, dated February and June 2021.

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



Legend

CCR Permitted Boundary

Resolute
Environmental & Water Resources Consulting

**Plant McManus
Site Location Map**

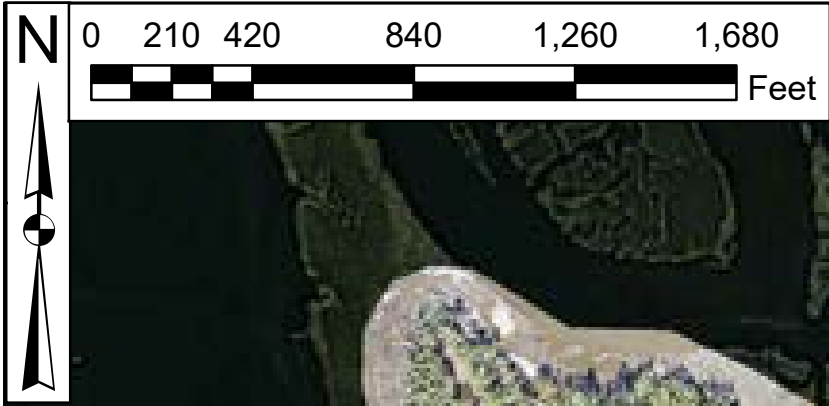
**Figure
1**

Woodstock, GA

May 2021

Brunswick, GA

Document Path: C:\Users\resolute\resolute\Environmental\RE_SP - Environmental\ArcGIS\McManus\2021\CCR\Annual Report\Figure 2 - Site Plan and Well Locations Map.mxd



Legend

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

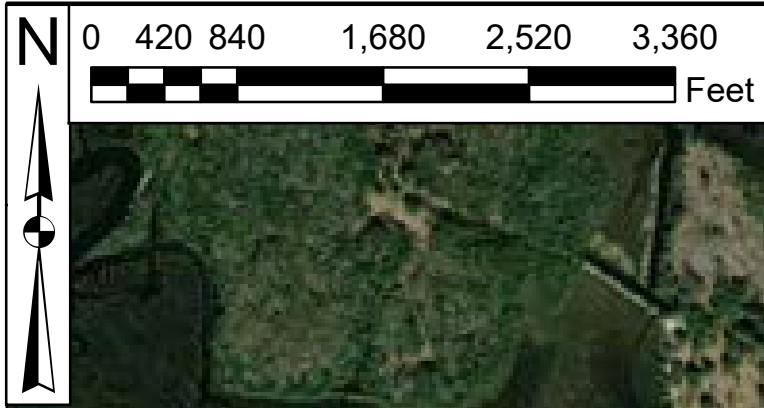


Woodstock, GA

May 2021

Plant McManus
Site Plan and Well Location Map
 Brunswick, GA

Figure
2



Legend

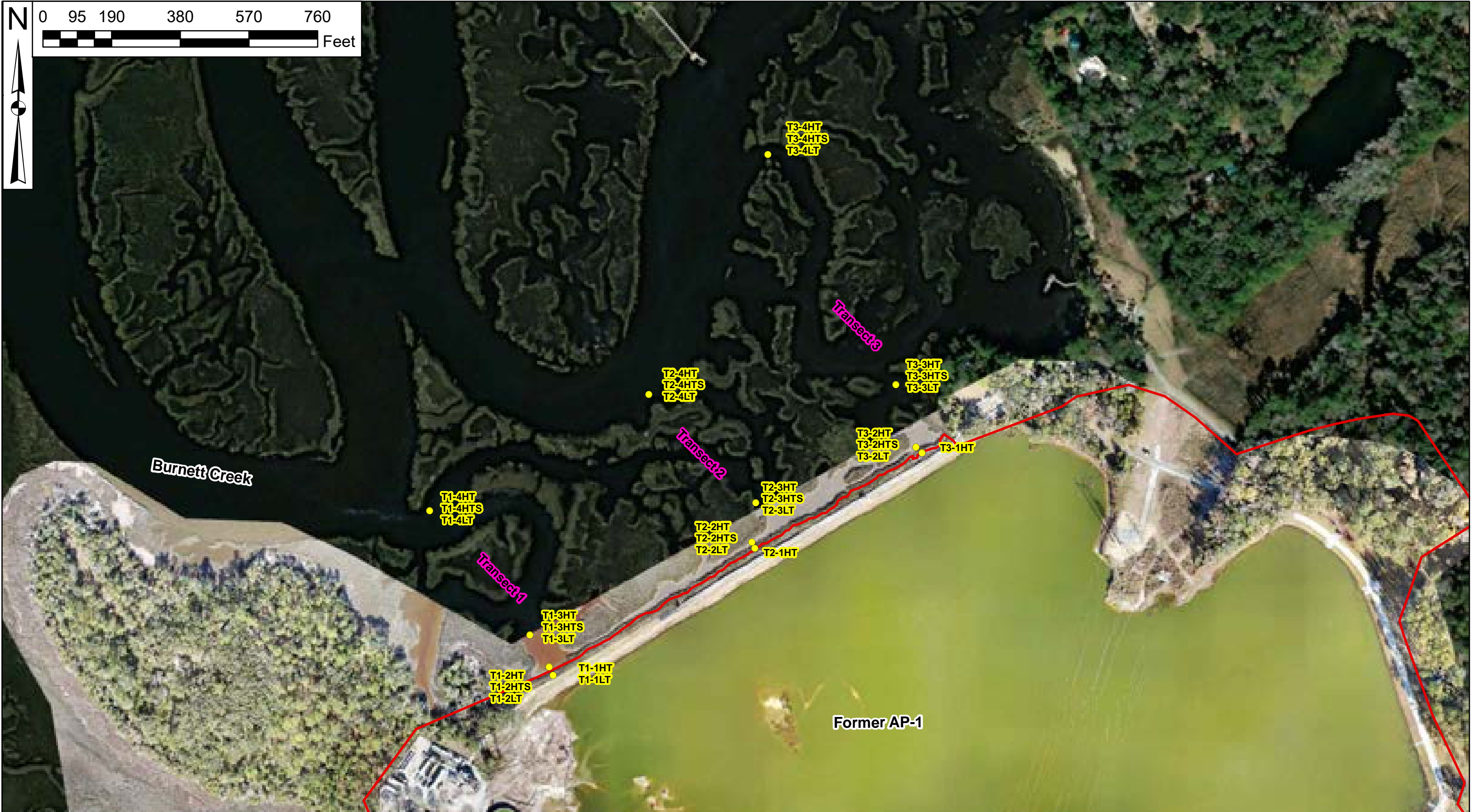
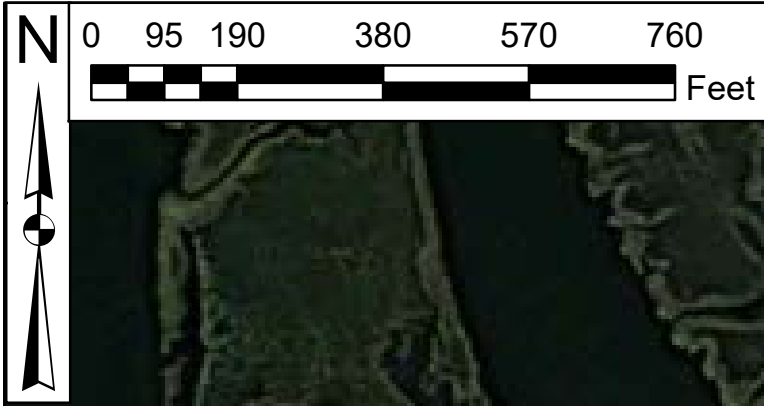
- Surface Water
- Background Surface Water Sample
- CCR Permitted Boundary

Resolute
Environmental & Water Resources Consulting

Woodstock, GA	May 2021
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**Plant McManus
Surface Water
Sample Collection Location
March 2-5, 2021**
Brunswick, GA

**Figure
3**



Legend
● Surface Water Sample
 CCR Permitted Boundary

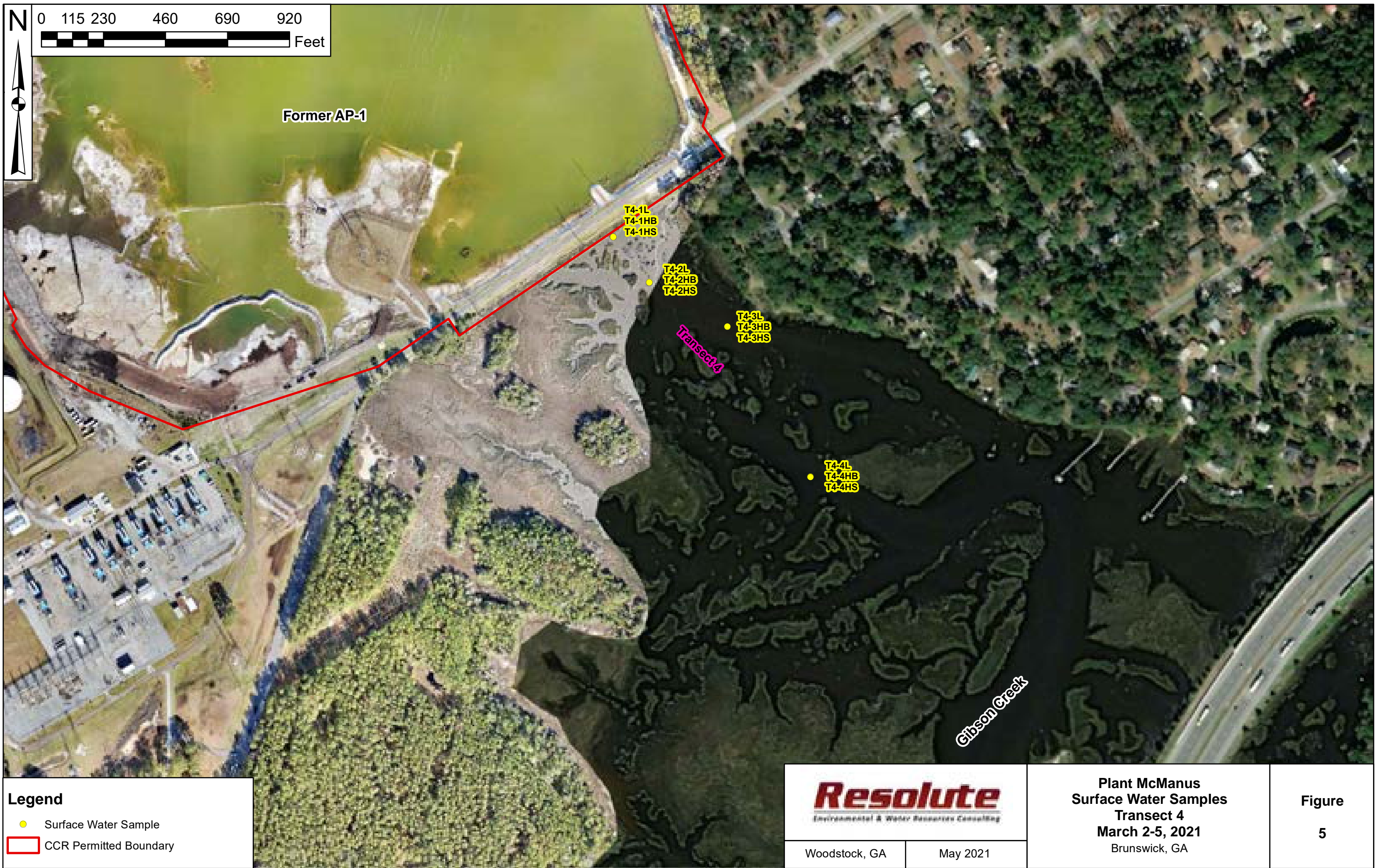
Resolute
 Environmental & Water Resources Consulting

Woodstock, GA	May 2021
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Plant McManus
 Surface Water Samples
 Transects 1-3
 March 2-5, 2021
 Brunswick, GA

Figure
 4

Document Path: C:\Data\Resolute Environmental\RE_SP - Environmental\ArcGIS\Manus\2021\CCR\Annual Report\Figure 5 - Surface Water Sample Locations Transect 4.mxd



Legend

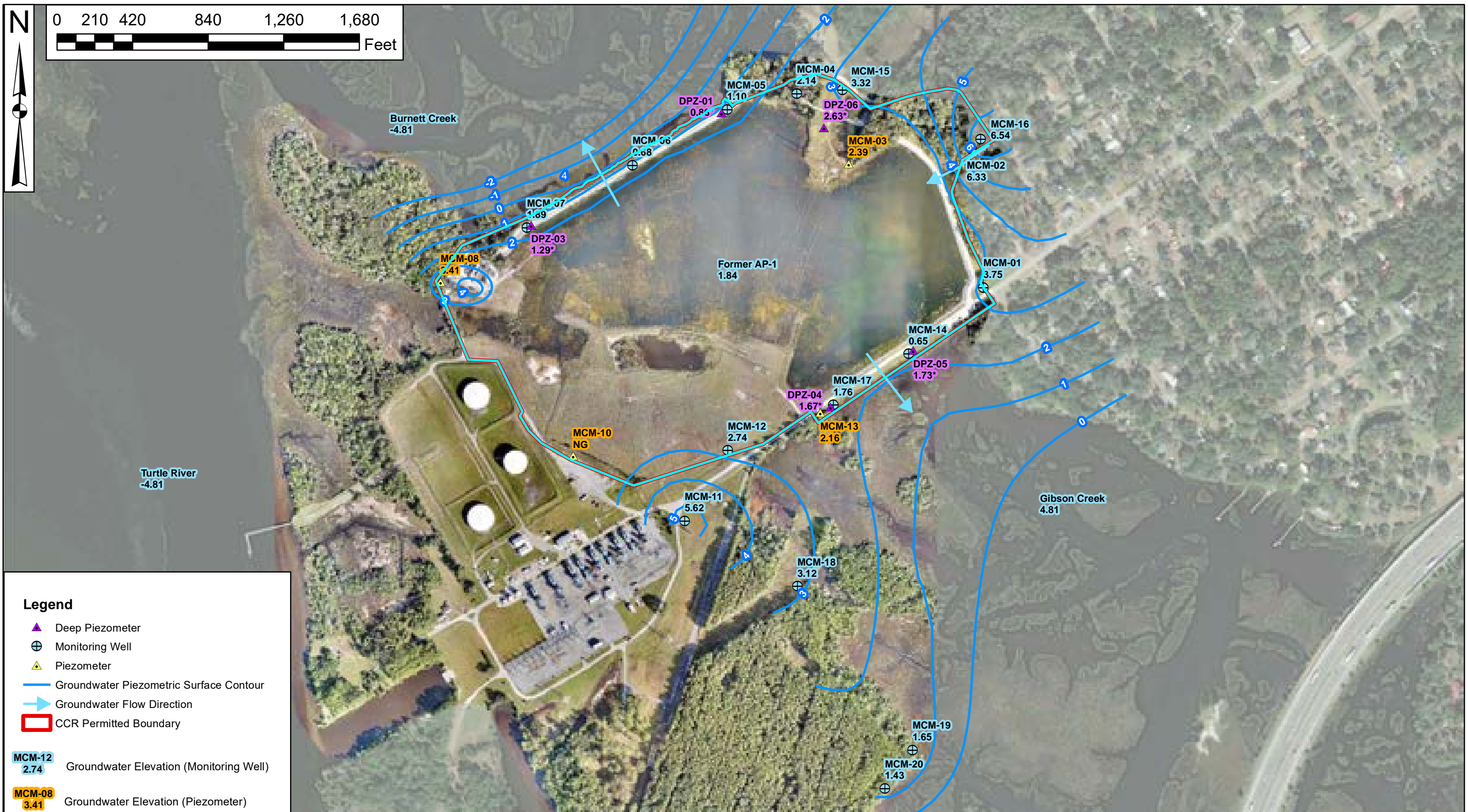
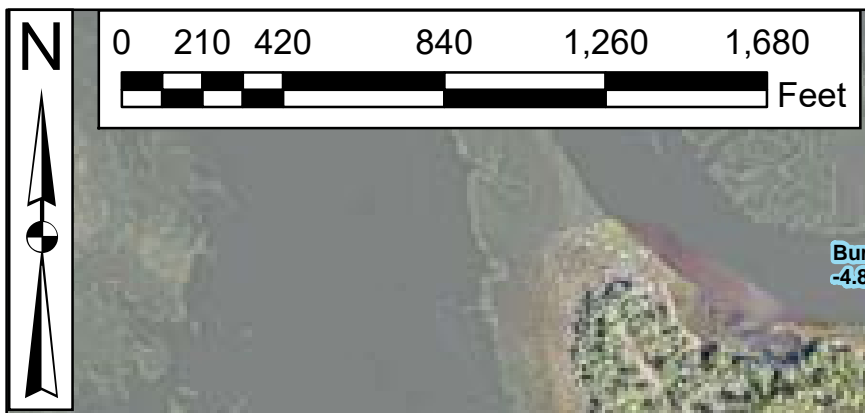
- Surface Water Sample
- CCR Permitted Boundary

Resolute
Environmental & Water Resources Consulting

Woodstock, GA	May 2021
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**Plant McManus
Surface Water Samples
Transect 4
March 2-5, 2021
Brunswick, GA**

**Figure
5**



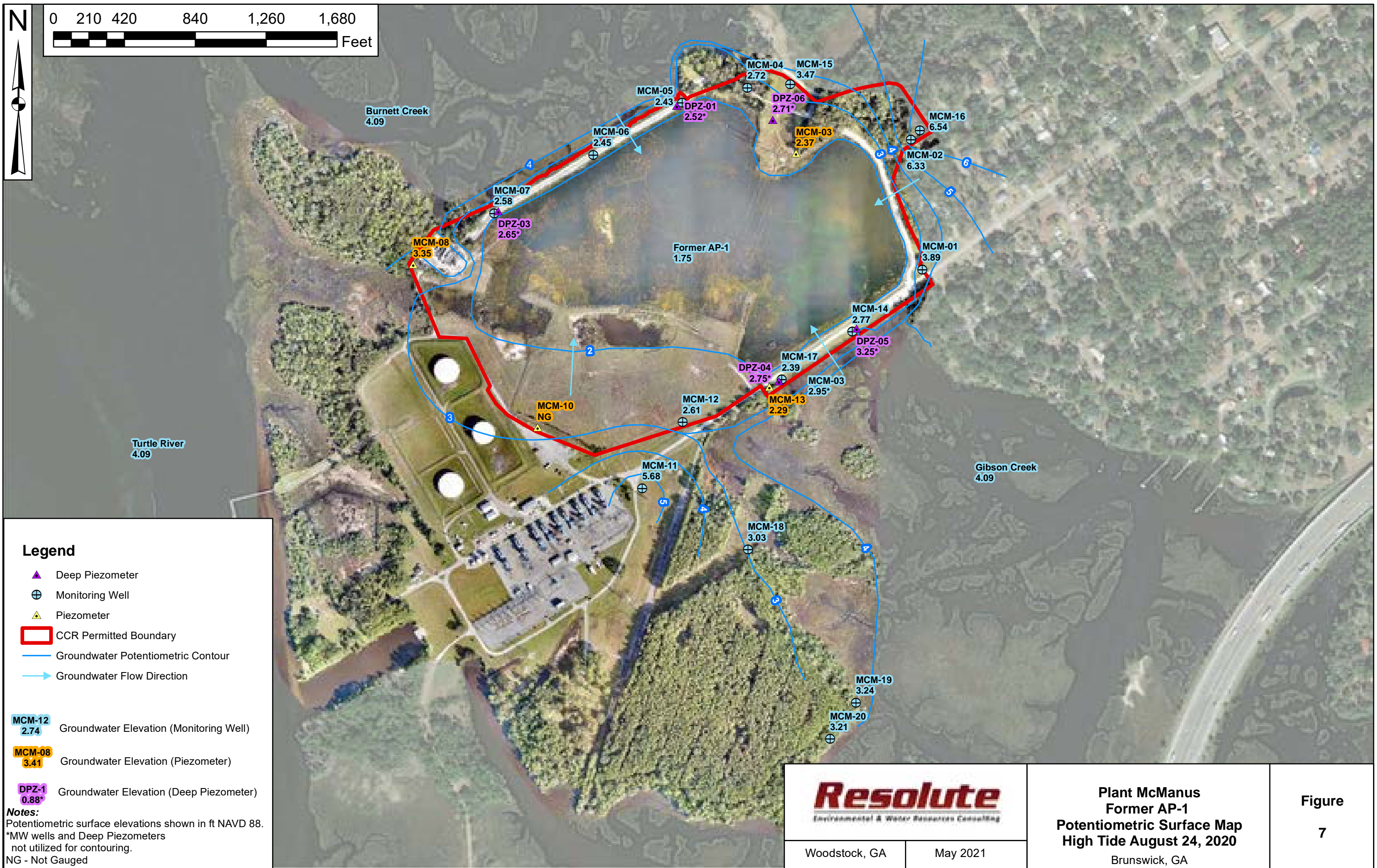
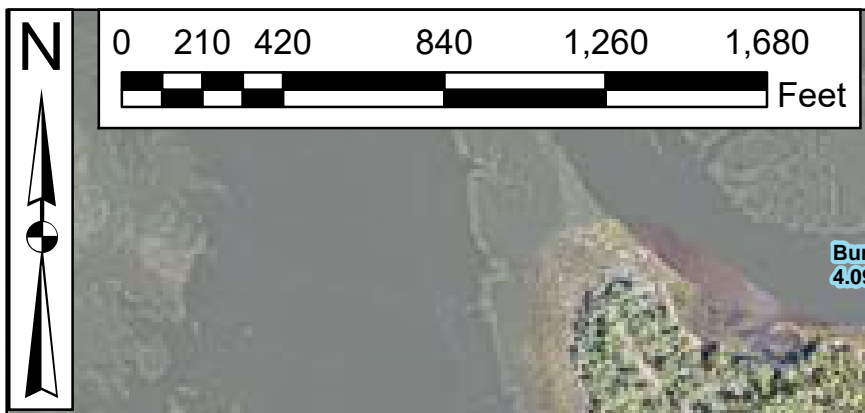
Legend

- ▲ Deep Piezometer
- ⊕ Monitoring Well
- ▲ Piezometer
- Groundwater Piezometric Surface Contour
- Groundwater Flow Direction
- CCR Permitted Boundary

MCM-12 2.74	Groundwater Elevation (Monitoring Well)
MCM-08 3.41	Groundwater Elevation (Piezometer)
DPZ-1 0.86*	Groundwater Elevation (Deep Piezometer)

Notes:
 Potentiometric surface elevations shown in ft NAVD 88.
 *MW wells and Deep Piezometers not utilized for contouring.
 NG - Not Gauged

		Plant McManus Former AP-1 Potentiometric Surface Map Low Tide August 24, 2020	Figure 6
Woodstock, GA	May 2021	Brunswick, GA	



Legend

- ▲ Deep Piezometer
- ⊕ Monitoring Well
- ▲ Piezometer
- CCR Permitted Boundary
- Groundwater Potentiometric Contour
- Groundwater Flow Direction

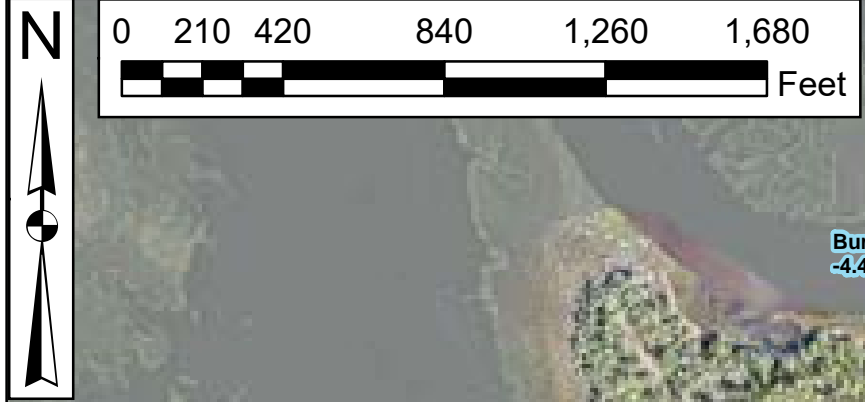
MCM-12
2.74 Groundwater Elevation (Monitoring Well)

MCM-08
3.41 Groundwater Elevation (Piezometer)

DPZ-1
0.88* Groundwater Elevation (Deep Piezometer)

Notes:
 Potentiometric surface elevations shown in ft NAVD 88.
 *MW wells and Deep Piezometers not utilized for contouring.
 NG - Not Gauged

		Plant McManus Former AP-1 Potentiometric Surface Map High Tide August 24, 2020	Figure 7
Woodstock, GA	May 2021	Brunswick, GA	



Legend

- ▲ Deep Piezometer
- ⊕ Monitoring Well
- ▲ Piezometer
- ⊕ Vertical Delineation Well
- Groundwater Potentiometric Surface Contour
- Groundwater Flow Direction

MCM-12 3.33 Groundwater Elevation (Monitoring Well)

MCM-08 3.66 Groundwater Elevation (Piezometer)

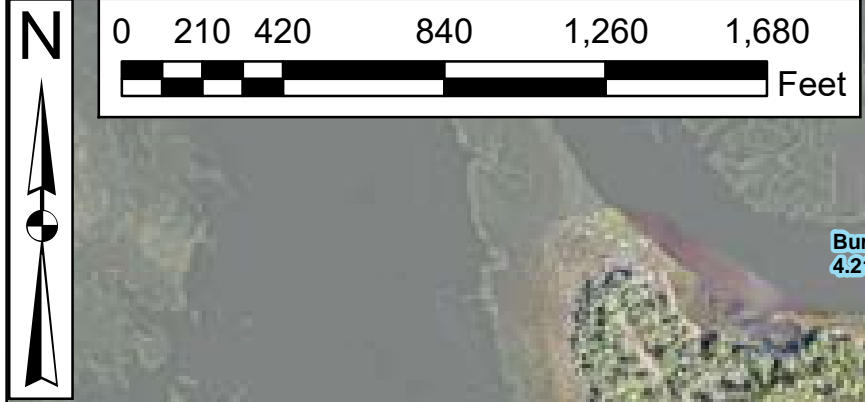
DPZ-01 1.73* Groundwater Elevation (Deep Piezometer)

DPZ-02 1.29* 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 well.
 NG - Not Gauged



Resolute Environmental & Water Resources Consulting		Plant McManus Former AP-1 Potentiometric Surface Map Low Tide October 14, 2020	Figure 8
Woodstock, GA	May 2021			Brunswick, GA



Legend

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

MCM-12 3.24 Groundwater Elevation (Monitoring Well)

MCM-08 3.66 Groundwater Elevation (Piezometer)

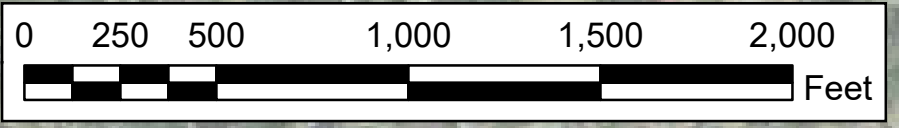
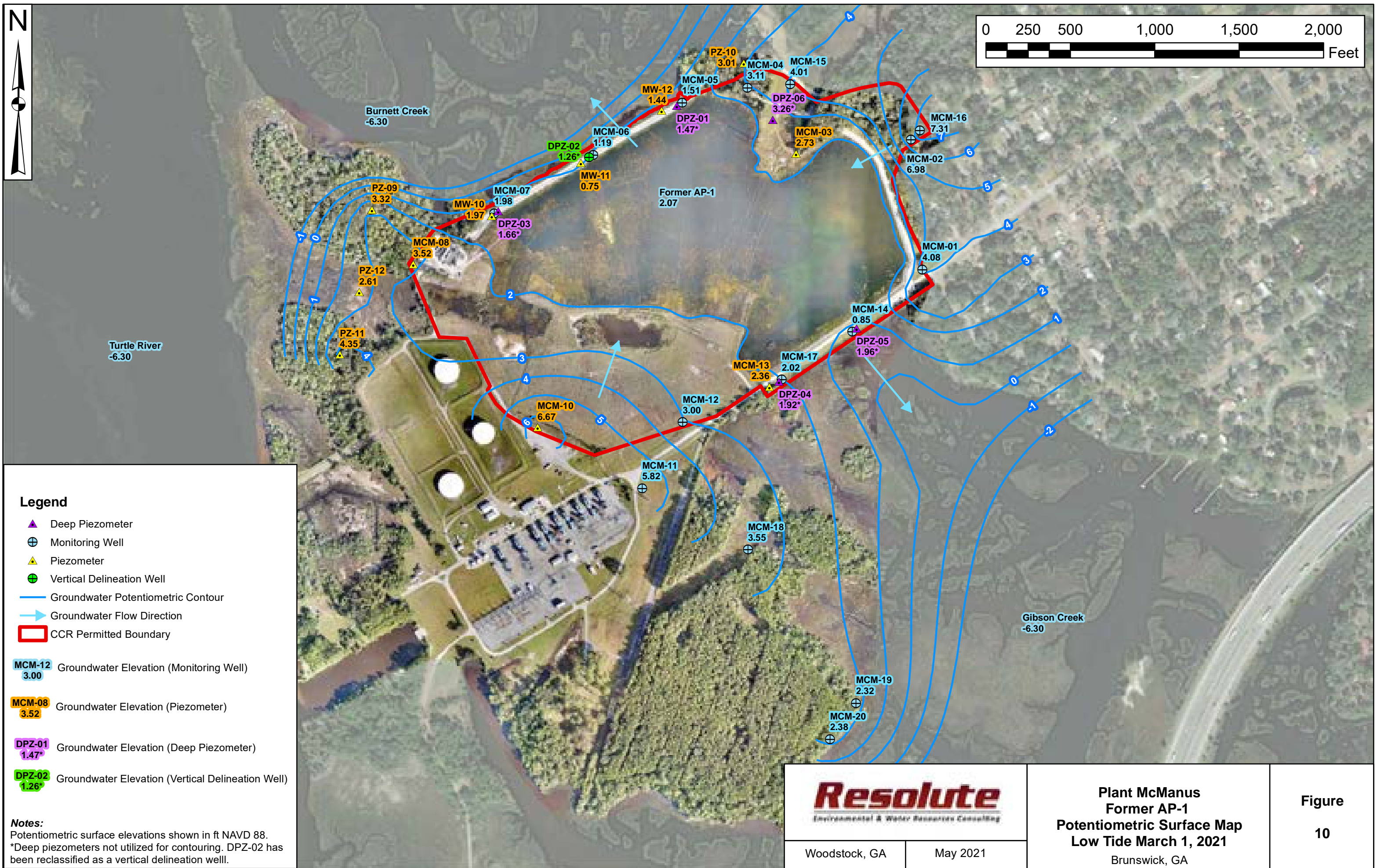
DPZ-01 3.51 Groundwater Elevation (Deep Piezometer)

DPZ-02 3.23 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 well.



Resolute <small>Environmental & Water Resources Consulting</small>		Plant McManus Former AP-1 Potentiometric Surface Map High Tide October 14, 2020	Figure 9
Woodstock, GA	May 2021	Brunswick, GA	

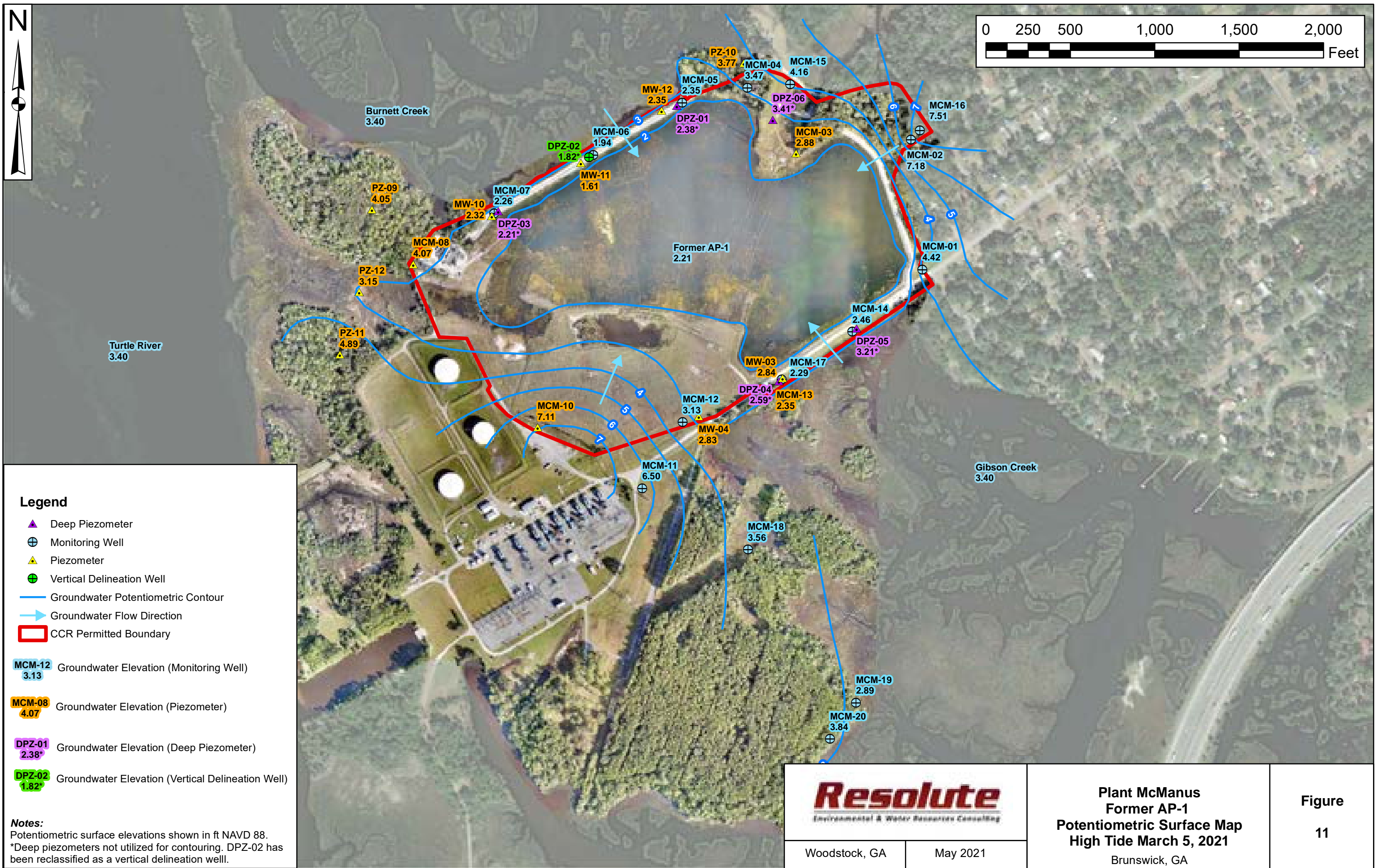


Legend

- ▲ 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 well.

		Plant McManus Former AP-1 Potentiometric Surface Map Low Tide March 1, 2021	Figure 10
Woodstock, GA	May 2021	Brunswick, GA	



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 well.

		<p>Plant McManus Former AP-1 Potentiometric Surface Map High Tide March 5, 2021</p>	<p>Figure 11</p>
Woodstock, GA	May 2021	Brunswick, GA	

APPENDIX A

Laboratory Analytical Reports, Data Verification Reports, Field Sampling Reports, and Calibration Reports For Monitoring Events

Appendix A1: Laboratory Analytical Data Packages and Data Verification Reports

Appendix A2: Field Sampling Forms and Calibration Reports

APPENDIX A1

Laboratory Analytical and Data Verification Reports



September 23, 2020

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

RE: Project: MCMANUS ASH POND SCAN
Pace Project No.: 92493014

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 28, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Pace Analytical Services Charlotte

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

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

Pace Analytical Services Asheville

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

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

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SAMPLE SUMMARY

Project: MCMANUS ASH POND SCAN
Pace Project No.: 92493014

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92493014001	MCM-01	Water	08/26/20 13:38	08/28/20 11:35
92493014002	MCM-02	Water	08/26/20 14:25	08/28/20 11:35
92493014003	MCM-04	Water	08/26/20 11:58	08/28/20 11:35
92493014004	MCM-05	Water	08/26/20 12:47	08/28/20 11:35
92493014005	MCM-07	Water	08/26/20 11:21	08/28/20 11:35
92493014006	MCM-11	Water	08/26/20 10:26	08/28/20 11:35
92493014007	MCM-12	Water	08/26/20 10:29	08/28/20 11:35
92493014008	MCM-14	Water	08/26/20 11:48	08/28/20 11:35
92493014009	MCM-15	Water	08/26/20 14:49	08/28/20 11:35
92493014010	MCM-16	Water	08/26/20 16:52	08/28/20 11:35
92493014011	MCM-17	Water	08/26/20 15:56	08/28/20 11:35
92493014012	MCM-18	Water	08/26/20 11:58	08/28/20 11:35
92493014013	MCM-19	Water	08/26/20 14:30	08/28/20 11:35
92493014014	MCM-20	Water	08/26/20 15:48	08/28/20 11:35
92493014015	FBL082620	Water	08/26/20 16:49	08/28/20 11:35
92493014016	EQBL082620	Water	08/26/20 16:55	08/28/20 11:35
92493014017	DUP-1	Water	08/26/20 00:00	08/28/20 11:35
92493014018	DUP-2	Water	08/26/20 00:00	08/28/20 11:35
92493014019	MCM-06	Water	08/26/20 16:08	08/28/20 11:35

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SAMPLE ANALYTE COUNT

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92493014001	MCM-01	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014002	MCM-02	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014003	MCM-04	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014004	MCM-05	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014005	MCM-07	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014006	MCM-11	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014007	MCM-12	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014008	MCM-14	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92493014009	MCM-15	EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92493014010	MCM-16	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
92493014011	MCM-17	EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
92493014012	MCM-18	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92493014013	MCM-19	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
92493014014	MCM-20	EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92493014015	FBL082620	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92493014016	EQBL082620	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92493014017	DUP-1	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92493014018	DUP-2	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92493014019	MCM-06	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	BG2, JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A

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

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92493014001	MCM-01					
	pH	5.79	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	10.5	mg/L	0.10	09/01/20 23:02	
EPA 6020B	Arsenic	0.0079	mg/L	0.0050	09/16/20 17:53	
EPA 6020B	Barium	0.056	mg/L	0.010	09/16/20 17:53	
SM 2540C-2011	Total Dissolved Solids	82.0	mg/L	25.0	08/31/20 18:33	
EPA 300.0 Rev 2.1 1993	Chloride	13.2	mg/L	1.0	08/29/20 18:18	
EPA 300.0 Rev 2.1 1993	Sulfate	32.9	mg/L	1.0	08/29/20 18:18	
92493014002	MCM-02					
	pH	5.03	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	4.6	mg/L	0.10	09/02/20 22:37	
EPA 6020B	Barium	0.092	mg/L	0.010	09/16/20 18:16	
EPA 6020B	Lead	0.0018J	mg/L	0.0050	09/16/20 18:16	
SM 2540C-2011	Total Dissolved Solids	89.0	mg/L	25.0	08/31/20 18:33	
EPA 300.0 Rev 2.1 1993	Chloride	26.7	mg/L	1.0	08/29/20 18:31	
EPA 300.0 Rev 2.1 1993	Sulfate	28.0	mg/L	1.0	08/29/20 18:31	
92493014003	MCM-04					
	pH	4.95	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	20.6	mg/L	0.10	09/02/20 22:57	
EPA 6020B	Arsenic	0.0059	mg/L	0.0050	09/16/20 18:20	
EPA 6020B	Barium	0.086	mg/L	0.010	09/16/20 18:20	
EPA 6020B	Cobalt	0.015	mg/L	0.0050	09/16/20 18:20	
SM 2540C-2011	Total Dissolved Solids	289	mg/L	25.0	08/31/20 18:33	
EPA 300.0 Rev 2.1 1993	Chloride	42.0	mg/L	1.0	08/29/20 18:45	
EPA 300.0 Rev 2.1 1993	Sulfate	112	mg/L	3.0	08/30/20 01:05	
92493014004	MCM-05					
	pH	6.50	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	21.5	mg/L	0.10	09/02/20 23:00	
EPA 6020B	Barium	0.0065J	mg/L	0.010	09/16/20 18:35	
EPA 6020B	Boron	0.43J	mg/L	0.50	09/16/20 18:35	
EPA 6020B	Lithium	0.018J	mg/L	0.030	09/16/20 18:35	
SM 2540C-2011	Total Dissolved Solids	1260	mg/L	125	08/31/20 18:33	
EPA 300.0 Rev 2.1 1993	Chloride	558	mg/L	12.0	08/30/20 01:19	
EPA 300.0 Rev 2.1 1993	Fluoride	0.39	mg/L	0.10	08/29/20 18:58	
EPA 300.0 Rev 2.1 1993	Sulfate	61.9	mg/L	1.0	08/29/20 18:58	
92493014005	MCM-07					
	pH	6.32	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	259	mg/L	0.50	09/03/20 19:13	
EPA 6020B	Arsenic	0.019	mg/L	0.0050	09/16/20 18:51	
EPA 6020B	Barium	0.22	mg/L	0.010	09/16/20 18:51	
EPA 6020B	Boron	1.6	mg/L	0.50	09/16/20 18:51	
EPA 6020B	Lead	0.014	mg/L	0.0050	09/16/20 18:51	
EPA 6020B	Lithium	0.045J	mg/L	0.030	09/16/20 18:51	
SM 2540C-2011	Total Dissolved Solids	19200	mg/L	2500	09/01/20 13:15	
EPA 300.0 Rev 2.1 1993	Chloride	7330	mg/L	100	08/30/20 01:33	
EPA 300.0 Rev 2.1 1993	Sulfate	895	mg/L	100	08/30/20 01:33	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92493014006	MCM-11					
	pH	4.96	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	3.2	mg/L	0.10	09/02/20 23:07	
EPA 6020B	Arsenic	0.0044J	mg/L	0.0050	09/16/20 18:59	
EPA 6020B	Barium	0.041	mg/L	0.010	09/16/20 18:59	
SM 2540C-2011	Total Dissolved Solids	86.0	mg/L	25.0	09/01/20 13:15	
EPA 300.0 Rev 2.1 1993	Chloride	13.3	mg/L	1.0	08/29/20 19:52	
EPA 300.0 Rev 2.1 1993	Fluoride	0.097J	mg/L	0.10	08/29/20 19:52	M1
EPA 300.0 Rev 2.1 1993	Sulfate	21.8	mg/L	1.0	08/29/20 19:52	
92493014007	MCM-12					
	pH	6.32	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	7.5	mg/L	0.10	09/02/20 23:10	
EPA 6020B	Barium	0.10	mg/L	0.010	09/16/20 19:03	
EPA 6020B	Beryllium	0.0010J	mg/L	0.0030	09/16/20 19:03	
EPA 6020B	Boron	1.4	mg/L	0.50	09/16/20 19:03	
EPA 6020B	Lithium	0.013J	mg/L	0.030	09/16/20 19:03	
SM 2540C-2011	Total Dissolved Solids	1700	mg/L	250	09/01/20 13:15	
EPA 300.0 Rev 2.1 1993	Chloride	529	mg/L	12.0	08/30/20 01:48	
EPA 300.0 Rev 2.1 1993	Fluoride	1.2	mg/L	0.10	08/29/20 21:00	
92493014008	MCM-14					
	pH	6.62	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	284	mg/L	0.50	09/03/20 19:17	
EPA 6020B	Barium	0.12	mg/L	0.010	09/16/20 19:10	
EPA 6020B	Boron	1.2	mg/L	0.50	09/16/20 19:10	
EPA 6020B	Lithium	0.054	mg/L	0.030	09/16/20 19:10	
SM 2540C-2011	Total Dissolved Solids	14700	mg/L	2500	09/01/20 13:16	
EPA 300.0 Rev 2.1 1993	Sulfate	730	mg/L	100	08/30/20 02:29	
92493014009	MCM-15					
	pH	5.33	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	5.8	mg/L	0.10	09/02/20 23:17	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	09/16/20 19:18	
EPA 6020B	Barium	0.039	mg/L	0.010	09/16/20 19:18	
SM 2540C-2011	Total Dissolved Solids	101	mg/L	25.0	09/01/20 13:17	
EPA 300.0 Rev 2.1 1993	Chloride	14.4	mg/L	1.0	08/29/20 21:27	
EPA 300.0 Rev 2.1 1993	Sulfate	14.0	mg/L	1.0	08/29/20 21:27	
92493014010	MCM-16					
	pH	4.92	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	5.6	mg/L	0.10	09/02/20 23:20	
EPA 6020B	Barium	0.12	mg/L	0.010	09/16/20 19:22	
SM 2540C-2011	Total Dissolved Solids	95.0	mg/L	25.0	09/01/20 13:18	
EPA 300.0 Rev 2.1 1993	Chloride	22.2	mg/L	1.0	08/29/20 21:40	
EPA 300.0 Rev 2.1 1993	Sulfate	27.8	mg/L	1.0	08/29/20 21:40	
92493014011	MCM-17					
	pH	6.65	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	146	mg/L	0.50	09/03/20 19:20	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493014011	MCM-17					
EPA 6020B	Barium	0.15	mg/L	0.010	09/16/20 19:26	
EPA 6020B	Boron	1.8	mg/L	0.50	09/16/20 19:26	
EPA 6020B	Lithium	0.027J	mg/L	0.030	09/16/20 19:26	
SM 2540C-2011	Total Dissolved Solids	8400	mg/L	1250	09/01/20 13:18	
EPA 300.0 Rev 2.1 1993	Sulfate	341	mg/L	100	08/30/20 02:43	
92493014012	MCM-18					
	pH	4.27	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	25.7	mg/L	0.10	09/02/20 23:40	
EPA 6020B	Arsenic	0.0019J	mg/L	0.0050	09/16/20 19:41	
EPA 6020B	Barium	0.095	mg/L	0.010	09/16/20 19:41	
EPA 6020B	Beryllium	0.0042	mg/L	0.0030	09/16/20 19:41	
EPA 6020B	Boron	0.25J	mg/L	0.50	09/16/20 19:41	
EPA 6020B	Lead	0.0035J	mg/L	0.0050	09/16/20 19:41	
EPA 6020B	Selenium	0.0014J	mg/L	0.010	09/16/20 19:41	
SM 2540C-2011	Total Dissolved Solids	2980	mg/L	500	09/01/20 13:18	
EPA 300.0 Rev 2.1 1993	Fluoride	0.096J	mg/L	0.10	08/29/20 22:07	
EPA 300.0 Rev 2.1 1993	Sulfate	170	mg/L	100	08/30/20 02:57	
92493014013	MCM-19					
	pH	5.25	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	121	mg/L	0.50	09/03/20 19:23	
EPA 6020B	Arsenic	0.012	mg/L	0.0050	09/16/20 19:57	
EPA 6020B	Barium	0.11	mg/L	0.010	09/16/20 19:57	
EPA 6020B	Beryllium	0.011	mg/L	0.0030	09/16/20 19:57	
EPA 6020B	Boron	0.91	mg/L	0.50	09/16/20 19:57	
EPA 6020B	Lithium	0.018J	mg/L	0.030	09/16/20 19:57	
EPA 6020B	Selenium	0.0060J	mg/L	0.010	09/16/20 19:57	
SM 2540C-2011	Total Dissolved Solids	13300	mg/L	2500	09/01/20 13:18	
EPA 300.0 Rev 2.1 1993	Chloride	5390	mg/L	100	08/31/20 00:04	
EPA 300.0 Rev 2.1 1993	Sulfate	854	mg/L	100	08/31/20 00:04	
92493014014	MCM-20					
	pH	3.78	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	110	mg/L	0.50	09/03/20 19:27	
EPA 6020B	Arsenic	0.018	mg/L	0.0050	09/16/20 20:04	
EPA 6020B	Barium	0.12	mg/L	0.010	09/16/20 20:04	
EPA 6020B	Beryllium	0.018	mg/L	0.0030	09/16/20 20:04	
EPA 6020B	Boron	1.0	mg/L	0.50	09/16/20 20:04	
EPA 6020B	Cobalt	0.034	mg/L	0.0050	09/16/20 20:04	
EPA 6020B	Lithium	0.026J	mg/L	0.030	09/16/20 20:04	
EPA 6020B	Selenium	0.0052J	mg/L	0.010	09/16/20 20:04	
SM 2540C-2011	Total Dissolved Solids	15100	mg/L	2500	09/01/20 13:19	
EPA 300.0 Rev 2.1 1993	Chloride	5470	mg/L	100	08/30/20 03:11	
EPA 300.0 Rev 2.1 1993	Fluoride	0.058J	mg/L	0.10	08/29/20 22:34	
EPA 300.0 Rev 2.1 1993	Sulfate	639	mg/L	100	08/30/20 03:11	
92493014015	FBL082620					
EPA 6020B	Barium	0.00044J	mg/L	0.010	09/17/20 00:03	

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493014016	EQBL082620					
EPA 6020B	Barium	0.00047J	mg/L	0.010	09/17/20 00:07	
92493014017	DUP-1					
EPA 6010D	Calcium	21.3	mg/L	0.10	09/02/20 23:56	
EPA 6020B	Arsenic	0.0056	mg/L	0.0050	09/16/20 20:20	
EPA 6020B	Barium	0.082	mg/L	0.010	09/16/20 20:20	
EPA 6020B	Cobalt	0.015	mg/L	0.0050	09/16/20 20:20	
SM 2540C-2011	Total Dissolved Solids	300	mg/L	25.0	09/01/20 13:19	
EPA 300.0 Rev 2.1 1993	Chloride	43.9	mg/L	1.0	08/30/20 00:22	
EPA 300.0 Rev 2.1 1993	Sulfate	113	mg/L	2.0	08/30/20 03:27	
92493014018	DUP-2					
EPA 6010D	Calcium	112	mg/L	0.50	09/03/20 19:30	
EPA 6020B	Arsenic	0.018	mg/L	0.0050	09/16/20 20:27	
EPA 6020B	Barium	0.12	mg/L	0.010	09/16/20 20:27	
EPA 6020B	Beryllium	0.019	mg/L	0.0030	09/16/20 20:27	
EPA 6020B	Boron	1.0	mg/L	0.50	09/16/20 20:27	
EPA 6020B	Cobalt	0.035	mg/L	0.0050	09/16/20 20:27	
EPA 6020B	Lithium	0.025J	mg/L	0.030	09/16/20 20:27	
EPA 6020B	Selenium	0.0054J	mg/L	0.010	09/16/20 20:27	
SM 2540C-2011	Total Dissolved Solids	12600	mg/L	1250	09/01/20 16:19	
EPA 300.0 Rev 2.1 1993	Chloride	5570	mg/L	100	08/30/20 03:41	
EPA 300.0 Rev 2.1 1993	Fluoride	0.079J	mg/L	0.10	08/30/20 00:36	
EPA 300.0 Rev 2.1 1993	Sulfate	670	mg/L	100	08/30/20 03:41	
92493014019	MCM-06					
	pH	6.88	Std. Units		09/10/20 09:31	
EPA 6010D	Calcium	254	mg/L	0.50	09/03/20 19:34	
EPA 6020B	Arsenic	0.46	mg/L	0.12	09/10/20 13:26	
EPA 6020B	Barium	0.15J	mg/L	0.25	09/10/20 13:26	
EPA 6020B	Boron	1.6	mg/L	1.2	09/09/20 14:13	
EPA 6020B	Lithium	0.096J	mg/L	0.75	09/10/20 13:26	
SM 2540C-2011	Total Dissolved Solids	14900	mg/L	2500	09/01/20 16:19	
EPA 300.0 Rev 2.1 1993	Chloride	6510	mg/L	100	08/30/20 03:55	
EPA 300.0 Rev 2.1 1993	Sulfate	514	mg/L	100	08/30/20 03:55	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-01 **Lab ID: 92493014001** Collected: 08/26/20 13:38 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.79	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	10.5	mg/L	0.10	0.094	1	09/01/20 01:35	09/01/20 23:02	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 17:53	7440-36-0	
Arsenic	0.0079	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 17:53	7440-38-2	
Barium	0.056	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 17:53	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 17:53	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 17:53	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 17:53	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 17:53	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 17:53	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 17:53	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 17:53	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 17:53	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 17:53	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 17:53	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 14:49	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	82.0	mg/L	25.0	25.0	1		08/31/20 18:33		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	13.2	mg/L	1.0	0.60	1		08/29/20 18:18	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 18:18	16984-48-8	
Sulfate	32.9	mg/L	1.0	0.50	1		08/29/20 18:18	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-02 **Lab ID: 92493014002** Collected: 08/26/20 14:25 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.03	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	4.6	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 22:37	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 18:16	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 18:16	7440-38-2	
Barium	0.092	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 18:16	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 18:16	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 18:16	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 18:16	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 18:16	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 18:16	7440-48-4	
Lead	0.0018J	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 18:16	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 18:16	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 18:16	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 18:16	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 18:16	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 14:56	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	89.0	mg/L	25.0	25.0	1		08/31/20 18:33		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	26.7	mg/L	1.0	0.60	1		08/29/20 18:31	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 18:31	16984-48-8	
Sulfate	28.0	mg/L	1.0	0.50	1		08/29/20 18:31	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-04 **Lab ID: 92493014003** Collected: 08/26/20 11:58 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.95	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	20.6	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 22:57	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 18:20	7440-36-0	
Arsenic	0.0059	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 18:20	7440-38-2	
Barium	0.086	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 18:20	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 18:20	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 18:20	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 18:20	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 18:20	7440-47-3	
Cobalt	0.015	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 18:20	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 18:20	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 18:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 18:20	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 18:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 18:20	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 14:59	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	289	mg/L	25.0	25.0	1		08/31/20 18:33		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	42.0	mg/L	1.0	0.60	1		08/29/20 18:45	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 18:45	16984-48-8	
Sulfate	112	mg/L	3.0	1.5	3		08/30/20 01:05	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-05 **Lab ID: 92493014004** Collected: 08/26/20 12:47 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.50	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	21.5	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:00	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 18:35	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 18:35	7440-38-2	
Barium	0.0065J	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 18:35	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 18:35	7440-41-7	
Boron	0.43J	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 18:35	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 18:35	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 18:35	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 18:35	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 18:35	7439-92-1	
Lithium	0.018J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 18:35	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 18:35	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 18:35	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 18:35	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:01	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	1260	mg/L	125	125	1		08/31/20 18:33		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	558	mg/L	12.0	7.2	12		08/30/20 01:19	16887-00-6	
Fluoride	0.39	mg/L	0.10	0.050	1		08/29/20 18:58	16984-48-8	
Sulfate	61.9	mg/L	1.0	0.50	1		08/29/20 18:58	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-07 **Lab ID: 92493014005** Collected: 08/26/20 11:21 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.32	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	259	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:13	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 18:51	7440-36-0	
Arsenic	0.019	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 18:51	7440-38-2	
Barium	0.22	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 18:51	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 18:51	7440-41-7	
Boron	1.6	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 18:51	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 18:51	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 18:51	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 18:51	7440-48-4	
Lead	0.014	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 18:51	7439-92-1	
Lithium	0.045J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 18:51	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 18:51	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 18:51	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 18:51	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:03	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	19200	mg/L	2500	2500	1		09/01/20 13:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7330	mg/L	100	60.0	100		08/30/20 01:33	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 19:12	16984-48-8	
Sulfate	895	mg/L	100	50.0	100		08/30/20 01:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-11 **Lab ID: 92493014006** Collected: 08/26/20 10:26 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.96	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	3.2	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:07	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 18:59	7440-36-0	
Arsenic	0.0044J	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 18:59	7440-38-2	
Barium	0.041	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 18:59	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 18:59	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 18:59	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 18:59	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 18:59	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 18:59	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 18:59	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 18:59	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 18:59	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 18:59	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 18:59	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:06	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	86.0	mg/L	25.0	25.0	1		09/01/20 13:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	13.3	mg/L	1.0	0.60	1		08/29/20 19:52	16887-00-6	
Fluoride	0.097J	mg/L	0.10	0.050	1		08/29/20 19:52	16984-48-8	M1
Sulfate	21.8	mg/L	1.0	0.50	1		08/29/20 19:52	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-12 **Lab ID: 92493014007** Collected: 08/26/20 10:29 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.32	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	7.5	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:10	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:03	7440-38-2	
Barium	0.10	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:03	7440-39-3	
Beryllium	0.0010J	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:03	7440-41-7	
Boron	1.4	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:03	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:03	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:03	7439-92-1	
Lithium	0.013J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:03	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:13	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	1700	mg/L	250	250	1		09/01/20 13:15		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	529	mg/L	12.0	7.2	12		08/30/20 01:48	16887-00-6	
Fluoride	1.2	mg/L	0.10	0.050	1		08/29/20 21:00	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/29/20 21:00	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-14 **Lab ID: 92493014008** Collected: 08/26/20 11:48 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.62	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	284	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:17	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:10	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:10	7440-38-2	
Barium	0.12	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:10	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:10	7440-41-7	
Boron	1.2	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:10	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:10	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:10	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:10	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:10	7439-92-1	
Lithium	0.054	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:10	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:10	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:10	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:10	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:15	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	14700	mg/L	2500	2500	1		09/01/20 13:16		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		08/29/20 21:13	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 21:13	16984-48-8	
Sulfate	730	mg/L	100	50.0	100		08/30/20 02:29	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-15 **Lab ID: 92493014009** Collected: 08/26/20 14:49 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.33	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	5.8	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:17	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:18	7440-36-0	
Arsenic	0.0024J	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:18	7440-38-2	
Barium	0.039	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:18	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:18	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:18	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:18	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:18	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:18	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:18	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:18	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:18	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:18	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	101	mg/L	25.0	25.0	1		09/01/20 13:17		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	14.4	mg/L	1.0	0.60	1		08/29/20 21:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 21:27	16984-48-8	
Sulfate	14.0	mg/L	1.0	0.50	1		08/29/20 21:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-16 **Lab ID: 92493014010** Collected: 08/26/20 16:52 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.92	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	5.6	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:20	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:22	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:22	7440-38-2	
Barium	0.12	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:22	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:22	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:22	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:22	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:22	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:22	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:22	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:22	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:22	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:22	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:22	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:20	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	95.0	mg/L	25.0	25.0	1		09/01/20 13:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	22.2	mg/L	1.0	0.60	1		08/29/20 21:40	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 21:40	16984-48-8	
Sulfate	27.8	mg/L	1.0	0.50	1		08/29/20 21:40	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-17 **Lab ID: 92493014011** Collected: 08/26/20 15:56 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.65	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	146	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:20	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:26	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:26	7440-38-2	
Barium	0.15	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:26	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:26	7440-41-7	
Boron	1.8	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:26	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:26	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:26	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:26	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:26	7439-92-1	
Lithium	0.027J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:26	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:26	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:26	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:26	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:22	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	8400	mg/L	1250	1250	1		09/01/20 13:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		08/29/20 21:54	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 21:54	16984-48-8	
Sulfate	341	mg/L	100	50.0	100		08/30/20 02:43	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-18 **Lab ID: 92493014012** Collected: 08/26/20 11:58 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	4.27	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	25.7	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:40	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:41	7440-36-0	
Arsenic	0.0019J	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:41	7440-38-2	
Barium	0.095	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:41	7440-39-3	
Beryllium	0.0042	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:41	7440-41-7	
Boron	0.25J	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:41	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:41	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:41	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:41	7440-48-4	
Lead	0.0035J	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:41	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:41	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:41	7439-98-7	
Selenium	0.0014J	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:41	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:41	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:25	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	2980	mg/L	500	500	1		09/01/20 13:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		08/29/20 22:07	16887-00-6	
Fluoride	0.096J	mg/L	0.10	0.050	1		08/29/20 22:07	16984-48-8	
Sulfate	170	mg/L	100	50.0	100		08/30/20 02:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: MCM-19 **Lab ID: 92493014013** Collected: 08/26/20 14:30 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	5.25	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	121	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:23	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 19:57	7440-36-0	
Arsenic	0.012	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 19:57	7440-38-2	
Barium	0.11	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 19:57	7440-39-3	
Beryllium	0.011	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 19:57	7440-41-7	
Boron	0.91	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 19:57	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 19:57	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 19:57	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 19:57	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 19:57	7439-92-1	
Lithium	0.018J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 19:57	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 19:57	7439-98-7	
Selenium	0.0060J	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 19:57	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 19:57	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:27	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	13300	mg/L	2500	2500	1		09/01/20 13:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5390	mg/L	100	60.0	100		08/31/20 00:04	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 22:21	16984-48-8	
Sulfate	854	mg/L	100	50.0	100		08/31/20 00:04	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Sample: MCM-20 **Lab ID: 92493014014** Collected: 08/26/20 15:48 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	3.78	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	110	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:27	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 20:04	7440-36-0	
Arsenic	0.018	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 20:04	7440-38-2	
Barium	0.12	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 20:04	7440-39-3	
Beryllium	0.018	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 20:04	7440-41-7	
Boron	1.0	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 20:04	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 20:04	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 20:04	7440-47-3	
Cobalt	0.034	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 20:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 20:04	7439-92-1	
Lithium	0.026J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 20:04	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 20:04	7439-98-7	
Selenium	0.0052J	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 20:04	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 20:04	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:30	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15100	mg/L	2500	2500	1		09/01/20 13:19		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5470	mg/L	100	60.0	100		08/30/20 03:11	16887-00-6	
Fluoride	0.058J	mg/L	0.10	0.050	1		08/29/20 22:34	16984-48-8	
Sulfate	639	mg/L	100	50.0	100		08/30/20 03:11	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: FBL082620 **Lab ID: 92493014015** Collected: 08/26/20 16:49 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	ND	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:50	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.00012	1	09/16/20 01:12	09/17/20 00:03	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000087	1	09/16/20 01:12	09/17/20 00:03	7440-38-2	
Barium	0.00044J	mg/L	0.010	0.00021	1	09/16/20 01:12	09/17/20 00:03	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	09/16/20 01:12	09/17/20 00:03	7440-41-7	
Boron	ND	mg/L	0.025	0.0062	1	09/16/20 01:12	09/17/20 00:03	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.000060	1	09/16/20 01:12	09/17/20 00:03	7440-43-9	
Chromium	ND	mg/L	0.010	0.00050	1	09/16/20 01:12	09/17/20 00:03	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.000050	1	09/16/20 01:12	09/17/20 00:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.000077	1	09/16/20 01:12	09/17/20 00:03	7439-92-1	
Lithium	ND	mg/L	0.030	0.00039	1	09/16/20 01:12	09/17/20 00:03	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00011	1	09/16/20 01:12	09/17/20 00:03	7439-98-7	
Selenium	ND	mg/L	0.010	0.000061	1	09/16/20 01:12	09/17/20 00:03	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000050	1	09/16/20 01:12	09/17/20 00:03	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:32	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		09/01/20 13:19		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		08/30/20 23:50	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/30/20 23:50	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		08/30/20 23:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: EQBL082620 **Lab ID: 92493014016** Collected: 08/26/20 16:55 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	ND	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:53	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.00012	1	09/16/20 01:12	09/17/20 00:07	7440-36-0	
Arsenic	ND	mg/L	0.0050	0.000087	1	09/16/20 01:12	09/17/20 00:07	7440-38-2	
Barium	0.00047J	mg/L	0.010	0.00021	1	09/16/20 01:12	09/17/20 00:07	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	09/16/20 01:12	09/17/20 00:07	7440-41-7	
Boron	ND	mg/L	0.025	0.0062	1	09/16/20 01:12	09/17/20 00:07	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.000060	1	09/16/20 01:12	09/17/20 00:07	7440-43-9	
Chromium	ND	mg/L	0.010	0.00050	1	09/16/20 01:12	09/17/20 00:07	7440-47-3	
Cobalt	ND	mg/L	0.0050	0.000050	1	09/16/20 01:12	09/17/20 00:07	7440-48-4	
Lead	ND	mg/L	0.0050	0.000077	1	09/16/20 01:12	09/17/20 00:07	7439-92-1	
Lithium	ND	mg/L	0.030	0.00039	1	09/16/20 01:12	09/17/20 00:07	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.00011	1	09/16/20 01:12	09/17/20 00:07	7439-98-7	
Selenium	ND	mg/L	0.010	0.000061	1	09/16/20 01:12	09/17/20 00:07	7782-49-2	
Thallium	ND	mg/L	0.0010	0.000050	1	09/16/20 01:12	09/17/20 00:07	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 15:34	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		09/01/20 13:19		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		08/29/20 23:42	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/29/20 23:42	16984-48-8	M1, R1
Sulfate	ND	mg/L	1.0	0.50	1		08/29/20 23:42	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Sample: DUP-1 **Lab ID: 92493014017** Collected: 08/26/20 00:00 Received: 08/28/20 11:35 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	21.3	mg/L	0.10	0.094	1	09/02/20 01:33	09/02/20 23:56	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 20:20	7440-36-0	
Arsenic	0.0056	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 20:20	7440-38-2	
Barium	0.082	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 20:20	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 20:20	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 20:20	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 20:20	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 20:20	7440-47-3	
Cobalt	0.015	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 20:20	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 20:20	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 20:20	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 20:20	7439-98-7	
Selenium	ND	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 20:20	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 20:20	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 13:45	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	300	mg/L	25.0	25.0	1		09/01/20 13:19		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	43.9	mg/L	1.0	0.60	1		08/30/20 00:22	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/30/20 00:22	16984-48-8	
Sulfate	113	mg/L	2.0	1.0	2		08/30/20 03:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: DUP-2									
Lab ID: 92493014018									
Collected: 08/26/20 00:00 Received: 08/28/20 11:35 Matrix: Water									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	112	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:30	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.0030	0.0025	20	09/16/20 01:12	09/16/20 20:27	7440-36-0	
Arsenic	0.018	mg/L	0.0050	0.0017	20	09/16/20 01:12	09/16/20 20:27	7440-38-2	
Barium	0.12	mg/L	0.010	0.0043	20	09/16/20 01:12	09/16/20 20:27	7440-39-3	
Beryllium	0.019	mg/L	0.0030	0.0010	20	09/16/20 01:12	09/16/20 20:27	7440-41-7	
Boron	1.0	mg/L	0.50	0.12	20	09/16/20 01:12	09/16/20 20:27	7440-42-8	
Cadmium	ND	mg/L	0.0025	0.0012	20	09/16/20 01:12	09/16/20 20:27	7440-43-9	
Chromium	ND	mg/L	0.010	0.0099	20	09/16/20 01:12	09/16/20 20:27	7440-47-3	
Cobalt	0.035	mg/L	0.0050	0.0010	20	09/16/20 01:12	09/16/20 20:27	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	09/16/20 01:12	09/16/20 20:27	7439-92-1	
Lithium	0.025J	mg/L	0.030	0.0078	20	09/16/20 01:12	09/16/20 20:27	7439-93-2	
Molybdenum	ND	mg/L	0.010	0.0022	20	09/16/20 01:12	09/16/20 20:27	7439-98-7	
Selenium	0.0054J	mg/L	0.010	0.0012	20	09/16/20 01:12	09/16/20 20:27	7782-49-2	
Thallium	ND	mg/L	0.0010	0.0010	20	09/16/20 01:12	09/16/20 20:27	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 13:47	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	12600	mg/L	1250	1250	1		09/01/20 16:19		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5570	mg/L	100	60.0	100		08/30/20 03:41	16887-00-6	
Fluoride	0.079J	mg/L	0.10	0.050	1		08/30/20 00:36	16984-48-8	
Sulfate	670	mg/L	100	50.0	100		08/30/20 03:41	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Sample: MCM-06		Lab ID: 92493014019		Collected: 08/26/20 16:08		Received: 08/28/20 11:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
pH	6.88	Std. Units			1		09/10/20 09:31		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	254	mg/L	0.50	0.47	5	09/02/20 01:33	09/03/20 19:34	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	mg/L	0.075	0.0031	25	09/02/20 01:04	09/10/20 13:26	7440-36-0	
Arsenic	0.46	mg/L	0.12	0.0022	25	09/02/20 01:04	09/10/20 13:26	7440-38-2	
Barium	0.15J	mg/L	0.25	0.0054	25	09/02/20 01:04	09/10/20 13:26	7440-39-3	
Beryllium	ND	mg/L	0.075	0.0012	25	09/02/20 01:04	09/10/20 13:26	7440-41-7	
Boron	1.6	mg/L	1.2	0.31	50	09/02/20 01:04	09/09/20 14:13	7440-42-8	
Cadmium	ND	mg/L	0.062	0.0015	25	09/02/20 01:04	09/10/20 13:26	7440-43-9	
Chromium	ND	mg/L	0.25	0.012	25	09/02/20 01:04	09/10/20 13:26	7440-47-3	
Cobalt	ND	mg/L	0.12	0.0012	25	09/02/20 01:04	09/10/20 13:26	7440-48-4	
Lead	ND	mg/L	0.12	0.0019	25	09/02/20 01:04	09/10/20 13:26	7439-92-1	
Lithium	0.096J	mg/L	0.75	0.0098	25	09/02/20 01:04	09/10/20 13:26	7439-93-2	
Molybdenum	ND	mg/L	0.25	0.0028	25	09/02/20 01:04	09/10/20 13:26	7439-98-7	
Selenium	ND	mg/L	0.25	0.0015	25	09/02/20 01:04	09/10/20 13:26	7782-49-2	
Thallium	ND	mg/L	0.025	0.0012	25	09/02/20 01:04	09/10/20 13:26	7440-28-0	
7470 Mercury									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.50	0.12	1	09/01/20 20:08	09/02/20 13:50	7439-97-6	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	14900	mg/L	2500	2500	1		09/01/20 16:19		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6510	mg/L	100	60.0	100		08/30/20 03:55	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/30/20 00:49	16984-48-8	
Sulfate	514	mg/L	100	50.0	100		08/30/20 03:55	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch: 563861 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004, 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018, 92493014019

METHOD BLANK: 2989211 Matrix: Water
 Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004, 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018, 92493014019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.50	0.12	09/02/20 14:45	

LABORATORY CONTROL SAMPLE: 2989212

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.7	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989213 2989214

Parameter	Units	92493014001 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	2.7	2.6	105	104	75-125	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

QC Batch: 563604 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92493014001

METHOD BLANK: 2988233 Matrix: Water
 Associated Lab Samples: 92493014001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	09/01/20 21:24	

LABORATORY CONTROL SAMPLE: 2988234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.8	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2988235 2988236

Parameter	Units	2988235		2988236		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92493209001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Calcium	mg/L	2540 ug/L	5	5	7.5	7.5	99	98	75-125	1	20	

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch: 563907

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92493014002, 92493014003, 92493014004, 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018, 92493014019

METHOD BLANK: 2989431

Matrix: Water

Associated Lab Samples: 92493014002, 92493014003, 92493014004, 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018, 92493014019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	09/02/20 22:31	

LABORATORY CONTROL SAMPLE: 2989432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989433 2989434

Parameter	Units	2989433		2989434		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	4.6	5	5	9.9	9.7	106	102	75-125	2	20

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch: 563910

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92493014019

METHOD BLANK: 2989443

Matrix: Water

Associated Lab Samples: 92493014019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00012	09/07/20 21:42	
Arsenic	mg/L	ND	0.0050	0.000087	09/07/20 21:42	
Barium	mg/L	ND	0.010	0.00021	09/07/20 21:42	
Beryllium	mg/L	ND	0.0030	0.000050	09/07/20 21:42	
Boron	mg/L	ND	0.025	0.0062	09/07/20 21:42	
Cadmium	mg/L	ND	0.0025	0.000060	09/07/20 21:42	
Chromium	mg/L	ND	0.010	0.00050	09/07/20 21:42	
Cobalt	mg/L	ND	0.0050	0.000050	09/07/20 21:42	
Lead	mg/L	ND	0.0050	0.000077	09/07/20 21:42	
Lithium	mg/L	ND	0.030	0.00039	09/07/20 21:42	
Molybdenum	mg/L	ND	0.010	0.00011	09/07/20 21:42	
Selenium	mg/L	ND	0.010	0.000061	09/07/20 21:42	
Thallium	mg/L	ND	0.0010	0.000050	09/07/20 21:42	

LABORATORY CONTROL SAMPLE: 2989444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.05	0.052	104	80-120	
Arsenic	mg/L	0.01	0.010	103	80-120	
Barium	mg/L	0.05	0.051	102	80-120	
Beryllium	mg/L	0.01	0.0099	99	80-120	
Boron	mg/L	0.05	0.050	100	80-120	
Cadmium	mg/L	0.01	0.010	103	80-120	
Chromium	mg/L	0.05	0.052	103	80-120	
Cobalt	mg/L	0.01	0.010	103	80-120	
Lead	mg/L	0.05	0.051	102	80-120	
Lithium	mg/L	0.05	0.050	100	80-120	
Molybdenum	mg/L	0.05	0.052	103	80-120	
Selenium	mg/L	0.05	0.051	102	80-120	
Thallium	mg/L	0.01	0.010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2989445 2989446

Parameter	Units	92493089001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Antimony	mg/L	ND	0.05	0.05	0.052	0.053	104	105	75-125	1	20	
Arsenic	mg/L	0.19 ug/L	0.01	0.01	0.010	0.010	99	101	75-125	2	20	

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Parameter	Units	2989445		2989446		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92493089001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Barium	mg/L	216 ug/L	0.05	0.05	0.27	0.27	109	113	75-125	1	20	E	
Beryllium	mg/L	ND	0.01	0.01	0.0098	0.0098	98	97	75-125	1	20		
Boron	mg/L	32.5 ug/L	0.05	0.05	0.079	0.084	93	104	75-125	7	20	E	
Cadmium	mg/L	ND	0.01	0.01	0.010	0.010	100	101	75-125	1	20		
Chromium	mg/L	0.60 ug/L	0.05	0.05	0.052	0.052	102	103	75-125	1	20		
Cobalt	mg/L	10.5 ug/L	0.01	0.01	0.022	0.023	117	123	75-125	3	20		
Lead	mg/L	0.17 ug/L	0.05	0.05	0.050	0.051	99	101	75-125	2	20		
Lithium	mg/L	0.50J ug/L	0.05	0.05	0.050	0.049	99	97	75-125	2	20		
Molybdenum	mg/L	ND	0.05	0.05	0.050	0.051	101	102	75-125	1	20		
Selenium	mg/L	0.091J ug/L	0.05	0.05	0.050	0.050	100	100	75-125	0	20		
Thallium	mg/L	ND	0.01	0.01	0.010	0.010	100	102	75-125	2	20		

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch: 566587 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004, 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018

METHOD BLANK: 3002724 Matrix: Water
 Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004, 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/L	ND	0.0030	0.00012	09/16/20 17:45	
Arsenic	mg/L	ND	0.0050	0.000087	09/16/20 17:45	
Barium	mg/L	ND	0.010	0.00021	09/16/20 17:45	
Beryllium	mg/L	ND	0.0030	0.000050	09/16/20 17:45	
Boron	mg/L	ND	0.025	0.0062	09/16/20 17:45	
Cadmium	mg/L	ND	0.0025	0.000060	09/16/20 17:45	
Chromium	mg/L	ND	0.010	0.00050	09/16/20 17:45	
Cobalt	mg/L	ND	0.0050	0.000050	09/16/20 17:45	
Lead	mg/L	ND	0.0050	0.000077	09/16/20 17:45	
Lithium	mg/L	ND	0.030	0.00039	09/16/20 17:45	
Molybdenum	mg/L	ND	0.010	0.00011	09/16/20 17:45	
Selenium	mg/L	ND	0.010	0.000061	09/16/20 17:45	
Thallium	mg/L	ND	0.0010	0.000050	09/16/20 17:45	

LABORATORY CONTROL SAMPLE: 3002725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/L	0.05	0.052	104	80-120	
Arsenic	mg/L	0.01	0.010	102	80-120	
Barium	mg/L	0.05	0.052	105	80-120	
Beryllium	mg/L	0.01	0.010	101	80-120	
Boron	mg/L	0.05	0.053	106	80-120	
Cadmium	mg/L	0.01	0.010	105	80-120	
Chromium	mg/L	0.05	0.052	104	80-120	
Cobalt	mg/L	0.01	0.010	104	80-120	
Lead	mg/L	0.05	0.052	104	80-120	
Lithium	mg/L	0.05	0.051	101	80-120	
Molybdenum	mg/L	0.05	0.052	105	80-120	
Selenium	mg/L	0.05	0.051	101	80-120	
Thallium	mg/L	0.01	0.010	104	80-120	

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Parameter	Units	3002726		3002727		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
Antimony	mg/L	ND	0.05	0.05	0.052	0.052	102	102	75-125	0	20		
Arsenic	mg/L	0.0079	0.01	0.01	0.018	0.018	98	99	75-125	1	20		
Barium	mg/L	0.056	0.05	0.05	0.11	0.11	99	101	75-125	1	20		
Beryllium	mg/L	ND	0.01	0.01	0.010	0.010	99	102	75-125	3	20		
Boron	mg/L	ND	0.05	0.05	ND	ND	81	78	75-125		20		
Cadmium	mg/L	ND	0.01	0.01	0.011	0.010	105	103	75-125	2	20		
Chromium	mg/L	ND	0.05	0.05	0.051	0.050	102	101	75-125	1	20		
Cobalt	mg/L	ND	0.01	0.01	0.010	0.010	103	103	75-125	0	20		
Lead	mg/L	ND	0.05	0.05	0.052	0.052	102	103	75-125	0	20		
Lithium	mg/L	ND	0.05	0.05	0.051	0.052	99	101	75-125	2	20		
Molybdenum	mg/L	ND	0.05	0.05	0.052	0.052	102	103	75-125	1	20		
Selenium	mg/L	ND	0.05	0.05	0.050	0.051	101	102	75-125	1	20		
Thallium	mg/L	ND	0.01	0.01	0.010	0.010	100	101	75-125	1	20		

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

QC Batch: 563524 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: 92493014001, 92493014002, 92493014003, 92493014004

METHOD BLANK: 2987922 Matrix: Water
 Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	08/31/20 18:31	

LABORATORY CONTROL SAMPLE: 2987923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	242	97	90-110	

SAMPLE DUPLICATE: 2987924

Parameter	Units	92492931002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	690	668	3	25	

SAMPLE DUPLICATE: 2988155

Parameter	Units	92493054001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	91.0	93.0	2	25	

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

QC Batch: 563688 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: 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017

METHOD BLANK: 2988407 Matrix: Water
 Associated Lab Samples: 92493014005, 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/01/20 13:12	

LABORATORY CONTROL SAMPLE: 2988408

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	246	98	90-110	

SAMPLE DUPLICATE: 2988409

Parameter	Units	92492906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	232000 ug/L	226	3	25	

SAMPLE DUPLICATE: 2988410

Parameter	Units	92493014008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	14700	16200	10	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch: 563802

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: 92493014018, 92493014019

METHOD BLANK: 2988946

Matrix: Water

Associated Lab Samples: 92493014018, 92493014019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/01/20 16:19	

LABORATORY CONTROL SAMPLE: 2988947

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	232	93	90-110	

SAMPLE DUPLICATE: 2988948

Parameter	Units	92493014018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	12600	12900	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch:	563275	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004, 92493014005

METHOD BLANK: 2986725 Matrix: Water
 Associated Lab Samples: 92493014001, 92493014002, 92493014003, 92493014004, 92493014005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/29/20 12:40	
Fluoride	mg/L	ND	0.10	0.050	08/29/20 12:40	
Sulfate	mg/L	ND	1.0	0.50	08/29/20 12:40	

LABORATORY CONTROL SAMPLE: 2986726

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Fluoride	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	49.0	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986727 2986728

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92492795001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	3.8	50	50	52.8	54.0	98	100	90-110	2	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	99	102	90-110	3	10		
Sulfate	mg/L	1.7	50	50	50.9	52.0	98	101	90-110	2	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986729 2986730

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92492903002 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	ND	50	50	49.6	50.3	99	101	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.4	2.4	98	96	90-110	2	10		
Sulfate	mg/L	ND	50	50	49.6	50.1	99	100	90-110	1	10		

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QUALITY CONTROL DATA

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

QC Batch: 563276 Analysis Method: EPA 300.0 Rev 2.1 1993

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

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018, 92493014019

METHOD BLANK: 2986731 Matrix: Water

Associated Lab Samples: 92493014006, 92493014007, 92493014008, 92493014009, 92493014010, 92493014011, 92493014012, 92493014013, 92493014014, 92493014015, 92493014016, 92493014017, 92493014018, 92493014019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	08/30/20 23:37	
Fluoride	mg/L	ND	0.10	0.050	08/30/20 23:37	
Sulfate	mg/L	ND	1.0	0.50	08/30/20 23:37	

LABORATORY CONTROL SAMPLE: 2986732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	50	50.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986733 2986734

Parameter	Units	92493014006		2986734		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	13.3	50	50	62.7	63.8	99	101	90-110	2	10
Fluoride	mg/L	0.097J	2.5	2.5	3.4	3.4	133	133	90-110	0	10 M1
Sulfate	mg/L	21.8	50	50	71.5	72.2	99	101	90-110	1	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2986735 2986736

Parameter	Units	92493014016		2986736		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	ND	50	50	49.6	50.1	99	100	90-110	1	10
Fluoride	mg/L	ND	2.5	2.5	3.1	2.6	122	103	90-110	17	10 M1,R1
Sulfate	mg/L	ND	50	50	49.4	49.9	99	100	90-110	1	10

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS ASH POND SCAN
Pace Project No.: 92493014

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

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493014001	MCM-01				
92493014002	MCM-02				
92493014003	MCM-04				
92493014004	MCM-05				
92493014005	MCM-07				
92493014006	MCM-11				
92493014007	MCM-12				
92493014008	MCM-14				
92493014009	MCM-15				
92493014010	MCM-16				
92493014011	MCM-17				
92493014012	MCM-18				
92493014013	MCM-19				
92493014014	MCM-20				
92493014019	MCM-06				
92493014001	MCM-01	EPA 3010A	563604	EPA 6010D	563623
92493014002	MCM-02	EPA 3010A	563907	EPA 6010D	563931
92493014003	MCM-04	EPA 3010A	563907	EPA 6010D	563931
92493014004	MCM-05	EPA 3010A	563907	EPA 6010D	563931
92493014005	MCM-07	EPA 3010A	563907	EPA 6010D	563931
92493014006	MCM-11	EPA 3010A	563907	EPA 6010D	563931
92493014007	MCM-12	EPA 3010A	563907	EPA 6010D	563931
92493014008	MCM-14	EPA 3010A	563907	EPA 6010D	563931
92493014009	MCM-15	EPA 3010A	563907	EPA 6010D	563931
92493014010	MCM-16	EPA 3010A	563907	EPA 6010D	563931
92493014011	MCM-17	EPA 3010A	563907	EPA 6010D	563931
92493014012	MCM-18	EPA 3010A	563907	EPA 6010D	563931
92493014013	MCM-19	EPA 3010A	563907	EPA 6010D	563931
92493014014	MCM-20	EPA 3010A	563907	EPA 6010D	563931
92493014015	FBL082620	EPA 3010A	563907	EPA 6010D	563931
92493014016	EQBL082620	EPA 3010A	563907	EPA 6010D	563931
92493014017	DUP-1	EPA 3010A	563907	EPA 6010D	563931
92493014018	DUP-2	EPA 3010A	563907	EPA 6010D	563931
92493014019	MCM-06	EPA 3010A	563907	EPA 6010D	563931
92493014001	MCM-01	EPA 3010A	566587	EPA 6020B	566664
92493014002	MCM-02	EPA 3010A	566587	EPA 6020B	566664
92493014003	MCM-04	EPA 3010A	566587	EPA 6020B	566664
92493014004	MCM-05	EPA 3010A	566587	EPA 6020B	566664
92493014005	MCM-07	EPA 3010A	566587	EPA 6020B	566664
92493014006	MCM-11	EPA 3010A	566587	EPA 6020B	566664
92493014007	MCM-12	EPA 3010A	566587	EPA 6020B	566664
92493014008	MCM-14	EPA 3010A	566587	EPA 6020B	566664
92493014009	MCM-15	EPA 3010A	566587	EPA 6020B	566664
92493014010	MCM-16	EPA 3010A	566587	EPA 6020B	566664
92493014011	MCM-17	EPA 3010A	566587	EPA 6020B	566664
92493014012	MCM-18	EPA 3010A	566587	EPA 6020B	566664
92493014013	MCM-19	EPA 3010A	566587	EPA 6020B	566664

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS ASH POND SCAN
 Pace Project No.: 92493014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493014014	MCM-20	EPA 3010A	566587	EPA 6020B	566664
92493014015	FBL082620	EPA 3010A	566587	EPA 6020B	566664
92493014016	EQBL082620	EPA 3010A	566587	EPA 6020B	566664
92493014017	DUP-1	EPA 3010A	566587	EPA 6020B	566664
92493014018	DUP-2	EPA 3010A	566587	EPA 6020B	566664
92493014019	MCM-06	EPA 3010A	563910	EPA 6020B	563924
92493014001	MCM-01	EPA 7470A	563861	EPA 7470A	563890
92493014002	MCM-02	EPA 7470A	563861	EPA 7470A	563890
92493014003	MCM-04	EPA 7470A	563861	EPA 7470A	563890
92493014004	MCM-05	EPA 7470A	563861	EPA 7470A	563890
92493014005	MCM-07	EPA 7470A	563861	EPA 7470A	563890
92493014006	MCM-11	EPA 7470A	563861	EPA 7470A	563890
92493014007	MCM-12	EPA 7470A	563861	EPA 7470A	563890
92493014008	MCM-14	EPA 7470A	563861	EPA 7470A	563890
92493014009	MCM-15	EPA 7470A	563861	EPA 7470A	563890
92493014010	MCM-16	EPA 7470A	563861	EPA 7470A	563890
92493014011	MCM-17	EPA 7470A	563861	EPA 7470A	563890
92493014012	MCM-18	EPA 7470A	563861	EPA 7470A	563890
92493014013	MCM-19	EPA 7470A	563861	EPA 7470A	563890
92493014014	MCM-20	EPA 7470A	563861	EPA 7470A	563890
92493014015	FBL082620	EPA 7470A	563861	EPA 7470A	563890
92493014016	EQBL082620	EPA 7470A	563861	EPA 7470A	563890
92493014017	DUP-1	EPA 7470A	563861	EPA 7470A	563890
92493014018	DUP-2	EPA 7470A	563861	EPA 7470A	563890
92493014019	MCM-06	EPA 7470A	563861	EPA 7470A	563890
92493014001	MCM-01	SM 2540C-2011	563524		
92493014002	MCM-02	SM 2540C-2011	563524		
92493014003	MCM-04	SM 2540C-2011	563524		
92493014004	MCM-05	SM 2540C-2011	563524		
92493014005	MCM-07	SM 2540C-2011	563688		
92493014006	MCM-11	SM 2540C-2011	563688		
92493014007	MCM-12	SM 2540C-2011	563688		
92493014008	MCM-14	SM 2540C-2011	563688		
92493014009	MCM-15	SM 2540C-2011	563688		
92493014010	MCM-16	SM 2540C-2011	563688		
92493014011	MCM-17	SM 2540C-2011	563688		
92493014012	MCM-18	SM 2540C-2011	563688		
92493014013	MCM-19	SM 2540C-2011	563688		
92493014014	MCM-20	SM 2540C-2011	563688		
92493014015	FBL082620	SM 2540C-2011	563688		
92493014016	EQBL082620	SM 2540C-2011	563688		
92493014017	DUP-1	SM 2540C-2011	563688		
92493014018	DUP-2	SM 2540C-2011	563802		
92493014019	MCM-06	SM 2540C-2011	563802		
92493014001	MCM-01	EPA 300.0 Rev 2.1 1993	563275		
92493014002	MCM-02	EPA 300.0 Rev 2.1 1993	563275		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS ASH POND SCAN

Pace Project No.: 92493014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493014003	MCM-04	EPA 300.0 Rev 2.1 1993	563275		
92493014004	MCM-05	EPA 300.0 Rev 2.1 1993	563275		
92493014005	MCM-07	EPA 300.0 Rev 2.1 1993	563275		
92493014006	MCM-11	EPA 300.0 Rev 2.1 1993	563276		
92493014007	MCM-12	EPA 300.0 Rev 2.1 1993	563276		
92493014008	MCM-14	EPA 300.0 Rev 2.1 1993	563276		
92493014009	MCM-15	EPA 300.0 Rev 2.1 1993	563276		
92493014010	MCM-16	EPA 300.0 Rev 2.1 1993	563276		
92493014011	MCM-17	EPA 300.0 Rev 2.1 1993	563276		
92493014012	MCM-18	EPA 300.0 Rev 2.1 1993	563276		
92493014013	MCM-19	EPA 300.0 Rev 2.1 1993	563276		
92493014014	MCM-20	EPA 300.0 Rev 2.1 1993	563276		
92493014015	FBL082620	EPA 300.0 Rev 2.1 1993	563276		
92493014016	EQBL082620	EPA 300.0 Rev 2.1 1993	563276		
92493014017	DUP-1	EPA 300.0 Rev 2.1 1993	563276		
92493014018	DUP-2	EPA 300.0 Rev 2.1 1993	563276		
92493014019	MCM-06	EPA 300.0 Rev 2.1 1993	563276		

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Document Name:
Sample Condition Open Receipt (SCOR)
Document No.:
P-CAR-CS-003-Rev.06

Document Revised February 7, 2018
Page 1 of 2
Issuing Authority:
Pace Carolina Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville

Sample Condition
Upon Arrival

Client Name:

Georgia Power

Project:

WO#: 92493014

Customer:

Commercial Fed Ex UPS USPS Client

Pace Other



92493014

Biological Tissue Frozen? Yes No N/A

Coolbody Seal Present? Yes No Seal Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer:

Dist. Cat. No. *91-7061*

Type of Use: Store Other

Cooler Temp (°C) *13.9, 12.14* Correction Factor: Add/Subtract (°C) *0*

Cooler Temp-Corrected (°C) *13.9, 12.14*

Temp should be above freezing to 6°C

Sample out of temp criteria. Samples ok for cooling process but log it.

MSDA Regulated Soil (i.e., water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?

Yes No

			Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<12 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Blooded analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Sample Labels Match CDC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix:	<i>WT</i>		
Headspace in VOA Vials (>5 mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Hold Data Required? Yes No

Lot ID of split containers

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCORF Review: _____

Date: _____

Project Manager SMF Review: _____

Date: _____



Document Name:
Sample Condition Upon Receipt (SCUR)
Document No.:
P-CAR-CS-013-Rev.04

Document Revised: February 7, 2018
Page 1 of 2
Issuing Authority:
Paw. Carolina 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, DRD/RELS (water) DOC, LHM

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

Project # **WO# : 92493014**

PR: KLH1

Due Date: 09/14/20

CLIENT: CR-CR Power

Bottle	Material	1	2	3	4	5	6	7	8	9	10	11	12
BP40-125 ml Plastic Unpreserved (P/A) (D-)													
BP50-250 ml Plastic Unpreserved (P/A)													
BP50-500 ml Plastic Unpreserved (P/A)													
BP50-1 liter Plastic Unpreserved (P/A)													
BP60-125 ml Plastic 125004 (pH < 7) (D-)													
BP60-250 ml Plastic 12504 (pH < 7)													
BP60-125 ml Plastic 24 Acetone & Acetic (P/R)													
BP60-125 ml Plastic Acetic (pH > 12) (D-)													
BP70-amber-screwed Glass jar Unpreserved													
AD200-1 liter Amber Unpreserved (P/A) (D-)													
AD200-1 liter Amber (D) (pH < 7)													
AD200-250 ml Amber Unpreserved (P/A) (D-)													
AD200-1 liter Amber 12504 (pH < 7)													
AD200-250 ml Amber 12504 (pH < 7)													
AD200000A-250 ml Amber 12504 (P/A)(D-)													
BD200-50 ml VOA (D) (P/A)													
V001-50 ml VOA 125004 (P/A)													
V000-50 ml VOA 12504 (P/A)													
V000-50 ml VOA 125004 (P/A)													
V000-10 vials per bag-5000-10 (P/A)													
V000-10 vials per bag-5000-10 (P/A)													
BP7-125 ml 33000 Plastic (P/A) - 100)													
BP7-250 ml 33000 Plastic (P/A) - 100)													
BP70-125 ml Plastic 125004 (P 3-3-3)													
AD200-250 ml Amber Unpreserved vials (P/A)													
V000-50 ml 5000000 vials (P/A)													
BP70-50 ml Amber Unpreserved vials (P/A)													

BPIN

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservative 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 03 2008 Certification Office (i.e. out of bag, incorrect preservative, out of bag, incorrect containers).



Document Name:
Sample Condition Upon Receipt(SICUR)
 Document No.:
P-CAR-CS-633-Rev.06

Document Revised: February 7, 2020
 Page 1 of 2
 Issuing Authority:
 Pam Carolina 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, DBO/DO15 (water), DOC, UGK

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

Project # **WO# : 92493014**

PR: **KMH**

Due Date: **08/14/20**

CLIENT: **GA-GA Power**

Row	Bottle	1	2	3	4	5	6	7	8	9	10	11	12
1	BP40-125 ml, Plastic Unpreserved (P/A) (D-1)												
2	BP700-250 ml, Plastic Unpreserved (P/A)												
3	BP200-500 ml, Plastic Unpreserved (P/A)												
4	BP700-1 liter, Plastic Unpreserved (P/A)												
5	BP40-125 ml, Plastic H2SO4 (pH < 2) (D-1)												
6	BP700-250 ml, Plastic H2SO4 (pH < 2)												
7	BP42-125 ml, Plastic 2N Acetate, 0.1 N AcOH (pH)												
8	BP42-125 ml, Plastic H2SO4 (pH < 2) (D-1)												
9	Waterswide-etched Glass jar Unpreserved												
10	AQ10-1 liter Amber Unpreserved (P/A) (D-1)												
11	AQ10-1 liter Amber (pH < 2)												
12	AQ20-250 ml, Amber Unpreserved (P/A) (D-1)												
13	AQ20-1 liter Amber H2SO4 (pH < 2)												
14	AQ20-250 ml, Amber H2SO4 (pH < 2)												
15	AQ200-500ml-250 ml, Amber H2SO4 (pH < 2)												
16	BP08-40 ml, VOA HD (P/A)												
17	VD01-60 ml, VOA H2SO4 (P/A)												
18	VD04-60 ml, VOA, UGK (P/A)												
19	BP08-60 ml, VOA, UGK (P/A)												
20	VD04 (6 ml vials per 60)-500 ml (P/A)												
21	V700 (3 vials per 60)-vials (P/A)												
22	BP77-125 ml, Benthic Plastic (P/A - 1st)												
23	BP77-250 ml, Benthic Plastic (P/A - 1st)												
24	BP700-100 ml, Plastic (pH < 2) (D-1)												
25	AQ50-120 ml, Amber Unpreserved vials (P/A)												
26	VD01-20 ml, Scintillation vials (P/A)												
27	BP08-40 ml, Amber Unpreserved vials (P/A)												

KMH
 8/14/20

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 Range, incorrect preservative, out of temp, incorrect containers).



CHAIN-OF-CUSTODY / Analytical Request Document

The Ownership of this document is a USCA, DOCUMENT. All related items must be completed accurately.

Page 1 of 2

Section A: Analytical Project Information

Project Name: Special Ops
 Location: Fort Bragg, NC
 Date: 10/15/10
 Analyst: [Signature]

Section B: Analytical Request Information

Request Number: 1001
 Request Date: 10/15/10
 Requested by: [Signature]

Section C: Analytical Method Information

Method: GC/MS
 Instrument: Agilent 6890N
 Software: Agilent 6890N

SAMPLE ID	ANALYST	DATE	CONCENTRATIONS		PRESERVATION		ANALYSIS TEST			REMARKS
			mg/L	ug/L	mg/L	ug/L	GC	MS	IR	
1	MCN-01	10/15/10	1.5	1.5	3	3	X	X	X	6.79 pH
2	MCN-02	10/15/10	1.5	1.5	3	3	X	X	X	6.03 pH
3	MCN-03	10/15/10	1.5	1.5	3	3	X	X	X	4.95 pH
4	MCN-04	10/15/10	1.5	1.5	3	3	X	X	X	6.50 pH
5	MCN-05	10/15/10	1.5	1.5	3	3	X	X	X	6.32 pH
6	MCN-06	10/15/10	1.5	1.5	3	3	X	X	X	4.95 pH
7	MCN-07	10/15/10	1.5	1.5	3	3	X	X	X	4.92 pH
8	MCN-08	10/15/10	1.5	1.5	3	3	X	X	X	6.45 pH
9	MCN-09	10/15/10	1.5	1.5	3	3	X	X	X	4.27 pH
10	MCN-10	10/15/10	1.5	1.5	3	3	X	X	X	
11	MCN-11	10/15/10	1.5	1.5	3	3	X	X	X	
12	MCN-12	10/15/10	1.5	1.5	3	3	X	X	X	

ANALYST SIGNATURE AND INFORMATION

ANALYST: [Signature]
 TITLE: Special Ops
 ORGANIZATION: Fort Bragg, NC
 DATE: 10/15/10

REMARKS

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

Section A: Request Information
 Requester: [Blank]
 Requester Title: [Blank]
 Requester Agency: [Blank]
 Requester Contact: [Blank]
 Requester Phone: [Blank]
 Requester Email: [Blank]

Section B: Analytical Request Information
 Requested Analysis: [Blank]
 Requested Quantity: [Blank]
 Requested Turnaround Time: [Blank]
 Requested Priority: [Blank]

Section C: Sample Information
 Sample ID: [Blank]
 Sample Description: [Blank]
 Sample Quantity: [Blank]
 Sample Location: [Blank]

ITEM #	SAMPLE ID	DESCRIPTION	COLLECTOR			ANALYSIS INFORMATION							ANALYST	DATE	TIME	
			NAME	TIME	DATE	ANALYSIS	TEST	RESULT	STATUS	DATE	TIME					
1	MEM-19															
2	MEM-20															
3	FOL-082620															
4	FOL-082620															
5	DUP-1															
6	DUP-2															

Section D: Laboratory Information
 Laboratory Name: [Blank]
 Laboratory Address: [Blank]
 Laboratory Phone: [Blank]
 Laboratory Email: [Blank]

Section E: Signatures
 Requester Signature: [Blank]
 Requester Title: [Blank]
 Analyst Signature: [Blank]
 Analyst Title: [Blank]

Robinson
 ANALYST

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

Section I Requested Analytical Information

Client: 3000 International Avenue
 City: Albany, Georgia, GA 31705
 Analytical Information: See description per item #1 on attached file
 Analytical Request # 1
 Requested Date: 8/24/2014
 Requested By: See description per item #1 on attached file

Section II Sample Information

Sample ID: 1
 Sample Name: See description per item #1 on attached file
 Sample Source: See description per item #1 on attached file
 Date Received: 8/24/2014
 Time Received: 11:00 AM
 Location Received: See description per item #1 on attached file

Section III Chain of Custody

Date	Time	Signature	Title	Agency	To/From		
					Received From	Received By	Signature

ITEM #	Description of Sample	Date Received	Time Received	Signature	Title	Agency	To/From	Analytical Information	
								Method	Result
1	SAMPLE ID See description per item #1 on attached file ANALYST See description per item #1 on attached file ANALYST See description per item #1 on attached file ANALYST See description per item #1 on attached file	8/24/2014	11:00 AM						
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ANALYST: *[Signature]*
 ANALYST: *[Signature]*
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ANALYST: *[Signature]*
 ANALYST: *[Signature]*
 ANALYST: *[Signature]*



September 22, 2020

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

RE: Project: MCMANUS ASH POND SCAN RADS
Pace Project No.: 92493016

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 28, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

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

Sincerely,

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

Enclosures

cc: 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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CERTIFICATIONS

Project: MCMANUS ASH POND SCAN RADS
Pace Project No.: 92493016

Pace Analytical Services Pennsylvania

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS ASH POND SCAN RADS
Pace Project No.: 92493016

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92493016001	MCM-01	Water	08/26/20 13:38	08/28/20 11:35
92493016002	MCM-02	Water	08/26/20 14:25	08/28/20 11:35
92493016003	MCM-04	Water	08/26/20 11:58	08/28/20 11:35
92493016004	MCM-05	Water	08/26/20 12:47	08/28/20 11:35
92493016005	MCM-07	Water	08/26/20 11:21	08/28/20 11:35
92493016006	MCM-11	Water	08/26/20 10:26	08/28/20 11:35
92493016007	MCM-12	Water	08/26/20 10:29	08/28/20 11:35
92493016008	MCM-14	Water	08/26/20 11:48	08/28/20 11:35
92493016009	MCM-15	Water	08/26/20 14:49	08/28/20 11:35
92493016010	MCM-16	Water	08/26/20 16:52	08/28/20 11:35
92493016011	MCM-17	Water	08/26/20 15:56	08/28/20 11:35
92493016012	MCM-18	Water	08/26/20 11:58	08/28/20 11:35
92493016013	MCM-19	Water	08/26/20 14:30	08/28/20 11:35
92493016014	MCM-20	Water	08/26/20 15:48	08/28/20 11:35
92493016015	FBL082620	Water	08/26/20 16:49	08/28/20 11:35
92493016016	EQBL082620	Water	08/26/20 16:55	08/28/20 11:35
92493016017	DUP-1	Water	08/26/20 00:00	08/28/20 11:35
92493016018	DUP-2	Water	08/26/20 00:00	08/28/20 11:35
92493016019	MCM-06	Water	08/26/20 16:08	08/28/20 11:35

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92493016001	MCM-01	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016002	MCM-02	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016003	MCM-04	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016004	MCM-05	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016005	MCM-07	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92493016006	MCM-11	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016007	MCM-12	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016008	MCM-14	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016009	MCM-15	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92493016010	MCM-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92493016011	MCM-17	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92493016012	MCM-18	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92493016013	MCM-19	EPA 9315	LAL	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS ASH POND SCAN RADS
 Pace Project No.: 92493016

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92493016014	MCM-20	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92493016015	FBL082620	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92493016016	EQBL082620	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92493016017	DUP-1	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92493016018	DUP-2	Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
92493016019	MCM-06	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493016001	MCM-01					
EPA 9315	Radium-226	0.491 ± 0.342 (0.598)	pCi/L		09/11/20 08:55	
EPA 9320	Radium-228	C:91% T:NA -0.676 ± 0.474 (1.19)	pCi/L		09/15/20 15:05	
Total Radium Calculation	Total Radium	C:60% T:88% 0.491 ± 0.816 (1.79)	pCi/L		09/16/20 10:12	
92493016002	MCM-02					
EPA 9315	Radium-226	0.470 ± 0.151 (0.169)	pCi/L		09/10/20 18:20	
EPA 9320	Radium-228	C:88% T:NA 0.00000000 000000044 5 ± 0.513 (1.18)	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	C:67% T:76% 0.470 ± 0.664 (1.35)	pCi/L		09/16/20 10:12	
92493016003	MCM-04					
EPA 9315	Radium-226	3.63 ± 0.624 (0.268)	pCi/L		09/10/20 18:20	
EPA 9320	Radium-228	C:90% T:NA 1.65 ± 0.714 (1.19)	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	C:64% T:73% 5.28 ± 1.34 (1.46)	pCi/L		09/16/20 10:12	
92493016004	MCM-05					
EPA 9315	Radium-226	0.690 ± 0.202 (0.201)	pCi/L		09/10/20 18:20	
EPA 9320	Radium-228	C:69% T:NA 0.151 ± 0.495 (1.11)	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	C:65% T:83% 0.841 ± 0.697 (1.31)	pCi/L		09/16/20 10:12	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493016005	MCM-07					
EPA 9315	Radium-226	5.35 ± 0.937 (0.255) C:87% T:NA	pCi/L		09/21/20 07:31	
EPA 9320	Radium-228	6.49 ± 1.44 (1.05) C:66% T:81%	pCi/L		09/15/20 15:03	
Total Radium Calculation	Total Radium	11.8 ± 2.38 (1.31)	pCi/L		09/21/20 10:18	
92493016006	MCM-11					
EPA 9315	Radium-226	0.424 ± 0.267 (0.371) C:90% T:NA	pCi/L		09/11/20 07:02	
EPA 9320	Radium-228	-0.184 ± 0.421 (1.00) C:65% T:90%	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	0.424 ± 0.688 (1.37)	pCi/L		09/16/20 10:12	
92493016007	MCM-12					
EPA 9315	Radium-226	1.11 ± 0.413 (0.390) C:99% T:NA	pCi/L		09/11/20 07:03	
EPA 9320	Radium-228	1.03 ± 0.567 (1.03) C:62% T:82%	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	2.14 ± 0.980 (1.42)	pCi/L		09/16/20 10:12	
92493016008	MCM-14					
EPA 9315	Radium-226	3.76 ± 0.852 (0.356) C:98% T:NA	pCi/L		09/11/20 07:04	
EPA 9320	Radium-228	5.84 ± 1.35 (1.08) C:66% T:78%	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	9.60 ± 2.20 (1.44)	pCi/L		09/16/20 10:12	
92493016009	MCM-15					
EPA 9315	Radium-226	0.865 ± 0.422 (0.607) C:90% T:NA	pCi/L		09/11/20 07:04	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493016009	MCM-15					
EPA 9320	Radium-228	0.425 ± 0.557 (1.19) C:62% T:80%	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	1.29 ± 0.979 (1.80)	pCi/L		09/16/20 10:12	
92493016010	MCM-16					
EPA 9315	Radium-226	0.643 ± 0.320 (0.368) C:95% T:NA	pCi/L		09/11/20 07:04	
EPA 9320	Radium-228	-0.250 ± 0.434 (1.05) C:62% T:90%	pCi/L		09/15/20 15:06	
Total Radium Calculation	Total Radium	0.643 ± 0.754 (1.42)	pCi/L		09/17/20 14:22	
92493016011	MCM-17					
EPA 9315	Radium-226	4.39 ± 0.877 (0.277) C:82% T:NA	pCi/L		09/14/20 11:38	
EPA 9320	Radium-228	4.12 ± 1.01 (0.820) C:63% T:75%	pCi/L		09/16/20 11:37	
Total Radium Calculation	Total Radium	8.51 ± 1.89 (1.10)	pCi/L		09/17/20 14:22	
92493016012	MCM-18					
EPA 9315	Radium-226	4.73 ± 0.928 (0.315) C:85% T:NA	pCi/L		09/14/20 11:38	
EPA 9320	Radium-228	5.77 ± 1.29 (0.833) C:62% T:81%	pCi/L		09/16/20 11:37	
Total Radium Calculation	Total Radium	10.5 ± 2.22 (1.15)	pCi/L		09/17/20 14:22	
92493016013	MCM-19					
EPA 9315	Radium-226	5.81 ± 1.02 (0.209) C:84% T:NA	pCi/L		09/21/20 07:29	
EPA 9320	Radium-228	16.8 ± 3.23 (0.765) C:62% T:84%	pCi/L		09/16/20 11:37	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493016013	MCM-19					
Total Radium Calculation	Total Radium	22.6 ± 4.25 (0.974)	pCi/L		09/21/20 10:18	
92493016014	MCM-20					
EPA 9315	Radium-226	6.00 ± 1.04 (0.193)	pCi/L		09/21/20 07:29	
EPA 9320	Radium-228	C:84% T:NA 30.7 ± 5.71 (0.761)	pCi/L		09/16/20 11:37	
Total Radium Calculation	Total Radium	C:63% T:81% 36.7 ± 6.75 (0.954)	pCi/L		09/21/20 10:18	
92493016015	FBL082620					
EPA 9315	Radium-226	0.0158 ± 0.121 (0.324)	pCi/L		09/14/20 07:28	
EPA 9320	Radium-228	C:86% T:NA 1.09 ± 0.541 (0.913)	pCi/L		09/16/20 11:37	
Total Radium Calculation	Total Radium	C:57% T:75% 1.11 ± 0.662 (1.24)	pCi/L		09/17/20 14:22	
92493016016	EQBL082620					
EPA 9315	Radium-226	0.108 ± 0.142 (0.294)	pCi/L		09/14/20 07:28	
EPA 9320	Radium-228	C:86% T:NA 1.56 ± 0.640 (1.02)	pCi/L		09/16/20 11:37	
Total Radium Calculation	Total Radium	C:61% T:75% 1.67 ± 0.782 (1.31)	pCi/L		09/17/20 14:22	
92493016017	DUP-1					
EPA 9315	Radium-226	3.74 ± 0.806 (0.445)	pCi/L		09/14/20 07:28	
EPA 9320	Radium-228	C:80% T:NA 2.76 ± 0.795 (0.880)	pCi/L		09/16/20 11:37	
Total Radium Calculation	Total Radium	C:64% T:70% 6.50 ± 1.60 (1.33)	pCi/L		09/17/20 14:22	

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SUMMARY OF DETECTION

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493016018	DUP-2					
EPA 9315	Radium-226	6.17 ± 1.07 (0.262)	pCi/L		09/21/20 07:31	
EPA 9320	Radium-228	C:83% T:NA 33.9 ± 6.30 (0.840)	pCi/L		09/16/20 11:37	
		C:61% T:79%				
Total Radium Calculation	Total Radium	40.1 ± 7.37 (1.10)	pCi/L		09/21/20 10:18	
92493016019	MCM-06					
EPA 9315	Radium-226	4.83 ± 0.958 (0.337)	pCi/L		09/14/20 07:28	
EPA 9320	Radium-228	C:81% T:NA 3.23 ± 0.991 (1.24)	pCi/L		09/16/20 11:37	
		C:64% T:57%				
Total Radium Calculation	Total Radium	8.06 ± 1.95 (1.58)	pCi/L		09/17/20 14:22	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-01 Lab ID: 92493016001 Collected: 08/26/20 13:38 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.491 ± 0.342 (0.598) C:91% T:NA	pCi/L	09/11/20 08:55	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	-0.676 ± 0.474 (1.19) C:60% T:88%	pCi/L	09/15/20 15:05	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.491 ± 0.816 (1.79)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-02 Lab ID: 92493016002 Collected: 08/26/20 14:25 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.470 ± 0.151 (0.169) C:88% T:NA	pCi/L	09/10/20 18:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.00000000000000445 ± 0.513 (1.18) C:67% T:76%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.470 ± 0.664 (1.35)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-04 Lab ID: 92493016003 Collected: 08/26/20 11:58 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.63 ± 0.624 (0.268) C:90% T:NA	pCi/L	09/10/20 18:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.65 ± 0.714 (1.19) C:64% T:73%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	5.28 ± 1.34 (1.46)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Sample: MCM-05 **Lab ID: 92493016004** Collected: 08/26/20 12:47 Received: 08/28/20 11:35 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	0.690 ± 0.202 (0.201) C:69% T:NA	pCi/L	09/10/20 18:20	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.151 ± 0.495 (1.11) C:65% T:83%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.841 ± 0.697 (1.31)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-07 Lab ID: 92493016005 Collected: 08/26/20 11:21 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.35 ± 0.937 (0.255) C:87% T:NA	pCi/L	09/21/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	6.49 ± 1.44 (1.05) C:66% T:81%	pCi/L	09/15/20 15:03	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	11.8 ± 2.38 (1.31)	pCi/L	09/21/20 10:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-11 Lab ID: 92493016006 Collected: 08/26/20 10:26 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.424 ± 0.267 (0.371) C:90% T:NA	pCi/L	09/11/20 07:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.184 ± 0.421 (1.00) C:65% T:90%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.424 ± 0.688 (1.37)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-12 Lab ID: 92493016007 Collected: 08/26/20 10:29 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.11 ± 0.413 (0.390) C:99% T:NA	pCi/L	09/11/20 07:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.03 ± 0.567 (1.03) C:62% T:82%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.14 ± 0.980 (1.42)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-14 Lab ID: 92493016008 Collected: 08/26/20 11:48 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.76 ± 0.852 (0.356) C:98% T:NA	pCi/L	09/11/20 07:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	5.84 ± 1.35 (1.08) C:66% T:78%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	9.60 ± 2.20 (1.44)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-15 Lab ID: 92493016009 Collected: 08/26/20 14:49 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.865 ± 0.422 (0.607) C:90% T:NA	pCi/L	09/11/20 07:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.425 ± 0.557 (1.19) C:62% T:80%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.29 ± 0.979 (1.80)	pCi/L	09/16/20 10:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-16 Lab ID: 92493016010 Collected: 08/26/20 16:52 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.643 ± 0.320 (0.368) C:95% T:NA	pCi/L	09/11/20 07:04	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.250 ± 0.434 (1.05) C:62% T:90%	pCi/L	09/15/20 15:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.643 ± 0.754 (1.42)	pCi/L	09/17/20 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Sample: MCM-17 **Lab ID: 92493016011** Collected: 08/26/20 15:56 Received: 08/28/20 11:35 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	4.39 ± 0.877 (0.277) C:82% T:NA	pCi/L	09/14/20 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	4.12 ± 1.01 (0.820) C:63% T:75%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	8.51 ± 1.89 (1.10)	pCi/L	09/17/20 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-18 Lab ID: 92493016012 Collected: 08/26/20 11:58 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.73 ± 0.928 (0.315) C:85% T:NA	pCi/L	09/14/20 11:38	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	5.77 ± 1.29 (0.833) C:62% T:81%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	10.5 ± 2.22 (1.15)	pCi/L	09/17/20 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-19 Lab ID: 92493016013 Collected: 08/26/20 14:30 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.81 ± 1.02 (0.209) C:84% T:NA	pCi/L	09/21/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	16.8 ± 3.23 (0.765) C:62% T:84%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	22.6 ± 4.25 (0.974)	pCi/L	09/21/20 10:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-20 Lab ID: 92493016014 Collected: 08/26/20 15:48 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	6.00 ± 1.04 (0.193) C:84% T:NA	pCi/L	09/21/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	30.7 ± 5.71 (0.761) C:63% T:81%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	36.7 ± 6.75 (0.954)	pCi/L	09/21/20 10:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FBL082620 Lab ID: 92493016015 Collected: 08/26/20 16:49 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0158 ± 0.121 (0.324) C:86% T:NA	pCi/L	09/14/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.09 ± 0.541 (0.913) C:57% T:75%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.11 ± 0.662 (1.24)	pCi/L	09/17/20 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: EQBL082620 Lab ID: 92493016016 Collected: 08/26/20 16:55 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.108 ± 0.142 (0.294) C:86% T:NA	pCi/L	09/14/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.56 ± 0.640 (1.02) C:61% T:75%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.67 ± 0.782 (1.31)	pCi/L	09/17/20 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: DUP-1 Lab ID: 92493016017 Collected: 08/26/20 00:00 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.74 ± 0.806 (0.445) C:80% T:NA	pCi/L	09/14/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	2.76 ± 0.795 (0.880) C:64% T:70%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	6.50 ± 1.60 (1.33)	pCi/L	09/17/20 14:22	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Sample: DUP-2 **Lab ID: 92493016018** Collected: 08/26/20 00:00 Received: 08/28/20 11:35 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	6.17 ± 1.07 (0.262) C:83% T:NA	pCi/L	09/21/20 07:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	33.9 ± 6.30 (0.840) C:61% T:79%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	40.1 ± 7.37 (1.10)	pCi/L	09/21/20 10:18	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS

Pace Project No.: 92493016

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-06 Lab ID: 92493016019 Collected: 08/26/20 16:08 Received: 08/28/20 11:35 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.83 ± 0.958 (0.337) C:81% T:NA	pCi/L	09/14/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	3.23 ± 0.991 (1.24) C:64% T:57%	pCi/L	09/16/20 11:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	8.06 ± 1.95 (1.58)	pCi/L	09/17/20 14:22	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS
 Pace Project No.: 92493016

QC Batch:	412356	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92493016011, 92493016012, 92493016013, 92493016014, 92493016015, 92493016016, 92493016017, 92493016018, 92493016019

METHOD BLANK: 1994515 Matrix: Water

Associated Lab Samples: 92493016011, 92493016012, 92493016013, 92493016014, 92493016015, 92493016016, 92493016017, 92493016018, 92493016019

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0596 ± 0.133 (0.265) C:74% T:NA	pCi/L	09/11/20 18:17	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS ASH POND SCAN RADS
 Pace Project No.: 92493016

QC Batch:	412345	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92493016001, 92493016002, 92493016003, 92493016004, 92493016005, 92493016006, 92493016007, 92493016008, 92493016009, 92493016010

METHOD BLANK: 1994499 Matrix: Water

Associated Lab Samples: 92493016001, 92493016002, 92493016003, 92493016004, 92493016005, 92493016006, 92493016007, 92493016008, 92493016009, 92493016010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.357 ± 0.355 (0.727) C:71% T:84%	pCi/L	09/15/20 15:02	

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 ASH POND SCAN RADS
 Pace Project No.: 92493016

QC Batch:	412352	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92493016001, 92493016002, 92493016003, 92493016004, 92493016005, 92493016006, 92493016007, 92493016008, 92493016009, 92493016010

METHOD BLANK: 1994514 Matrix: Water

Associated Lab Samples: 92493016001, 92493016002, 92493016003, 92493016004, 92493016005, 92493016006, 92493016007, 92493016008, 92493016009, 92493016010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.206 ± 0.102 (0.149) C:95% T:NA	pCi/L	09/10/20 19:37	

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 ASH POND SCAN RADS

Pace Project No.: 92493016

QC Batch:	412346	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92493016011, 92493016012, 92493016013, 92493016014, 92493016015, 92493016016, 92493016017, 92493016018, 92493016019

METHOD BLANK: 1994501 Matrix: Water

Associated Lab Samples: 92493016011, 92493016012, 92493016013, 92493016014, 92493016015, 92493016016, 92493016017, 92493016018, 92493016019

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.749 ± 0.397 (0.699) C:71% T:81%	pCi/L	09/16/20 11:37	

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 ASH POND SCAN RADS
Pace Project No.: 92493016

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS ASH POND SCAN RADS
 Pace Project No.: 92493016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493016001	MCM-01	EPA 9315	412352		
92493016002	MCM-02	EPA 9315	412352		
92493016003	MCM-04	EPA 9315	412352		
92493016004	MCM-05	EPA 9315	412352		
92493016005	MCM-07	EPA 9315	412352		
92493016006	MCM-11	EPA 9315	412352		
92493016007	MCM-12	EPA 9315	412352		
92493016008	MCM-14	EPA 9315	412352		
92493016009	MCM-15	EPA 9315	412352		
92493016010	MCM-16	EPA 9315	412352		
92493016011	MCM-17	EPA 9315	412356		
92493016012	MCM-18	EPA 9315	412356		
92493016013	MCM-19	EPA 9315	412356		
92493016014	MCM-20	EPA 9315	412356		
92493016015	FBL082620	EPA 9315	412356		
92493016016	EQBL082620	EPA 9315	412356		
92493016017	DUP-1	EPA 9315	412356		
92493016018	DUP-2	EPA 9315	412356		
92493016019	MCM-06	EPA 9315	412356		
92493016001	MCM-01	EPA 9320	412345		
92493016002	MCM-02	EPA 9320	412345		
92493016003	MCM-04	EPA 9320	412345		
92493016004	MCM-05	EPA 9320	412345		
92493016005	MCM-07	EPA 9320	412345		
92493016006	MCM-11	EPA 9320	412345		
92493016007	MCM-12	EPA 9320	412345		
92493016008	MCM-14	EPA 9320	412345		
92493016009	MCM-15	EPA 9320	412345		
92493016010	MCM-16	EPA 9320	412345		
92493016011	MCM-17	EPA 9320	412346		
92493016012	MCM-18	EPA 9320	412346		
92493016013	MCM-19	EPA 9320	412346		
92493016014	MCM-20	EPA 9320	412346		
92493016015	FBL082620	EPA 9320	412346		
92493016016	EQBL082620	EPA 9320	412346		
92493016017	DUP-1	EPA 9320	412346		
92493016018	DUP-2	EPA 9320	412346		
92493016019	MCM-06	EPA 9320	412346		
92493016001	MCM-01	Total Radium Calculation	414090		
92493016002	MCM-02	Total Radium Calculation	414090		
92493016003	MCM-04	Total Radium Calculation	414090		
92493016004	MCM-05	Total Radium Calculation	414090		
92493016005	MCM-07	Total Radium Calculation	414777		
92493016006	MCM-11	Total Radium Calculation	414090		
92493016007	MCM-12	Total Radium Calculation	414090		
92493016008	MCM-14	Total Radium Calculation	414090		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS ASH POND SCAN RADS
Pace Project No.: 92493016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493016009	MCM-15	Total Radium Calculation	414090		
92493016010	MCM-16	Total Radium Calculation	414422		
92493016011	MCM-17	Total Radium Calculation	414422		
92493016012	MCM-18	Total Radium Calculation	414422		
92493016013	MCM-19	Total Radium Calculation	414777		
92493016014	MCM-20	Total Radium Calculation	414777		
92493016015	FBL082620	Total Radium Calculation	414422		
92493016016	EQBL082620	Total Radium Calculation	414422		
92493016017	DUP-1	Total Radium Calculation	414422		
92493016018	DUP-2	Total Radium Calculation	414777		
92493016019	MCM-06	Total Radium Calculation	414422		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:
 Asheville Eden Greenwood Huntersville Raleigh Mechanicville

Sample Condition Upon Receipt

Client Name:

Georgia Power

Project #

WO#: 92493016

Carrier:

Commercial

Fed Ex

UPS

USPS

Other

Client



92493016

Custody Seal Present?

Yes

No

Seals Intact?

Yes

No

Date/Initial Person Examining Contents: *1-15-2018*

Packing Material:

Bubble Wrap

Bubble Bags

None

Other

Biological Tissue Present?

Yes

No

N/A

Thermometer:

ET-100-01 71-70.6

Type of Ice:

Wet

Dry

None

Cooler Temp (°C):

1.9, 2.9, 1.2, 1.4

Correction Factor Add/Subtract (°C)

0

Temp should be above freezing to 4°C

Sample out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C):

1.9, 2.9, 1.2, 1.4

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States (CA, NY, or SC) (check maps)?

Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?

Yes No

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCUR Review:

Date:

Project Manager SRF Review:

Date:



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

Project # **WO# : 92493016**

PR: KLH1 Due Date: 08/14/20
CLIENT: GR-GR Power

Exceptions: VOA, Coliform, DOC, Oil and Grease, DRO/RO15 (water) DOC, ULM
**Bottom half of box is to list number of bottle

Bottle	Bottle Description	1	2	3	4	5	6	7	8	9	10	11	12
BP40-110 ml, Plastic Unpreserved (N/A) (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-200 ml, Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-500 ml, Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-1 liter Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic HQS4 (pH < 2) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-200 ml, Plastic HQS3 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic 2% Acetic & NaOH (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic NaOH (pH > 12) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic NaOH (pH > 12) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-1 liter Amber Unpreserved (N/A) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-1 liter Amber HQ (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-200 ml, Amber Unpreserved (N/A) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-1 liter Amber HQS4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-200 ml, Amber HQS3 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-200 ml, Amber HQS4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-500 ml, Amber HQS4 (N/A)(D-1)		/	/	/	/	/	/	/	/	/	/	/	/
DD40-40 ml, VOA HQ (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V400-40 ml, VOA HQS3 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V400-40 ml, VOA (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DD40-40 ml, VOA HQS4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V400-40 vials per lot-2013 kit (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V400-18 vials per lot-Volition kit (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Soiling Plastic (N/A - 60)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-200 ml, Soiling Plastic (N/A - 60)		/	/	/	/	/	/	/	/	/	/	/	/
BP 1 N		/	/	/	/	/	/	/	/	/	/	/	/
BP40-200 ml, Plastic (pH/2004) (D-3-4-7)		/	/	/	/	/	/	/	/	/	/	/	/
AD30-200 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V400-40 ml, Soiling Plastic (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DD40-40 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

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 DPHM Certification Office (i.e. Out of town, incorrect preservative, out of temp, incorrect containers).



Document Name:
 Sample Condition Upon Receipt (KLM)
 Document No.:
 F-CAR-CS-033-Rev.06

Document Revised: February 7, 2018
 Page 1 of 2
 Issuing Authority:
 Fair Carolina Quality Office

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

Project # **WO# : 92493016**

PR: KLH1 Due Date: 08/14/20

Excellence: VOA, Coliform, TOC, Oil and Grease, DRD/ROD5 (water) SDC, W/ig

CLIENT: GR-GR Power

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

Bottle	Sample Description	1	2	3	4	5	6	7	8	9	10	11	12
BP03-125 ml, Plastic Unpreserved (N/A) (V)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-250 ml, Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-500 ml, Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-1 liter Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-125 ml, Plastic H2SO4 (pH < 2) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-250 ml, plastic H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-500 ml, Plastic 2% Acetic & NaOH (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-125 ml, Plastic NaOH (pH > 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
Wet/urine washed glass jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
AD03-1 liter Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-1 liter Amber HCl (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-250 ml, Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-1 liter Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-250 ml, Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-500ml-250 ml, Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
PD03-60 ml, VOA HCl (pH)		/	/	/	/	/	/	/	/	/	/	/	/
PD03-60 ml, VOA H2SO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
PD03-60 ml, VOA HNO3 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
PD03-60 ml, VOA H2PO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOA8 (8-vials per 100-5003 kit) (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V408 (8-vials per 100-5003 kit) (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-125 ml, Bore Plastic (N/A) - (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-250 ml, Bore Plastic (N/A) - (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-500 ml, Bore Plastic (N/A) - (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP03-1 liter Plastic (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-125 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V003-20 ml, Scintillation vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
AD03-60 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

BPIN

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 Official Certification Office i.e. Out of town, 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, DRB/ROD (water) DOC, UUA

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

Project #

WO# : 92493016

PR: KLH1

Due Date: 09/14/20

CLIENT: GR-GR Power

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #
BP10-135 ml, Plastic Unpreserved (N/A) (C1)						
BP10-150 ml, Plastic Unpreserved (N/A)						
BP20-150 ml, Plastic Unpreserved (N/A)						
BP20-150 ml, Plastic Unpreserved (N/A)						
BP40-125 ml, Plastic H2SO4 (pH < 2) (C1)						
BP20-150 ml, Plastic HClO4 (pH < 2)						
BP40-125 ml, Plastic 2N Acetate & HClO4 (C1)						
BP40-125 ml, Plastic HNO3 (pH < 1.0) (C1)						
VO20-100ml, mouthed glass jar Unpreserved						
MS10-1 liter Amber Unpreserved (N/A) (C1)						
MS10-1 liter Amber HCl (pH < 1)						
MS10-100 ml, Amber Unpreserved (N/A) (C1)						
MS10-1 liter Amber H2SO4 (pH < 2)						
MS10-100 ml, Amber H2SO4 (pH < 2)						
MS10-100ml, 200 ml, Amber HNO3 (N/A) (C1)						
DO20-10 ml, VOA HCl (N/A)						
VO20-10 ml, VOA HClO4 (N/A)						
VO20-10 ml, VOA HNO3 (N/A)						
VO20-10 ml, VOA H2SO4 (N/A)						
VO20-10 vials per MS-MS10 (N/A)						
VO20-10 vials per MS-MS10 (N/A)						
BP20-125 ml, Specific Preservative (N/A)						
BP20-150 ml, Specific Preservative (N/A)						
BP10-150 ml, Plastic (N/A) (C1) (C1)						
MS10-100 ml, Amber Unpreserved vials (N/A)						
VO20-10 ml, Dechlorination vials (N/A)						
MS10-10 ml, Amber Unpreserved vials (N/A)						

BPIN

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 District Certification Office (NCDCE).
Out of field, incorrect preservation, out of time, incorrect containers.



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section 1 Client Information Name: [Blank] Address: [Blank] City: [Blank] State: [Blank] Zip: [Blank]	Section 2 Requested Project Information Project No.: [Blank] Date: [Blank] Requested By: [Blank]	Section 3 Analytical Information Analytical Method: [Blank] Reference Material: [Blank] Project Name: [Blank]	Section 4 Sample Information Sample ID: [Blank] Date Collected: [Blank] Location: [Blank]
--	---	--	--

SAMPLE ID	Date Collected	Location	Collection		Sample Size (g)	Storage	Analysis								Residual (ppm)
			From	To			Moisture	Protein	Starch	Cellulose	Lignin	Hemicellulose	Other	Analysis Test	
1	MEM-01	WTG 1000	13:30	14:00	5.1	3	X	X	X	X	X	X	X	9.19 pH	
2	MEM-02	WTG 1000	14:15	14:45	5.2	3	X	X	X	X	X	X	X	5.03 pH	
3	MEM-03	WTG 1000	14:55	15:25	5.1	3	X	X	X	X	X	X	X	4.95 pH	
4	MEM-04	WTG 1000	15:35	16:05	5.1	3	X	X	X	X	X	X	X	6.80 pH	
5	MEM-05	WTG 1000	16:15	16:45	5.2	3	X	X	X	X	X	X	X	4.82 pH	
6	MEM-06	WTG 1000	16:55	17:25	5.2	3	X	X	X	X	X	X	X	4.94 pH	
7	MEM-07	WTG 1000	17:35	18:05	5.2	3	X	X	X	X	X	X	X	6.52 pH	
8	MEM-08	WTG 1000	18:15	18:45	5.2	3	X	X	X	X	X	X	X	6.62 pH	
9	MEM-09	WTG 1000	18:55	19:25	5.2	3	X	X	X	X	X	X	X	4.85 pH	
10	MEM-10	WTG 1000	19:35	20:05	5.2	3	X	X	X	X	X	X	X	4.92 pH	
11	MEM-11	WTG 1000	20:15	20:45	5.2	3	X	X	X	X	X	X	X	6.65 pH	
12	MEM-12	WTG 1000	20:55	21:25	5.2	3	X	X	X	X	X	X	X	4.87 pH	

Initials

DATE: 01/30

ANALYST: A. K. [Signature]

DATE: 8-28-2013

TIME: 1:19

ANALYST NAME AND SIGNATURE	DATE	TIME	INITIALS
[Signature]	01/30	1:19	[Initials]
[Signature]			[Initials]
[Signature]			[Initials]
[Signature]			[Initials]
[Signature]			[Initials]

PROJECT NAME: [Blank]
 ANALYST: [Blank]
 DATE: [Blank]

DATE: 8/28/2013



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Requesting Agency Information	Section B Analytical Request Information	Section C Requester Information	Section D Requester Signature
Requesting Agency Name: <u>NOVA Southeastern University</u> Requesting Agency Address: <u>1000 University Blvd, Fort Lauderdale, FL 33308</u> Requesting Agency Phone: <u>954-343-2100</u> Requesting Agency Email: <u>novasea@nova.edu</u>	Request for: <u>General Use</u> Request Number: <u>123456</u> Request Date: <u>11/15/20</u> Request Status: <u>Completed</u>	Requester Name: <u>[Blank]</u> Requester Title: <u>[Blank]</u> Requester Address: <u>[Blank]</u> Requester Phone: <u>[Blank]</u> Requester Email: <u>[Blank]</u>	Requester Signature: <u>[Blank]</u> Requester Title: <u>[Blank]</u> Requester Date: <u>[Blank]</u>

Item #	Sample ID	Sample Description	Requester Name	Requester Address	Requester Phone	Requester Email	Request Date	Request Status	Requester Signature	Requester Title	Requester Date
2	MCC-20										
3	POL-12420										
4	POL-12420										
5	DUP-1										
6	DUP-2										

Item #	Sample ID	Sample Description	Requester Name	Requester Address	Requester Phone	Requester Email	Request Date	Request Status	Requester Signature	Requester Title	Requester Date	Analysis Test	
												Analysis Test	YM
1	MCC-19												
2	MCC-20												
3	POL-12420												
4	POL-12420												
5	DUP-1												
6	DUP-2												

Section E Requester Signature	Section F Requester Title	Section G Requester Date	Section H Requester Address	Section I Requester Phone	Section J Requester Email	Section K Requester Signature	Section L Requester Title	Section M Requester Date
<u>[Signature]</u>	<u>[Blank]</u>	<u>[Blank]</u>	<u>[Blank]</u>	<u>[Blank]</u>	<u>[Blank]</u>	<u>[Signature]</u>	<u>[Blank]</u>	<u>[Blank]</u>

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: Request Information

Requester: DEPT 3000
 Requester Title: DEPT 3000
 Requester Address: 1000 ...
 Requester Phone: ...

Section B: Requested Project Information

Project No.: ...
 Project Name: ...

Section C: Analytical Information

Analysis: ...
 Priority: ...
 Method: ...

ITEM #	SAMPLE ID	ANALYSIS	COLLECTED		ANALYSIS	PRESERVATION	ANALYSIS TEST	RECEIVED CHAIN (Y/N)
			START	END				
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Section D: Laboratory Information

Requester Name: ...
 Requester Address: ...
 Requester Phone: ...

Section E: Sample Information

Sample ID: ...
 Sample Description: ...
 Sample Weight: ...
 Sample Volume: ...

Section F: Analysis Information

Analysis: ...
 Method: ...
 Instrument: ...

Section G: Receipt Information

Received at: ...
 Received by: ...
 Received Date: ...

Quality Control Sample Performance Assessment

[Handwritten Signature]

DATE: 11/11/14
 ANALYST: J. [unclear]
 METHOD: 13133
 DATE: 11/11/14

Method Performance	Acceptance
Accuracy	100%
Precision	100%
Linearity	100%
Recovery	100%
Stability	100%
Blank	100%

Reference Sample Performance	Acceptance
Accuracy	100%
Precision	100%
Linearity	100%
Recovery	100%
Stability	100%
Blank	100%

Sample Sample Performance	Acceptance
Accuracy	100%
Precision	100%
Linearity	100%
Recovery	100%
Stability	100%
Blank	100%

All Positive Results were 100% accurate for the method used. All Negative Results were 100% accurate for the method used.

Comments: All results were within the acceptable range and no further action was required.

Assessment Date: 11/11/14

11/11/14

11/11/14 11:11 AM [unclear]

Method Performance	Acceptance
Accuracy	100%
Precision	100%
Linearity	100%
Recovery	100%
Stability	100%
Blank	100%

Sample Sample Performance	Acceptance
Accuracy	100%
Precision	100%
Linearity	100%
Recovery	100%
Stability	100%
Blank	100%

11/11/14

11/11/14

Quality Control Sample Performance Assessment



Sample: 11/20/2006

Sample ID	Sample Type	Sample Size	Sample Date
11/20/2006	11/20/2006	1000	11/20/2006

Sample ID	Sample Type	Sample Size	Sample Date
11/20/2006	11/20/2006	1000	11/20/2006

Sample ID	Sample Type	Sample Size	Sample Date
11/20/2006	11/20/2006	1000	11/20/2006

Quality Control Sample Performance Assessment

[Handwritten Signature]

Name:
 Grade:
 Date:
 Page:

Item	Score
1. [unclear]	100%
2. [unclear]	100%
3. [unclear]	100%
4. [unclear]	100%
5. [unclear]	100%
6. [unclear]	100%
7. [unclear]	100%
8. [unclear]	100%
9. [unclear]	100%
10. [unclear]	100%

Item	Score
1. [unclear]	100%
2. [unclear]	100%
3. [unclear]	100%
4. [unclear]	100%
5. [unclear]	100%
6. [unclear]	100%
7. [unclear]	100%
8. [unclear]	100%
9. [unclear]	100%
10. [unclear]	100%

Item	Score
1. [unclear]	100%
2. [unclear]	100%
3. [unclear]	100%
4. [unclear]	100%
5. [unclear]	100%
6. [unclear]	100%
7. [unclear]	100%
8. [unclear]	100%
9. [unclear]	100%
10. [unclear]	100%

100% of all samples are in the 100% range. This indicates that the quality control process is working effectively.

Quality Control Sample Performance Assessment

Name:
 Grade:
 Date:
 Page:

Item	Score
1. [unclear]	100%
2. [unclear]	100%
3. [unclear]	100%
4. [unclear]	100%
5. [unclear]	100%
6. [unclear]	100%
7. [unclear]	100%
8. [unclear]	100%
9. [unclear]	100%
10. [unclear]	100%

Item	Score
1. [unclear]	100%
2. [unclear]	100%
3. [unclear]	100%
4. [unclear]	100%
5. [unclear]	100%
6. [unclear]	100%
7. [unclear]	100%
8. [unclear]	100%
9. [unclear]	100%
10. [unclear]	100%

Item	Score
1. [unclear]	100%
2. [unclear]	100%
3. [unclear]	100%
4. [unclear]	100%
5. [unclear]	100%
6. [unclear]	100%
7. [unclear]	100%
8. [unclear]	100%
9. [unclear]	100%
10. [unclear]	100%

[Handwritten Signature]

100% of all samples are in the 100% range. This indicates that the quality control process is working effectively.

Quality Control Sample Performance Assessment



Administrative Information: Use as a reference only.

Sample ID	Sample Name	Sample Type	Sample Date	Sample Location	Sample Status
101001	101001	Water	10/10/2014	101001	Completed
101002	101002	Water	10/10/2014	101002	Completed
101003	101003	Water	10/10/2014	101003	Completed
101004	101004	Water	10/10/2014	101004	Completed
101005	101005	Water	10/10/2014	101005	Completed
101006	101006	Water	10/10/2014	101006	Completed
101007	101007	Water	10/10/2014	101007	Completed
101008	101008	Water	10/10/2014	101008	Completed
101009	101009	Water	10/10/2014	101009	Completed
101010	101010	Water	10/10/2014	101010	Completed
101011	101011	Water	10/10/2014	101011	Completed
101012	101012	Water	10/10/2014	101012	Completed
101013	101013	Water	10/10/2014	101013	Completed
101014	101014	Water	10/10/2014	101014	Completed
101015	101015	Water	10/10/2014	101015	Completed
101016	101016	Water	10/10/2014	101016	Completed
101017	101017	Water	10/10/2014	101017	Completed
101018	101018	Water	10/10/2014	101018	Completed
101019	101019	Water	10/10/2014	101019	Completed
101020	101020	Water	10/10/2014	101020	Completed
101021	101021	Water	10/10/2014	101021	Completed
101022	101022	Water	10/10/2014	101022	Completed
101023	101023	Water	10/10/2014	101023	Completed
101024	101024	Water	10/10/2014	101024	Completed
101025	101025	Water	10/10/2014	101025	Completed
101026	101026	Water	10/10/2014	101026	Completed
101027	101027	Water	10/10/2014	101027	Completed
101028	101028	Water	10/10/2014	101028	Completed
101029	101029	Water	10/10/2014	101029	Completed
101030	101030	Water	10/10/2014	101030	Completed
101031	101031	Water	10/10/2014	101031	Completed
101032	101032	Water	10/10/2014	101032	Completed
101033	101033	Water	10/10/2014	101033	Completed
101034	101034	Water	10/10/2014	101034	Completed
101035	101035	Water	10/10/2014	101035	Completed
101036	101036	Water	10/10/2014	101036	Completed
101037	101037	Water	10/10/2014	101037	Completed
101038	101038	Water	10/10/2014	101038	Completed
101039	101039	Water	10/10/2014	101039	Completed
101040	101040	Water	10/10/2014	101040	Completed
101041	101041	Water	10/10/2014	101041	Completed
101042	101042	Water	10/10/2014	101042	Completed
101043	101043	Water	10/10/2014	101043	Completed
101044	101044	Water	10/10/2014	101044	Completed
101045	101045	Water	10/10/2014	101045	Completed
101046	101046	Water	10/10/2014	101046	Completed
101047	101047	Water	10/10/2014	101047	Completed
101048	101048	Water	10/10/2014	101048	Completed
101049	101049	Water	10/10/2014	101049	Completed
101050	101050	Water	10/10/2014	101050	Completed
101051	101051	Water	10/10/2014	101051	Completed
101052	101052	Water	10/10/2014	101052	Completed
101053	101053	Water	10/10/2014	101053	Completed
101054	101054	Water	10/10/2014	101054	Completed
101055	101055	Water	10/10/2014	101055	Completed
101056	101056	Water	10/10/2014	101056	Completed
101057	101057	Water	10/10/2014	101057	Completed
101058	101058	Water	10/10/2014	101058	Completed
101059	101059	Water	10/10/2014	101059	Completed
101060	101060	Water	10/10/2014	101060	Completed
101061	101061	Water	10/10/2014	101061	Completed
101062	101062	Water	10/10/2014	101062	Completed
101063	101063	Water	10/10/2014	101063	Completed
101064	101064	Water	10/10/2014	101064	Completed
101065	101065	Water	10/10/2014	101065	Completed
101066	101066	Water	10/10/2014	101066	Completed
101067	101067	Water	10/10/2014	101067	Completed
101068	101068	Water	10/10/2014	101068	Completed
101069	101069	Water	10/10/2014	101069	Completed
101070	101070	Water	10/10/2014	101070	Completed
101071	101071	Water	10/10/2014	101071	Completed
101072	101072	Water	10/10/2014	101072	Completed
101073	101073	Water	10/10/2014	101073	Completed
101074	101074	Water	10/10/2014	101074	Completed
101075	101075	Water	10/10/2014	101075	Completed
101076	101076	Water	10/10/2014	101076	Completed
101077	101077	Water	10/10/2014	101077	Completed
101078	101078	Water	10/10/2014	101078	Completed
101079	101079	Water	10/10/2014	101079	Completed
101080	101080	Water	10/10/2014	101080	Completed
101081	101081	Water	10/10/2014	101081	Completed
101082	101082	Water	10/10/2014	101082	Completed
101083	101083	Water	10/10/2014	101083	Completed
101084	101084	Water	10/10/2014	101084	Completed
101085	101085	Water	10/10/2014	101085	Completed
101086	101086	Water	10/10/2014	101086	Completed
101087	101087	Water	10/10/2014	101087	Completed
101088	101088	Water	10/10/2014	101088	Completed
101089	101089	Water	10/10/2014	101089	Completed
101090	101090	Water	10/10/2014	101090	Completed
101091	101091	Water	10/10/2014	101091	Completed
101092	101092	Water	10/10/2014	101092	Completed
101093	101093	Water	10/10/2014	101093	Completed
101094	101094	Water	10/10/2014	101094	Completed
101095	101095	Water	10/10/2014	101095	Completed
101096	101096	Water	10/10/2014	101096	Completed
101097	101097	Water	10/10/2014	101097	Completed
101098	101098	Water	10/10/2014	101098	Completed
101099	101099	Water	10/10/2014	101099	Completed
101100	101100	Water	10/10/2014	101100	Completed

10/10/2014 10:00 AM

10/10/2014 10:00 AM

10/10/2014 10:00 AM



Quality Control Sample Performance Assessment

Site:
Agency:
Field #/ID:
Project:
Date:
Analyst:

Control Sample Details	
Control Sample ID	_____
Control Sample Location	_____
Control Sample Type	_____
Control Sample Volume	_____
Control Sample Date	_____
Control Sample Analyst	_____

Parameter	Result	Acceptance Criteria
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____

Parameter	Result	Acceptance Criteria
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Control Sample Performance Assessment
Control Sample ID: _____
Control Sample Location: _____
Control Sample Type: _____
Control Sample Volume: _____
Control Sample Date: _____
Control Sample Analyst: _____

Parameter	Result	Acceptance Criteria
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Parameter	Result	Acceptance Criteria
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
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_____	_____	_____
_____	_____	_____
_____	_____	_____

Quality Control Sample Performance Assessment Summary
Control Sample ID: _____
Control Sample Location: _____
Control Sample Type: _____
Control Sample Volume: _____
Control Sample Date: _____
Control Sample Analyst: _____
Control Sample Results: _____
Control Sample Acceptance Criteria: _____

Date:
Signature: _____

Quality Control Sample Performance Assessment



Date: 05/14/2018
 Sample ID: 1805001
 Location: 1805001

Sample ID: 1805001
 Location: 1805001
 Date: 05/14/2018

Sample ID	Location	Date	Sample Type	Sample Size	Sample Weight	Sample Volume	Sample Temperature	Sample Storage	Sample Handling	Sample Analysis	Sample Results	Sample Comments
1805001	1805001	05/14/2018	Water	1000 mL	1000 g	1000 mL	20°C	Refrigerated	Filtered	Filtered	Filtered	Filtered
1805002	1805001	05/14/2018	Water	1000 mL	1000 g	1000 mL	20°C	Refrigerated	Filtered	Filtered	Filtered	Filtered
1805003	1805001	05/14/2018	Water	1000 mL	1000 g	1000 mL	20°C	Refrigerated	Filtered	Filtered	Filtered	Filtered
1805004	1805001	05/14/2018	Water	1000 mL	1000 g	1000 mL	20°C	Refrigerated	Filtered	Filtered	Filtered	Filtered
1805005	1805001	05/14/2018	Water	1000 mL	1000 g	1000 mL	20°C	Refrigerated	Filtered	Filtered	Filtered	Filtered

Date: 05/14/2018
 Location: 1805001



November 30, 2020

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

RE: Project: MCMANUS CCR RADS
Pace Project No.: 92500310

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between October 14, 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 - Greensburg

Revision 1 - This report replaces the November 6, 2020 report. This project was revised on November 30, 2020 to reflect correction of Lab ID's. (Greensburg, PA)

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

Sincerely,

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

Enclosures

cc: 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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CERTIFICATIONS

Project: MCMANUS CCR RADS
Pace Project No.: 92500310

Pace Analytical Services Pennsylvania

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS CCR RAD5

Pace Project No.: 92500310

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92500310001	MCM-11	Water	10/12/20 15:15	10/14/20 09:20
92500310002	MCM-12	Water	10/12/20 15:46	10/14/20 09:20
92500310003	MCM-18	Water	10/12/20 15:40	10/14/20 09:20
92500310004	DUP-1	Water	10/12/20 00:00	10/14/20 09:20
92500310005	FBL101220	Water	10/12/20 16:39	10/14/20 09:20
92500310006	EQBL101220	Water	10/12/20 16:44	10/14/20 09:20
92500310007	MCM-01	Water	10/13/20 10:40	10/14/20 09:20
92500310008	MCM-02	Water	10/13/20 11:33	10/14/20 09:20
92500310009	MCM-04	Water	10/13/20 09:17	10/14/20 09:20
92500310010	MCM-14	Water	10/13/20 00:10	10/14/20 09:20
92500310011	MCM-15	Water	10/13/20 13:55	10/14/20 09:20
92500310012	MCM-16	Water	10/13/20 14:08	10/14/20 09:20
92500310013	MCM-17	Water	10/13/20 12:32	10/14/20 09:20
92500310014	MCM-19	Water	10/13/20 10:02	10/14/20 09:20
92500310015	MCM-20	Water	10/13/20 11:16	10/14/20 09:20
92500310016	DUP-2	Water	10/13/20 00:00	10/14/20 09:20
92500310017	FBL101320	Water	10/13/20 13:42	10/14/20 09:20
92500310018	EQBL101320	Water	10/13/20 13:50	10/14/20 09:20
92500310019	MCM-05	Water	10/15/20 13:48	10/16/20 10:30
92500310020	MCM-06	Water	10/14/20 16:52	10/16/20 10:30
92500310021	MCM-07	Water	10/14/20 14:42	10/16/20 10:30
92500310022	FBL101520	Water	10/15/20 17:14	10/16/20 10:30
92500310023	EQBL101520	Water	10/15/20 17:20	10/16/20 10:30
92500310024	DPZ-2	Water	10/15/20 16:00	10/16/20 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500310001	MCM-11	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310002	MCM-12	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310003	MCM-18	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310004	DUP-1	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310005	FBL101220	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310006	EQBL101220	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310007	MCM-01	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310008	MCM-02	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310009	MCM-04	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310010	MCM-14	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310011	MCM-15	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310012	MCM-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310013	MCM-17	EPA 9315	LAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500310014	MCM-19	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92500310015	MCM-20	Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310016	DUP-2	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92500310017	FBL101320	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92500310018	EQBL101320	Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310019	MCM-05	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92500310020	MCM-06	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92500310021	MCM-07	Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92500310022	FBL101520	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92500310023	EQBL101520	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92500310024	DPZ-2	Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500310001	MCM-11					
EPA 9315	Radium-226	0.142 ± 0.195 (0.409) C:90% T:NA	pCi/L		10/28/20 09:15	
EPA 9320	Radium-228	2.56 ± 0.699 (0.780) C:81% T:87%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	2.70 ± 0.894 (1.19)	pCi/L		11/06/20 14:58	
92500310002	MCM-12					
EPA 9315	Radium-226	1.42 ± 0.496 (0.424) C:88% T:NA	pCi/L		10/28/20 07:42	
EPA 9320	Radium-228	1.24 ± 0.428 (0.596) C:82% T:100%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	2.66 ± 0.924 (1.02)	pCi/L		11/06/20 14:58	
92500310003	MCM-18					
EPA 9315	Radium-226	4.34 ± 0.814 (0.248) C:86% T:NA	pCi/L		11/02/20 08:21	
EPA 9320	Radium-228	4.49 ± 0.986 (0.585) C:85% T:88%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	8.83 ± 1.80 (0.833)	pCi/L		11/06/20 14:58	
92500310004	DUP-1					
EPA 9315	Radium-226	0.117 ± 0.158 (0.322) C:90% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	1.06 ± 0.473 (0.782) C:84% T:78%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	1.18 ± 0.631 (1.10)	pCi/L		11/06/20 14:58	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500310005	FBL101220					
EPA 9315	Radium-226	0.129 ± 0.244 (0.560) C:87% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	0.629 ± 0.357 (0.644) C:83% T:88%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	0.758 ± 0.601 (1.20)	pCi/L		11/06/20 14:58	
92500310006	EQBL101220					
EPA 9315	Radium-226	0.0941 ± 0.176 (0.403) C:92% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	0.425 ± 0.309 (0.593) C:84% T:87%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	0.519 ± 0.485 (0.996)	pCi/L		11/06/20 14:58	
92500310007	MCM-01					
EPA 9315	Radium-226	0.287 ± 0.261 (0.496) C:93% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	0.568 ± 0.365 (0.679) C:83% T:78%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	0.855 ± 0.626 (1.18)	pCi/L		11/06/20 14:58	
92500310008	MCM-02					
EPA 9315	Radium-226	0.524 ± 0.356 (0.633) C:88% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	0.0359 ± 0.322 (0.746) C:83% T:76%	pCi/L		10/28/20 14:06	
Total Radium Calculation	Total Radium	0.560 ± 0.678 (1.38)	pCi/L		11/06/20 14:58	

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS
 Pace Project No.: 92500310

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500310009	MCM-04					
EPA 9315	Radium-226	2.20 ± 0.638 (0.423) C:80% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	1.51 ± 0.550 (0.819) C:82% T:81%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	3.71 ± 1.19 (1.24)	pCi/L		11/06/20 14:58	
92500310010	MCM-14					
EPA 9315	Radium-226	3.62 ± 0.857 (0.398) C:92% T:NA	pCi/L		10/28/20 07:28	
EPA 9320	Radium-228	3.81 ± 0.898 (0.809) C:82% T:98%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	7.43 ± 1.76 (1.21)	pCi/L		11/06/20 14:58	
92500310011	MCM-15					
EPA 9315	Radium-226	1.31 ± 0.477 (0.486) C:89% T:NA	pCi/L		10/28/20 07:16	
EPA 9320	Radium-228	2.01 ± 0.601 (0.720) C:83% T:87%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	3.32 ± 1.08 (1.21)	pCi/L		11/06/20 14:58	
92500310012	MCM-16					
EPA 9315	Radium-226	0.840 ± 0.361 (0.336) C:85% T:NA	pCi/L		10/28/20 07:16	
EPA 9320	Radium-228	0.868 ± 0.449 (0.792) C:83% T:79%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	1.71 ± 0.810 (1.13)	pCi/L		11/06/20 14:58	
92500310013	MCM-17					
EPA 9315	Radium-226	4.76 ± 1.03 (0.348) C:92% T:NA	pCi/L		10/28/20 07:16	

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500310013	MCM-17					
EPA 9320	Radium-228	2.99 ± 0.783 (0.832) C:78% T:90%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	7.75 ± 1.81 (1.18)	pCi/L		11/06/20 14:58	
92500310014	MCM-19					
EPA 9315	Radium-226	5.74 ± 1.02 (0.318) C:89% T:NA	pCi/L		11/02/20 08:22	
EPA 9320	Radium-228	8.36 ± 1.65 (0.536) C:83% T:102%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	14.1 ± 2.67 (0.854)	pCi/L		11/06/20 14:58	
92500310015	MCM-20					
EPA 9315	Radium-226	7.15 ± 1.22 (0.239) C:92% T:NA	pCi/L		11/02/20 07:47	
EPA 9320	Radium-228	23.1 ± 4.29 (0.637) C:84% T:93%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	30.3 ± 5.51 (0.876)	pCi/L		11/06/20 14:58	
92500310016	DUP-2					
EPA 9315	Radium-226	0.483 ± 0.280 (0.337) C:90% T:NA	pCi/L		10/28/20 07:16	
EPA 9320	Radium-228	0.476 ± 0.404 (0.812) C:83% T:78%	pCi/L		10/28/20 14:07	
Total Radium Calculation	Total Radium	0.959 ± 0.684 (1.15)	pCi/L		11/06/20 14:58	
92500310017	FBL101320					
EPA 9315	Radium-226	0.0894 ± 0.160 (0.359) C:88% T:NA	pCi/L		10/28/20 07:16	
EPA 9320	Radium-228	0.146 ± 0.341 (0.758) C:83% T:85%	pCi/L		10/28/20 14:07	

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500310017	FBL101320					
Total Radium Calculation	Total Radium	0.235 ± 0.501 (1.12)	pCi/L		11/06/20 14:58	
92500310018	EQBL101320					
EPA 9315	Radium-226	0.239 ± 0.213 (0.364)	pCi/L		10/28/20 07:17	
EPA 9320	Radium-228	C:91% T:NA 6.52 ± 1.35 (0.655)	pCi/L		10/28/20 14:08	
Total Radium Calculation	Total Radium	C:81% T:99% 6.76 ± 1.56 (1.02)	pCi/L		11/06/20 14:58	
92500310019	MCM-05					
EPA 9315	Radium-226	1.32 ± 0.414 (0.404)	pCi/L		11/02/20 08:37	
EPA 9320	Radium-228	C:80% T:NA 1.24 ± 0.832 (1.61)	pCi/L		11/04/20 15:37	
Total Radium Calculation	Total Radium	C:72% T:51% 2.56 ± 1.25 (2.01)	pCi/L		11/05/20 15:19	
92500310020	MCM-06					
EPA 9315	Radium-226	5.06 ± 0.971 (0.279)	pCi/L		11/02/20 08:37	
EPA 9320	Radium-228	C:94% T:NA 3.91 ± 1.67 (2.69)	pCi/L		11/04/20 15:37	
Total Radium Calculation	Total Radium	C:68% T:28% 8.97 ± 2.64 (2.97)	pCi/L		11/05/20 15:19	
92500310021	MCM-07					
EPA 9315	Radium-226	5.31 ± 1.01 (0.276)	pCi/L		11/02/20 08:37	
EPA 9320	Radium-228	C:90% T:NA 7.75 ± 1.97 (2.05)	pCi/L		11/04/20 15:38	
Total Radium Calculation	Total Radium	C:67% T:47% 13.1 ± 2.98 (2.33)	pCi/L		11/05/20 15:19	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500310022	FBL101520					
EPA 9315	Radium-226	0.0741 ± 0.128 (0.287) C:85% T:NA	pCi/L		11/02/20 08:37	
EPA 9320	Radium-228	0.127 ± 0.454 (1.02) C:68% T:81%	pCi/L		11/04/20 15:38	
Total Radium Calculation	Total Radium	0.201 ± 0.582 (1.31)	pCi/L		11/05/20 15:19	
92500310023	EQBL101520					
EPA 9315	Radium-226	0.137 ± 0.146 (0.281) C:91% T:NA	pCi/L		11/02/20 08:19	
EPA 9320	Radium-228	0.171 ± 0.458 (1.02) C:69% T:86%	pCi/L		11/04/20 15:38	
Total Radium Calculation	Total Radium	0.308 ± 0.604 (1.30)	pCi/L		11/05/20 15:19	
92500310024	DPZ-2					
EPA 9315	Radium-226	4.77 ± 0.933 (0.345) C:94% T:NA	pCi/L		11/02/20 08:19	
EPA 9320	Radium-228	1.88 ± 0.915 (1.62) C:68% T:56%	pCi/L		11/04/20 15:38	
Total Radium Calculation	Total Radium	6.65 ± 1.85 (1.97)	pCi/L		11/05/20 15:19	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-11 Lab ID: 92500310001 Collected: 10/12/20 15:15 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.142 ± 0.195 (0.409) C:90% T:NA	pCi/L	10/28/20 09:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	2.56 ± 0.699 (0.780) C:81% T:87%	pCi/L	10/28/20 14:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.70 ± 0.894 (1.19)	pCi/L	11/06/20 14:58	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Sample: MCM-12 **Lab ID: 92500310002** Collected: 10/12/20 15:46 Received: 10/14/20 09:20 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.42 ± 0.496 (0.424) C:88% T:NA	pCi/L	10/28/20 07:42	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.24 ± 0.428 (0.596) C:82% T:100%	pCi/L	10/28/20 14:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.66 ± 0.924 (1.02)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-18 Lab ID: 92500310003 Collected: 10/12/20 15:40 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.34 ± 0.814 (0.248) C:86% T:NA	pCi/L	11/02/20 08:21	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	4.49 ± 0.986 (0.585) C:85% T:88%	pCi/L	10/28/20 14:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	8.83 ± 1.80 (0.833)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: DUP-1 Lab ID: 92500310004 Collected: 10/12/20 00:00 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.117 ± 0.158 (0.322) C:90% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.06 ± 0.473 (0.782) C:84% T:78%	pCi/L	10/28/20 14:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.18 ± 0.631 (1.10)	pCi/L	11/06/20 14:58	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FBL101220 Lab ID: 92500310005 Collected: 10/12/20 16:39 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.129 ± 0.244 (0.560) C:87% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.629 ± 0.357 (0.644) C:83% T:88%	pCi/L	10/28/20 14:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.758 ± 0.601 (1.20)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: EQBL101220 Lab ID: 92500310006 Collected: 10/12/20 16:44 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0941 ± 0.176 (0.403) C:92% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.425 ± 0.309 (0.593) C:84% T:87%	pCi/L	10/28/20 14:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.519 ± 0.485 (0.996)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-01 Lab ID: 92500310007 Collected: 10/13/20 10:40 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.287 ± 0.261 (0.496) C:93% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.568 ± 0.365 (0.679) C:83% T:78%	pCi/L	10/28/20 14:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.855 ± 0.626 (1.18)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.524 ± 0.356 (0.633) C:88% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.0359 ± 0.322 (0.746) C:83% T:76%	pCi/L	10/28/20 14:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.560 ± 0.678 (1.38)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-04 Lab ID: 92500310009 Collected: 10/13/20 09:17 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	2.20 ± 0.638 (0.423) C:80% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.51 ± 0.550 (0.819) C:82% T:81%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	3.71 ± 1.19 (1.24)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Sample: MCM-14 **Lab ID: 92500310010** Collected: 10/13/20 00:10 Received: 10/14/20 09:20 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.62 ± 0.857 (0.398) C:92% T:NA	pCi/L	10/28/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	3.81 ± 0.898 (0.809) C:82% T:98%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.43 ± 1.76 (1.21)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-15 Lab ID: 92500310011 Collected: 10/13/20 13:55 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.31 ± 0.477 (0.486) C:89% T:NA	pCi/L	10/28/20 07:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	2.01 ± 0.601 (0.720) C:83% T:87%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	3.32 ± 1.08 (1.21)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.840 ± 0.361 (0.336) C:85% T:NA	pCi/L	10/28/20 07:16	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.868 ± 0.449 (0.792) C:83% T:79%	pCi/L	10/28/20 14:07	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.71 ± 0.810 (1.13)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-17 Lab ID: 92500310013 Collected: 10/13/20 12:32 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.76 ± 1.03 (0.348) C:92% T:NA	pCi/L	10/28/20 07:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	2.99 ± 0.783 (0.832) C:78% T:90%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.75 ± 1.81 (1.18)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Sample: MCM-19 **Lab ID: 92500310014** Collected: 10/13/20 10:02 Received: 10/14/20 09:20 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.74 ± 1.02 (0.318) C:89% T:NA	pCi/L	11/02/20 08:22	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	8.36 ± 1.65 (0.536) C:83% T:102%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	14.1 ± 2.67 (0.854)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-20 Lab ID: 92500310015 Collected: 10/13/20 11:16 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	7.15 ± 1.22 (0.239) C:92% T:NA	pCi/L	11/02/20 07:47	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	23.1 ± 4.29 (0.637) C:84% T:93%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	30.3 ± 5.51 (0.876)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: DUP-2 Lab ID: 92500310016 Collected: 10/13/20 00:00 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.483 ± 0.280 (0.337) C:90% T:NA	pCi/L	10/28/20 07:16	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.476 ± 0.404 (0.812) C:83% T:78%	pCi/L	10/28/20 14:07	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.959 ± 0.684 (1.15)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FBL101320 Lab ID: 92500310017 Collected: 10/13/20 13:42 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0894 ± 0.160 (0.359) C:88% T:NA	pCi/L	10/28/20 07:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.146 ± 0.341 (0.758) C:83% T:85%	pCi/L	10/28/20 14:07	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.235 ± 0.501 (1.12)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: EQBL101320 Lab ID: 92500310018 Collected: 10/13/20 13:50 Received: 10/14/20 09:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.239 ± 0.213 (0.364) C:91% T:NA	pCi/L	10/28/20 07:17	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	6.52 ± 1.35 (0.655) C:81% T:99%	pCi/L	10/28/20 14:08	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	6.76 ± 1.56 (1.02)	pCi/L	11/06/20 14:58	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-05 Lab ID: 92500310019 Collected: 10/15/20 13:48 Received: 10/16/20 10:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.32 ± 0.414 (0.404) C:80% T:NA	pCi/L	11/02/20 08:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.24 ± 0.832 (1.61) C:72% T:51%	pCi/L	11/04/20 15:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.56 ± 1.25 (2.01)	pCi/L	11/05/20 15:19	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	5.06 ± 0.971 (0.279) C:94% T:NA	pCi/L	11/02/20 08:37	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	3.91 ± 1.67 (2.69) C:68% T:28%	pCi/L	11/04/20 15:37	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	8.97 ± 2.64 (2.97)	pCi/L	11/05/20 15:19	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-07 Lab ID: 92500310021 Collected: 10/14/20 14:42 Received: 10/16/20 10:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.31 ± 1.01 (0.276) C:90% T:NA	pCi/L	11/02/20 08:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	7.75 ± 1.97 (2.05) C:67% T:47%	pCi/L	11/04/20 15:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	13.1 ± 2.98 (2.33)	pCi/L	11/05/20 15:19	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FBL101520 Lab ID: 92500310022 Collected: 10/15/20 17:14 Received: 10/16/20 10:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.0741 ± 0.128 (0.287) C:85% T:NA	pCi/L	11/02/20 08:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.127 ± 0.454 (1.02) C:68% T:81%	pCi/L	11/04/20 15:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.201 ± 0.582 (1.31)	pCi/L	11/05/20 15:19	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: EQBL101520 Lab ID: 92500310023 Collected: 10/15/20 17:20 Received: 10/16/20 10:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.137 ± 0.146 (0.281) C:91% T:NA	pCi/L	11/02/20 08:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.171 ± 0.458 (1.02) C:69% T:86%	pCi/L	11/04/20 15:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.308 ± 0.604 (1.30)	pCi/L	11/05/20 15:19	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: DPZ-2 Lab ID: 92500310024 Collected: 10/15/20 16:00 Received: 10/16/20 10:30 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.77 ± 0.933 (0.345) C:94% T:NA	pCi/L	11/02/20 08:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.88 ± 0.915 (1.62) C:68% T:56%	pCi/L	11/04/20 15:38	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	6.65 ± 1.85 (1.97)	pCi/L	11/05/20 15:19	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
 Pace Project No.: 92500310

QC Batch:	420607	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92500310019, 92500310020, 92500310021, 92500310022, 92500310023, 92500310024

METHOD BLANK: 2033124 Matrix: Water

Associated Lab Samples: 92500310019, 92500310020, 92500310021, 92500310022, 92500310023, 92500310024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0124 ± 0.0900 (0.246) C:95% T:NA	pCi/L	11/02/20 08:37	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
 Pace Project No.: 92500310

QC Batch:	419606	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92500310019, 92500310020, 92500310021, 92500310022, 92500310023, 92500310024

METHOD BLANK: 2028435 Matrix: Water

Associated Lab Samples: 92500310019, 92500310020, 92500310021, 92500310022, 92500310023, 92500310024

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.155 ± 0.346 (0.847) C:70% T:81%	pCi/L	11/04/20 15:37	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

QC Batch: 419082 Analysis Method: EPA 9320

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

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92500310001, 92500310002, 92500310003, 92500310004, 92500310005, 92500310006, 92500310007, 92500310008, 92500310009, 92500310010, 92500310011, 92500310012, 92500310013, 92500310014, 92500310015, 92500310016, 92500310017, 92500310018

METHOD BLANK: 2026041 Matrix: Water

Associated Lab Samples: 92500310001, 92500310002, 92500310003, 92500310004, 92500310005, 92500310006, 92500310007, 92500310008, 92500310009, 92500310010, 92500310011, 92500310012, 92500310013, 92500310014, 92500310015, 92500310016, 92500310017, 92500310018

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.194 ± 0.336 (0.733) C:83% T:78%	pCi/L	10/28/20 14:06	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS CCR RADS
 Pace Project No.: 92500310

QC Batch: 419081 Analysis Method: EPA 9315
 QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
 Laboratory: Pace Analytical Services - Greensburg
 Associated Lab Samples: 92500310001, 92500310002, 92500310003, 92500310004, 92500310005, 92500310006, 92500310007,
 92500310008, 92500310009, 92500310010, 92500310011, 92500310012, 92500310013, 92500310014,
 92500310015, 92500310016, 92500310017, 92500310018

METHOD BLANK: 2026040 Matrix: Water
 Associated Lab Samples: 92500310001, 92500310002, 92500310003, 92500310004, 92500310005, 92500310006, 92500310007,
 92500310008, 92500310009, 92500310010, 92500310011, 92500310012, 92500310013, 92500310014,
 92500310015, 92500310016, 92500310017, 92500310018

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.000317 ± 0.183 (0.503) C:93% T:NA	pCi/L	10/28/20 07:41	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR RADS

Pace Project No.: 92500310

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500310001	MCM-11	EPA 9315	419081		
92500310002	MCM-12	EPA 9315	419081		
92500310003	MCM-18	EPA 9315	419081		
92500310004	DUP-1	EPA 9315	419081		
92500310005	FBL101220	EPA 9315	419081		
92500310006	EQBL101220	EPA 9315	419081		
92500310007	MCM-01	EPA 9315	419081		
92500310008	MCM-02	EPA 9315	419081		
92500310009	MCM-04	EPA 9315	419081		
92500310010	MCM-14	EPA 9315	419081		
92500310011	MCM-15	EPA 9315	419081		
92500310012	MCM-16	EPA 9315	419081		
92500310013	MCM-17	EPA 9315	419081		
92500310014	MCM-19	EPA 9315	419081		
92500310015	MCM-20	EPA 9315	419081		
92500310016	DUP-2	EPA 9315	419081		
92500310017	FBL101320	EPA 9315	419081		
92500310018	EQBL101320	EPA 9315	419081		
92500310019	MCM-05	EPA 9315	420607		
92500310020	MCM-06	EPA 9315	420607		
92500310021	MCM-07	EPA 9315	420607		
92500310022	FBL101520	EPA 9315	420607		
92500310023	EQBL101520	EPA 9315	420607		
92500310024	DPZ-2	EPA 9315	420607		
92500310001	MCM-11	EPA 9320	419082		
92500310002	MCM-12	EPA 9320	419082		
92500310003	MCM-18	EPA 9320	419082		
92500310004	DUP-1	EPA 9320	419082		
92500310005	FBL101220	EPA 9320	419082		
92500310006	EQBL101220	EPA 9320	419082		
92500310007	MCM-01	EPA 9320	419082		
92500310008	MCM-02	EPA 9320	419082		
92500310009	MCM-04	EPA 9320	419082		
92500310010	MCM-14	EPA 9320	419082		
92500310011	MCM-15	EPA 9320	419082		
92500310012	MCM-16	EPA 9320	419082		
92500310013	MCM-17	EPA 9320	419082		
92500310014	MCM-19	EPA 9320	419082		
92500310015	MCM-20	EPA 9320	419082		
92500310016	DUP-2	EPA 9320	419082		
92500310017	FBL101320	EPA 9320	419082		
92500310018	EQBL101320	EPA 9320	419082		
92500310019	MCM-05	EPA 9320	419606		
92500310020	MCM-06	EPA 9320	419606		
92500310021	MCM-07	EPA 9320	419606		
92500310022	FBL101520	EPA 9320	419606		
92500310023	EQBL101520	EPA 9320	419606		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR RADS
 Pace Project No.: 92500310

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500310024	DPZ-2	EPA 9320	419606		
92500310001	MCM-11	Total Radium Calculation	421995		
92500310002	MCM-12	Total Radium Calculation	421995		
92500310003	MCM-18	Total Radium Calculation	421995		
92500310004	DUP-1	Total Radium Calculation	421995		
92500310005	FBL101220	Total Radium Calculation	421995		
92500310006	EQBL101220	Total Radium Calculation	421995		
92500310007	MCM-01	Total Radium Calculation	421995		
92500310008	MCM-02	Total Radium Calculation	421995		
92500310009	MCM-04	Total Radium Calculation	421995		
92500310010	MCM-14	Total Radium Calculation	421995		
92500310011	MCM-15	Total Radium Calculation	421995		
92500310012	MCM-16	Total Radium Calculation	421995		
92500310013	MCM-17	Total Radium Calculation	421995		
92500310014	MCM-19	Total Radium Calculation	421995		
92500310015	MCM-20	Total Radium Calculation	421995		
92500310016	DUP-2	Total Radium Calculation	421995		
92500310017	FBL101320	Total Radium Calculation	421995		
92500310018	EQBL101320	Total Radium Calculation	421995		
92500310019	MCM-05	Total Radium Calculation	421841		
92500310020	MCM-06	Total Radium Calculation	421841		
92500310021	MCM-07	Total Radium Calculation	421841		
92500310022	FBL101520	Total Radium Calculation	421841		
92500310023	EQBL101520	Total Radium Calculation	421841		
92500310024	DPZ-2	Total Radium Calculation	421841		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 92500310

Client Name: G A Powell



92500310

Carrier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: _____

Proj. Name: _____

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

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used 214 Type of Ice: Dry Blue None Samples on Ice, cooling process has begun

Cooler Temperature 4.3°C Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: 10/19/03 GCP

Temp should be above freezing to 8°C

Comments:

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

Client Notification/ Resolution:

Field Data Required? Y / J / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

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

F-ALLC003rev.3, 11September2008



Document Name
Bottle Identification Form (BIF)
Document No.
F-CAR-03-043-Rev 00

Document issued: March 14, 2019
Page 1 of 1
Issuing Authority
Paco Carolina Quality Office

Project #

W0# : 92500310

PH: KLH1

Due Date: 11/24/20

CLIENT: GR-GA Power

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

Acceptance: YDA, Coliform, TOC, O3 and Ozone, ORO/NO19 (water) DOC, UMG

*Bottom half of box is to list number of bottles

Matrix	Sample Name	1	2	3	4	5	6	7	8	9	10	11	12
	SP40-125 ml. Plastic Unpreserved (P/N)												
	SP10-250 ml. Plastic Unpreserved (P/N)												
	SP70-500 ml. Plastic Unpreserved (P/N)												
	SP10-1 liter Plastic Unpreserved (P/N)												
	SP40-125 ml. Plastic H2SO4 (pH = 2) (P-1)												
	SP70-250 ml. plastic H2SO4 (pH = 2)												
	SP40-125 ml. Plastic 2% Acetic Acid H2SO4 (pH)												
	SP40-125 ml. Plastic H2SO4 (pH = 1.2) (P-1)												
	WSP10 sterile-manufactured glass jar Unpreserved												
	AG10-1 liter Amber Unpreserved (P/N) (P-1)												
	AG100-1 liter Amber (P-1) (pH = 2)												
	AG100-250 ml. Amber Unpreserved (P/N) (P-1)												
	AG10-1 liter Amber H2SO4 (pH = 2)												
	AG100-250 ml. Amber H2SO4 (pH = 2)												
	AG100-500 ml. Amber H2SO4 (pH = 2)												
	AG100-1 liter Amber H2SO4 (pH = 2)												
	DO100-40 ml. VOA HCl (P/N)												
	VO10-40 ml. with H2O2 (P/N)												
	VO10-40 ml. VOA (P/N)												
	DO100-40 ml. VOA H2PO4 (P/N)												
	VO100 (5 vials per bag) VOA (P/N)												
	VO100 (5 vials per bag) VOA (P/N)												
	SP10-125 ml. Sterile Plastic (P/N - 100)												
	SP10-250 ml. Sterile Plastic (P/N - 100)												
	SP100-250 ml. Plastic (P/N) (P-1) (P-1)												
	AG100-100 ml. Amber Unpreserved vials (P/N)												
	VO100-20 ml. Sterilization vials (P/N)												

BFIN

XXXXXX

pH Adjustment Log for Preserved Samples

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

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DDES Certification. Out of hold, incorrect preservative, out of temperature 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 2

Section I Requesting Client Information		Section II Requesting Project Information		Section III Requester Information	
Company Name	Georgia Power - Fort Oglethorpe Station	Project No.	10011411000000000000	Requester Name	Michael J. ...
Address	1000 ...	City	...	Company Address	...
State	Alabama, 36108	Country	USA	Requester Title	...
Phone	(205) ...	Request Name	...	Requester Signature	...
Requested Date/Time	...	Requested Date/Time	...	Requested Date/Time	...

No.	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	COLLECTED		ANALYSIS TEST	RESIDUAL CHARGE (%)
				Date	Time		
1	WQ01	WQ01					
2	WQ02	WQ02					
3	WQ03	WQ03					
4	WQ04	WQ04					
5	WQ05	WQ05					
6	WQ06	WQ06					
7	WQ07	WQ07	10/11/14	15:15	9.2	3	PH 5.0
8	WQ08	WQ08	10/11/14	15:46	5.2	3	PH 6.35
9	WQ09	WQ09					
10	WQ10	WQ10					
11	WQ11	WQ11					
12	WQ12	WQ12					

ANALYSIS TEST	RESULTS
Col. P. 804	
Metals 8020-App. II & IV	
Radium 226/228	
TDS 8020	

TEMP °C	PH	COND. µS/cm	TURB. NTU
...	4.3

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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: Requesting Client Information	Section B: Requested Project Information	Section C: Service Information	Section D: Requesting Agency
Company Name: <u>Central Station</u> Address: <u>2400 Ocean Blvd</u> City: <u>Alhambra, CA 91808</u>	Project ID: <u> </u> Project Name: <u> </u> Requestor Name: <u> </u> Requestor Title: <u> </u>	Client Name: <u> </u> Client Address: <u> </u> Client City: <u> </u> Client State: <u> </u> Client Zip: <u> </u>	Agency Name: <u> </u> Agency Address: <u> </u> Agency City: <u> </u> Agency State: <u> </u> Agency Zip: <u> </u>

SAMPLE ID	Description	Date	Time	Collector	Sample Type at Collection	# of Containers	Preservation							Analysis Test	Y/N	Requesting Agency (Y/N)	Requestor Name (Y/N)
							Refrigerated	Freeze	Dark	Sealed	Unopened	Uncontaminated	Unaltered					Unanalyzed
1	SOIL	10/13/10	10:00			2											
2	SOIL	10/13/10	10:00			2											
3	SOIL	10/13/10	11:15			2											
4	SOIL	10/13/10				2											
5	SOIL	10/13/10				2											
6	SOIL	10/13/10	13:42			2											
7	SOIL	10/13/10	13:50			2											
8																	
9																	
10																	
11																	
12																	

Special Remarks:

Signature of Requester: Date:

Signature of Collector: Date:

Signature of Analyst: Date:

Quality Control Sample Performance Assessment

10/14/2015 10:50 AM
 10/14/2015

10/14/2015 10:50 AM
 10/14/2015

10/14/2015 10:50 AM
 10/14/2015

Sample ID	Sample Description	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM

Sample ID	Sample Description	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM

10/14/2015 10:50 AM
 10/14/2015

Sample ID	Sample Description	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM

Sample ID	Sample Description	Sample Type	Sample Location	Sample Date	Sample Time	Sample Status
10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM	10/14/2015 10:50 AM

10/14/2015 10:50 AM
 10/14/2015

10/14/2015 10:50 AM
 10/14/2015

10/14/2015 10:50 AM
 10/14/2015

10/14/2015 10:50 AM
 10/14/2015

Quality Control Sample Performance Assessment

AC 9321 - All Methods/Qualities for Field Sampling on Water

Field Sample

Method
Date
Time
Operator

Sample Name
Sample ID
Sample Date
Sample Time
Sample Operator

Parameter	Method	Result	Unit
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L

Parameter	Method	Result	Unit
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L

Parameter	Method	Result	Unit
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L

Parameter	Method	Result	Unit
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L

Parameter	Method	Result	Unit
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L
Ammonia Nitrogen	4400C	0.00	mg/L

[Handwritten signature]

10/10/2010 10:10:10 AM

10/10/2010 10:10:10 AM

10/10/2010 10:10:10 AM

Quality Control Sample Performance Assessment

Control Sample Performance Assessment

[Handwritten Signature]

Date: _____
 By: _____
 Title: _____
 Department: _____

Sample Description	Sample Location	Sample Date
<p>Control Sample 1: [Detailed description of sample 1]</p> <p>Control Sample 2: [Detailed description of sample 2]</p> <p>Control Sample 3: [Detailed description of sample 3]</p>	<p>[Location details for samples 1-3]</p>	<p>[Sample dates for samples 1-3]</p>
<p>Control Sample 4: [Detailed description of sample 4]</p> <p>Control Sample 5: [Detailed description of sample 5]</p> <p>Control Sample 6: [Detailed description of sample 6]</p>	<p>[Location details for samples 4-6]</p>	<p>[Sample dates for samples 4-6]</p>

Sample Description	Sample Location	Sample Date
<p>Control Sample 7: [Detailed description of sample 7]</p> <p>Control Sample 8: [Detailed description of sample 8]</p> <p>Control Sample 9: [Detailed description of sample 9]</p>	<p>[Location details for samples 7-9]</p>	<p>[Sample dates for samples 7-9]</p>
<p>Control Sample 10: [Detailed description of sample 10]</p> <p>Control Sample 11: [Detailed description of sample 11]</p> <p>Control Sample 12: [Detailed description of sample 12]</p>	<p>[Location details for samples 10-12]</p>	<p>[Sample dates for samples 10-12]</p>

[Handwritten Signature]



October 27, 2020

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

RE: Project: MCMANUS CCR
Pace Project No.: 92500314

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory between October 14, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS CCR
Pace Project No.: 92500314

Pace Analytical Services Charlotte

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

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

Pace Analytical Services Asheville

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92500314001	MCM-11	Water	10/12/20 15:15	10/14/20 09:20
92500314002	MCM-12	Water	10/12/20 15:46	10/14/20 09:20
92500314003	MCM-18	Water	10/12/20 15:40	10/14/20 09:20
92500314004	DUP-1	Water	10/12/20 00:00	10/14/20 09:20
92500314005	FBL101220	Water	10/12/20 16:39	10/14/20 09:20
92500314006	EQBL101220	Water	10/12/20 16:44	10/14/20 09:20
92500314007	MCM-01	Water	10/13/20 10:40	10/14/20 09:20
92500314008	MCM-02	Water	10/13/20 11:33	10/14/20 09:20
92500314009	MCM-04	Water	10/13/20 09:17	10/14/20 09:20
92500314010	MCM-14	Water	10/13/20 09:10	10/14/20 09:20
92500314011	MCM-15	Water	10/13/20 13:55	10/14/20 09:20
92500314012	MCM-16	Water	10/13/20 14:08	10/14/20 09:20
92500314013	MCM-17	Water	10/13/20 12:32	10/14/20 09:20
92500314014	MCM-19	Water	10/13/20 10:02	10/14/20 09:20
92500314015	MCM-20	Water	10/13/20 11:16	10/14/20 09:20
92500314016	DUP-2	Water	10/13/20 00:00	10/14/20 09:20
92500314017	FBL101320	Water	10/13/20 13:42	10/14/20 09:20
92500314018	EQBL101320	Water	10/13/20 13:50	10/14/20 09:20
92500314019	MCM-05	Water	10/15/20 13:48	10/16/20 10:30
92500314020	MCM-06	Water	10/14/20 16:52	10/16/20 10:30
92500314021	MCM-07	Water	10/14/20 14:42	10/16/20 10:30
92500314022	FBL101520	Water	10/15/20 17:14	10/16/20 10:30
92500314023	EQBL101520	Water	10/15/20 17:20	10/16/20 10:30
92500314024	DPZ-2	Water	10/15/20 16:00	10/16/20 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR
 Pace Project No.: 92500314

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500314001	MCM-11	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314002	MCM-12	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314003	MCM-18	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314004	DUP-1	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314005	FBL101220	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314006	EQBL101220	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314007	MCM-01	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314008	MCM-02	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314009	MCM-04	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314010	MCM-14	EPA 6010D	DS	1	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500314011	MCM-15	EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
92500314012	MCM-16	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92500314013	MCM-17	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314014	MCM-19	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
92500314015	MCM-20	EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
92500314016	DUP-2	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92500314017	FBL101320	EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
92500314018	EQBL101320	EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
92500314019	MCM-05	EPA 6020B	JOR	8	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR
 Pace Project No.: 92500314

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500314020	MCM-06	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
92500314021	MCM-07	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
92500314022	FBL101520	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
92500314023	EQBL101520	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
92500314024	DPZ-2	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	BRJ	3	PASI-A
		EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92500314001	MCM-11					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	5.0	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	2.8	mg/L	0.10	10/16/20 20:26	
EPA 6020B	Arsenic	0.0047J	mg/L	0.0050	10/15/20 15:04	
EPA 6020B	Barium	0.039	mg/L	0.010	10/15/20 15:04	
SM 2540C-2011	Total Dissolved Solids	94.0	mg/L	25.0	10/19/20 10:18	
EPA 300.0 Rev 2.1 1993	Chloride	13.9	mg/L	1.0	10/16/20 21:59	
EPA 300.0 Rev 2.1 1993	Sulfate	19.3	mg/L	1.0	10/16/20 21:59	
92500314002	MCM-12					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	6.35	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	6.1	mg/L	0.10	10/16/20 20:29	
EPA 6020B	Barium	0.10	mg/L	0.010	10/15/20 15:27	
EPA 6020B	Beryllium	0.0010J	mg/L	0.0030	10/15/20 15:27	
EPA 6020B	Boron	1.3	mg/L	0.50	10/15/20 15:27	
EPA 6020B	Lithium	0.011J	mg/L	0.030	10/15/20 15:27	
SM 2540C-2011	Total Dissolved Solids	1560	mg/L	125	10/19/20 10:18	
EPA 300.0 Rev 2.1 1993	Chloride	552	mg/L	12.0	10/17/20 16:09	
EPA 300.0 Rev 2.1 1993	Fluoride	1.2	mg/L	0.10	10/16/20 22:41	
92500314003	MCM-18					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	4.29	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	19.1	mg/L	0.10	10/16/20 20:33	
EPA 6020B	Barium	0.091	mg/L	0.010	10/15/20 15:31	
EPA 6020B	Beryllium	0.0041	mg/L	0.0030	10/15/20 15:31	
EPA 6020B	Boron	0.24J	mg/L	0.50	10/15/20 15:31	
SM 2540C-2011	Total Dissolved Solids	2920	mg/L	500	10/19/20 10:18	
EPA 300.0 Rev 2.1 1993	Chloride	1340	mg/L	20.0	10/17/20 16:23	
EPA 300.0 Rev 2.1 1993	Fluoride	0.34	mg/L	0.10	10/16/20 22:55	
EPA 300.0 Rev 2.1 1993	Sulfate	191	mg/L	20.0	10/17/20 16:23	
92500314004	DUP-1					
EPA 6010D	Calcium	2.8	mg/L	0.10	10/16/20 20:36	
EPA 6020B	Arsenic	0.0047J	mg/L	0.0050	10/15/20 15:35	
EPA 6020B	Barium	0.039	mg/L	0.010	10/15/20 15:35	
SM 2540C-2011	Total Dissolved Solids	106	mg/L	25.0	10/19/20 10:18	
EPA 300.0 Rev 2.1 1993	Chloride	14.1	mg/L	1.0	10/16/20 23:09	
EPA 300.0 Rev 2.1 1993	Sulfate	19.7	mg/L	1.0	10/16/20 23:09	
92500314007	MCM-01					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	5.69	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	9.8	mg/L	0.10	10/16/20 20:52	
EPA 6020B	Arsenic	0.0061	mg/L	0.0050	10/15/20 15:39	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92500314007	MCM-01					
EPA 6020B	Barium	0.060	mg/L	0.010	10/15/20 15:39	
SM 2540C-2011	Total Dissolved Solids	113	mg/L	25.0	10/19/20 18:28	
EPA 300.0 Rev 2.1 1993	Chloride	13.5	mg/L	1.0	10/17/20 00:19	
EPA 300.0 Rev 2.1 1993	Sulfate	32.3	mg/L	1.0	10/17/20 00:19	
92500314008	MCM-02					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	5.03	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	3.8	mg/L	0.10	10/16/20 20:56	
EPA 6020B	Barium	0.086	mg/L	0.010	10/15/20 15:46	
SM 2540C-2011	Total Dissolved Solids	118	mg/L	25.0	10/19/20 18:28	
EPA 300.0 Rev 2.1 1993	Chloride	25.7	mg/L	1.0	10/17/20 05:40	
EPA 300.0 Rev 2.1 1993	Sulfate	27.6	mg/L	1.0	10/17/20 05:40	
92500314009	MCM-04					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	5.25	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	12.5	mg/L	0.10	10/16/20 20:59	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	10/15/20 15:50	
EPA 6020B	Barium	0.055	mg/L	0.010	10/15/20 15:50	
EPA 6020B	Cobalt	0.0063	mg/L	0.0050	10/15/20 15:50	
EPA 300.0 Rev 2.1 1993	Chloride	54.4	mg/L	1.0	10/17/20 05:53	
EPA 300.0 Rev 2.1 1993	Sulfate	92.3	mg/L	1.0	10/17/20 05:53	
92500314010	MCM-14					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	6.56	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	40.9	mg/L	0.10	10/18/20 05:38	
EPA 6020B	Barium	0.14	mg/L	0.010	10/15/20 15:54	
EPA 6020B	Boron	1.1	mg/L	0.50	10/15/20 15:54	
EPA 6020B	Lithium	0.046J	mg/L	0.030	10/15/20 15:54	
SM 2540C-2011	Total Dissolved Solids	15600	mg/L	2500	10/19/20 18:28	
EPA 300.0 Rev 2.1 1993	Chloride	6230	mg/L	90.0	10/17/20 16:37	
EPA 300.0 Rev 2.1 1993	Sulfate	695	mg/L	90.0	10/17/20 16:37	
92500314011	MCM-15					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	5.02	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	0.83	mg/L	0.10	10/16/20 21:05	
EPA 6020B	Arsenic	0.0042J	mg/L	0.0050	10/15/20 15:58	
EPA 6020B	Barium	0.024	mg/L	0.010	10/15/20 15:58	
SM 2540C-2011	Total Dissolved Solids	63.0	mg/L	25.0	10/19/20 18:28	
EPA 300.0 Rev 2.1 1993	Chloride	3.8	mg/L	1.0	10/17/20 06:21	
EPA 300.0 Rev 2.1 1993	Sulfate	7.6	mg/L	1.0	10/17/20 06:21	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92500314012	MCM-16					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	5.17	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	5.7	mg/L	0.10	10/16/20 21:09	
EPA 6020B	Barium	0.11	mg/L	0.010	10/15/20 16:02	
SM 2540C-2011	Total Dissolved Solids	115	mg/L	25.0	10/19/20 18:28	
EPA 300.0 Rev 2.1 1993	Chloride	23.3	mg/L	1.0	10/17/20 07:03	
EPA 300.0 Rev 2.1 1993	Sulfate	26.8	mg/L	1.0	10/17/20 07:03	
92500314013	MCM-17					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	6.34	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	86.4	mg/L	0.10	10/26/20 01:24	
EPA 6020B	Barium	0.14	mg/L	0.010	10/19/20 17:50	M6
EPA 6020B	Boron	1.8	mg/L	1.2	10/20/20 13:03	M6
EPA 6020B	Lithium	0.028J	mg/L	0.030	10/19/20 17:50	
SM 2540C-2011	Total Dissolved Solids	8750	mg/L	1250	10/19/20 18:31	
EPA 300.0 Rev 2.1 1993	Chloride	3980	mg/L	50.0	10/17/20 16:50	
EPA 300.0 Rev 2.1 1993	Sulfate	378	mg/L	50.0	10/17/20 16:50	
92500314014	MCM-19					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	5.04	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	125	mg/L	1.0	10/26/20 23:35	
EPA 6020B	Arsenic	0.0089	mg/L	0.0050	10/19/20 17:38	
EPA 6020B	Barium	0.12	mg/L	0.010	10/19/20 17:38	
EPA 6020B	Beryllium	0.015	mg/L	0.0030	10/19/20 17:38	
EPA 6020B	Boron	0.73	mg/L	0.50	10/20/20 13:07	
EPA 6020B	Lithium	0.022J	mg/L	0.030	10/19/20 17:38	
EPA 6020B	Selenium	0.0076J	mg/L	0.010	10/19/20 17:38	
SM 2540C-2011	Total Dissolved Solids	6600	mg/L	1250	10/19/20 18:31	
EPA 300.0 Rev 2.1 1993	Chloride	5260	mg/L	70.0	10/17/20 17:04	
EPA 300.0 Rev 2.1 1993	Sulfate	609	mg/L	70.0	10/17/20 17:04	
92500314015	MCM-20					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	3.72	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	128	mg/L	1.0	10/26/20 23:45	
EPA 6020B	Arsenic	0.018	mg/L	0.0050	10/19/20 17:42	
EPA 6020B	Barium	0.12	mg/L	0.010	10/19/20 17:42	
EPA 6020B	Beryllium	0.017	mg/L	0.0030	10/19/20 17:42	
EPA 6020B	Boron	1.1	mg/L	0.50	10/20/20 13:11	
EPA 6020B	Cobalt	0.032	mg/L	0.0050	10/19/20 17:42	
EPA 6020B	Lithium	0.025J	mg/L	0.030	10/19/20 17:42	
EPA 6020B	Selenium	0.0056J	mg/L	0.010	10/19/20 17:42	
SM 2540C-2011	Total Dissolved Solids	13900	mg/L	2500	10/19/20 18:32	
EPA 300.0 Rev 2.1 1993	Chloride	5980	mg/L	100	10/17/20 17:18	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR
 Pace Project No.: 92500314

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500314015	MCM-20					
EPA 300.0 Rev 2.1 1993	Sulfate	638	mg/L	100	10/17/20 17:18	
92500314016	DUP-2					
EPA 6010D	Calcium	5.7	mg/L	0.10	10/26/20 01:34	
EPA 6020B	Barium	0.11	mg/L	0.010	10/19/20 17:46	
SM 2540C-2011	Total Dissolved Solids	115	mg/L	25.0	10/19/20 18:32	
EPA 300.0 Rev 2.1 1993	Chloride	24.0	mg/L	1.0	10/17/20 09:08	
EPA 300.0 Rev 2.1 1993	Sulfate	27.4	mg/L	1.0	10/17/20 09:08	
92500314019	MCM-05					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	6.53	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	69.1	mg/L	2.0	10/20/20 08:01	
EPA 6020B	Arsenic	0.024	mg/L	0.0050	10/19/20 20:58	
EPA 6020B	Barium	0.45	mg/L	0.010	10/19/20 20:58	
EPA 6020B	Boron	0.61	mg/L	0.50	10/20/20 10:50	
EPA 6020B	Cobalt	0.0019J	mg/L	0.0050	10/19/20 20:58	
EPA 6020B	Lithium	0.57	mg/L	0.030	10/19/20 20:58	
EPA 6020B	Selenium	0.0028J	mg/L	0.010	10/19/20 20:58	
SM 2540C-2011	Total Dissolved Solids	5100	mg/L	2500	10/20/20 12:09	
EPA 300.0 Rev 2.1 1993	Chloride	1660	mg/L	100	10/21/20 11:22	
EPA 300.0 Rev 2.1 1993	Fluoride	0.22	mg/L	0.10	10/21/20 02:29	
EPA 300.0 Rev 2.1 1993	Sulfate	147	mg/L	100	10/21/20 11:22	
92500314020	MCM-06					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	6.93	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	245	mg/L	2.0	10/20/20 08:05	
EPA 6020B	Arsenic	0.43	mg/L	0.0050	10/21/20 13:06	
EPA 6020B	Barium	0.14	mg/L	0.010	10/19/20 21:02	
EPA 6020B	Boron	1.5	mg/L	0.75	10/20/20 11:27	
EPA 6020B	Lithium	0.11	mg/L	0.030	10/19/20 21:02	
SM 2540C-2011	Total Dissolved Solids	15200	mg/L	2500	10/20/20 12:08	
EPA 300.0 Rev 2.1 1993	Chloride	6630	mg/L	100	10/21/20 11:35	
EPA 300.0 Rev 2.1 1993	Sulfate	510	mg/L	100	10/21/20 11:35	
92500314021	MCM-07					
	Performed by	CUSTOMER			10/27/20 13:56	
	pH	6.32	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	207	mg/L	2.0	10/20/20 08:08	
EPA 6020B	Arsenic	0.013	mg/L	0.0050	10/19/20 21:06	
EPA 6020B	Barium	0.19	mg/L	0.010	10/19/20 21:06	
EPA 6020B	Boron	1.8	mg/L	0.75	10/20/20 11:31	
EPA 6020B	Lithium	0.039J	mg/L	0.030	10/19/20 21:06	
SM 2540C-2011	Total Dissolved Solids	18400	mg/L	2500	10/20/20 12:08	
EPA 300.0 Rev 2.1 1993	Chloride	7910	mg/L	100	10/21/20 11:49	
EPA 300.0 Rev 2.1 1993	Sulfate	904	mg/L	100	10/21/20 11:49	

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SUMMARY OF DETECTION

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500314022	FBL101520					
EPA 300.0 Rev 2.1 1993	Chloride	9.5	mg/L	1.0	10/21/20 03:25	
EPA 300.0 Rev 2.1 1993	Sulfate	0.96J	mg/L	1.0	10/21/20 03:25	
92500314024	DPZ-2					
	Performed by	CUSTOME			10/27/20 13:56	
		R				
	pH	7.08	Std. Units		10/27/20 13:56	
EPA 6010D	Calcium	194	mg/L	2.0	10/20/20 08:18	
EPA 6020B	Arsenic	0.021	mg/L	0.0050	10/19/20 21:18	
EPA 6020B	Barium	0.071	mg/L	0.010	10/19/20 21:18	
EPA 6020B	Boron	2.1	mg/L	1.2	10/20/20 11:35	
EPA 6020B	Lithium	0.093	mg/L	0.030	10/19/20 21:18	
SM 2540C-2011	Total Dissolved Solids	19300	mg/L	2500	10/20/20 12:09	
EPA 300.0 Rev 2.1 1993	Fluoride	0.11	mg/L	0.10	10/20/20 20:43	
EPA 300.0 Rev 2.1 1993	Sulfate	1060	mg/L	20.0	10/21/20 04:54	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
 Pace Project No.: 92500314

Sample: MCM-11		Lab ID: 92500314001		Collected: 10/12/20 15:15		Received: 10/14/20 09:20		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 13:56		
pH	5.0	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	2.8	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 20:26	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0047J	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:04	7440-38-2	
Barium	0.039	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:04	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:04	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:04	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:04	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:04	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:04	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:04	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	94.0	mg/L	25.0	25.0	1		10/19/20 10:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13.9	mg/L	1.0	0.60	1		10/16/20 21:59	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/16/20 21:59	16984-48-8	
Sulfate	19.3	mg/L	1.0	0.50	1		10/16/20 21:59	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-12 **Lab ID: 92500314002** Collected: 10/12/20 15:46 Received: 10/14/20 09:20 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 13:56		
pH	6.35	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	6.1	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 20:29	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:27	7440-38-2	
Barium	0.10	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:27	7440-39-3	
Beryllium	0.0010J	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:27	7440-41-7	
Boron	1.3	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:27	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:27	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:27	7439-92-1	
Lithium	0.011J	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:27	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:27	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	1560	mg/L	125	125	1		10/19/20 10:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	552	mg/L	12.0	7.2	12		10/17/20 16:09	16887-00-6	
Fluoride	1.2	mg/L	0.10	0.050	1		10/16/20 22:41	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/16/20 22:41	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-18 **Lab ID: 92500314003** Collected: 10/12/20 15:40 Received: 10/14/20 09:20 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 13:56		
pH	4.29	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	19.1	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 20:33	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:31	7440-38-2	
Barium	0.091	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:31	7440-39-3	
Beryllium	0.0041	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:31	7440-41-7	
Boron	0.24J	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:31	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:31	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:31	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:31	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:31	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	2920	mg/L	500	500	1		10/19/20 10:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	1340	mg/L	20.0	12.0	20		10/17/20 16:23	16887-00-6	
Fluoride	0.34	mg/L	0.10	0.050	1		10/16/20 22:55	16984-48-8	
Sulfate	191	mg/L	20.0	10.0	20		10/17/20 16:23	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: DUP-1 **Lab ID: 92500314004** Collected: 10/12/20 00:00 Received: 10/14/20 09:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	2.8	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 20:36	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0047J	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:35	7440-38-2	
Barium	0.039	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:35	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:35	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:35	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:35	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:35	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:35	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:35	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	106	mg/L	25.0	25.0	1		10/19/20 10:18		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	14.1	mg/L	1.0	0.60	1		10/16/20 23:09	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/16/20 23:09	16984-48-8	
Sulfate	19.7	mg/L	1.0	0.50	1		10/16/20 23:09	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: FBL101220		Lab ID: 92500314005		Collected: 10/12/20 16:39	Received: 10/14/20 09:20	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	10/15/20 02:18	10/16/20 20:39	7440-70-2		
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.000087	1	10/15/20 01:51	10/15/20 14:56	7440-38-2		
Barium	ND	mg/L	0.010	0.00021	1	10/15/20 01:51	10/15/20 14:56	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	10/15/20 01:51	10/15/20 14:56	7440-41-7		
Boron	ND	mg/L	0.025	0.0062	1	10/15/20 01:51	10/15/20 14:56	7440-42-8		
Cobalt	ND	mg/L	0.0050	0.000050	1	10/15/20 01:51	10/15/20 14:56	7440-48-4		
Lead	ND	mg/L	0.0050	0.000077	1	10/15/20 01:51	10/15/20 14:56	7439-92-1		
Lithium	ND	mg/L	0.030	0.00039	1	10/15/20 01:51	10/15/20 14:56	7439-93-2		
Selenium	ND	mg/L	0.010	0.000061	1	10/15/20 01:51	10/15/20 14:56	7782-49-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/19/20 10:18			
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		10/16/20 23:23	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/16/20 23:23	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		10/16/20 23:23	14808-79-8		

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: EQBL101220		Lab ID: 92500314006		Collected: 10/12/20 16:44	Received: 10/14/20 09:20	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	10/15/20 02:18	10/16/20 20:49	7440-70-2	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic	ND	mg/L	0.0050	0.000087	1	10/15/20 01:51	10/15/20 15:00	7440-38-2	
Barium	ND	mg/L	0.010	0.00021	1	10/15/20 01:51	10/15/20 15:00	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/15/20 01:51	10/15/20 15:00	7440-41-7	
Boron	ND	mg/L	0.025	0.0062	1	10/15/20 01:51	10/15/20 15:00	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.000050	1	10/15/20 01:51	10/15/20 15:00	7440-48-4	
Lead	ND	mg/L	0.0050	0.000077	1	10/15/20 01:51	10/15/20 15:00	7439-92-1	
Lithium	ND	mg/L	0.030	0.00039	1	10/15/20 01:51	10/15/20 15:00	7439-93-2	
Selenium	ND	mg/L	0.010	0.000061	1	10/15/20 01:51	10/15/20 15:00	7782-49-2	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville							
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/19/20 10:19		
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		10/17/20 00:05	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 00:05	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/17/20 00:05	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-01 **Lab ID: 92500314007** Collected: 10/13/20 10:40 Received: 10/14/20 09:20 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 13:56		
pH	5.69	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	9.8	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 20:52	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0061	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:39	7440-38-2	
Barium	0.060	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:39	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:39	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:39	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:39	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:39	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:39	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:39	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	113	mg/L	25.0	25.0	1		10/19/20 18:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13.5	mg/L	1.0	0.60	1		10/17/20 00:19	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 00:19	16984-48-8	
Sulfate	32.3	mg/L	1.0	0.50	1		10/17/20 00:19	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-02 **Lab ID: 92500314008** Collected: 10/13/20 11:33 Received: 10/14/20 09:20 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 13:56		
pH	5.03	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	3.8	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 20:56	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:46	7440-38-2	
Barium	0.086	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:46	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:46	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:46	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:46	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:46	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:46	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:46	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	118	mg/L	25.0	25.0	1		10/19/20 18:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	25.7	mg/L	1.0	0.60	1		10/17/20 05:40	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 05:40	16984-48-8	
Sulfate	27.6	mg/L	1.0	0.50	1		10/17/20 05:40	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
 Pace Project No.: 92500314

Sample: MCM-04		Lab ID: 92500314009		Collected: 10/13/20 09:17	Received: 10/14/20 09:20	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 13:56		
pH	5.25	Std. Units			1		10/27/20 13:56		
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	10/15/20 02:18	10/16/20 20:59	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0022J	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:50	7440-38-2	
Barium	0.055	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:50	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:50	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:50	7440-42-8	
Cobalt	0.0063	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:50	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:50	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:50	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:50	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/19/20 18:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	54.4	mg/L	1.0	0.60	1		10/17/20 05:53	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 05:53	16984-48-8	
Sulfate	92.3	mg/L	1.0	0.50	1		10/17/20 05:53	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-14 **Lab ID: 92500314010** Collected: 10/13/20 09:10 Received: 10/14/20 09:20 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 13:56		
pH	6.56	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	40.9	mg/L	0.10	0.094	1	10/15/20 02:18	10/18/20 05:38	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:54	7440-38-2	
Barium	0.14	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:54	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:54	7440-41-7	
Boron	1.1	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:54	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:54	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:54	7439-92-1	
Lithium	0.046J	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:54	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:54	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15600	mg/L	2500	2500	1		10/19/20 18:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6230	mg/L	90.0	54.0	90		10/17/20 16:37	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 06:07	16984-48-8	
Sulfate	695	mg/L	90.0	45.0	90		10/17/20 16:37	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
 Pace Project No.: 92500314

Sample: MCM-15		Lab ID: 92500314011		Collected: 10/13/20 13:55	Received: 10/14/20 09:20	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 13:56		
pH	5.02	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	0.83	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 21:05	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0042J	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 15:58	7440-38-2	
Barium	0.024	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 15:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 15:58	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 15:58	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 15:58	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 15:58	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 15:58	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 15:58	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	63.0	mg/L	25.0	25.0	1		10/19/20 18:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	3.8	mg/L	1.0	0.60	1		10/17/20 06:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 06:21	16984-48-8	
Sulfate	7.6	mg/L	1.0	0.50	1		10/17/20 06:21	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-16 **Lab ID: 92500314012** Collected: 10/13/20 14:08 Received: 10/14/20 09:20 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 13:56		
pH	5.17	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	5.7	mg/L	0.10	0.094	1	10/15/20 02:18	10/16/20 21:09	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0050	0.0017	20	10/15/20 01:51	10/15/20 16:02	7440-38-2	
Barium	0.11	mg/L	0.010	0.0043	20	10/15/20 01:51	10/15/20 16:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/15/20 01:51	10/15/20 16:02	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/15/20 01:51	10/15/20 16:02	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/15/20 01:51	10/15/20 16:02	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/15/20 01:51	10/15/20 16:02	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/15/20 01:51	10/15/20 16:02	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/15/20 01:51	10/15/20 16:02	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	115	mg/L	25.0	25.0	1		10/19/20 18:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	23.3	mg/L	1.0	0.60	1		10/17/20 07:03	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 07:03	16984-48-8	
Sulfate	26.8	mg/L	1.0	0.50	1		10/17/20 07:03	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
 Pace Project No.: 92500314

Sample: MCM-17		Lab ID: 92500314013		Collected: 10/13/20 12:32	Received: 10/14/20 09:20	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 13:56		
pH	6.34	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	86.4	mg/L	0.10	0.094	1	10/24/20 02:35	10/26/20 01:24	7440-70-2	
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 17:50	7440-38-2	
Barium	0.14	mg/L	0.010	0.0043	20	10/16/20 01:08	10/19/20 17:50	7440-39-3	M6
Beryllium	ND	mg/L	0.0030	0.0010	20	10/16/20 01:08	10/19/20 17:50	7440-41-7	
Boron	1.8	mg/L	1.2	0.31	50	10/16/20 01:08	10/20/20 13:03	7440-42-8	M6
Cobalt	ND	mg/L	0.0050	0.0010	20	10/16/20 01:08	10/19/20 17:50	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/16/20 01:08	10/19/20 17:50	7439-92-1	
Lithium	0.028J	mg/L	0.030	0.0078	20	10/16/20 01:08	10/19/20 17:50	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/16/20 01:08	10/19/20 17:50	7782-49-2	M6
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	8750	mg/L	1250	1250	1		10/19/20 18:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	3980	mg/L	50.0	30.0	50		10/17/20 16:50	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 07:17	16984-48-8	
Sulfate	378	mg/L	50.0	25.0	50		10/17/20 16:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR
 Pace Project No.: 92500314

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MCM-19									
Lab ID: 92500314014									
Collected: 10/13/20 10:02 Received: 10/14/20 09:20 Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		10/27/20 13:56		
pH	5.04	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	125	mg/L	1.0	0.94	10	10/24/20 02:35	10/26/20 23:35	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0089	mg/L	0.0050	0.0017	20	10/16/20 01:08	10/19/20 17:38	7440-38-2	
Barium	0.12	mg/L	0.010	0.0043	20	10/16/20 01:08	10/19/20 17:38	7440-39-3	
Beryllium	0.015	mg/L	0.0030	0.0010	20	10/16/20 01:08	10/19/20 17:38	7440-41-7	
Boron	0.73	mg/L	0.50	0.12	20	10/16/20 01:08	10/20/20 13:07	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/16/20 01:08	10/19/20 17:38	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/16/20 01:08	10/19/20 17:38	7439-92-1	
Lithium	0.022J	mg/L	0.030	0.0078	20	10/16/20 01:08	10/19/20 17:38	7439-93-2	
Selenium	0.0076J	mg/L	0.010	0.0012	20	10/16/20 01:08	10/19/20 17:38	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	6600	mg/L	1250	1250	1		10/19/20 18:31		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5260	mg/L	70.0	42.0	70		10/17/20 17:04	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 07:31	16984-48-8	
Sulfate	609	mg/L	70.0	35.0	70		10/17/20 17:04	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-20 **Lab ID: 92500314015** Collected: 10/13/20 11:16 Received: 10/14/20 09:20 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 13:56		
pH	3.72	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	128	mg/L	1.0	0.94	10	10/24/20 02:35	10/26/20 23:45	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.018	mg/L	0.0050	0.0017	20	10/16/20 01:08	10/19/20 17:42	7440-38-2	
Barium	0.12	mg/L	0.010	0.0043	20	10/16/20 01:08	10/19/20 17:42	7440-39-3	
Beryllium	0.017	mg/L	0.0030	0.0010	20	10/16/20 01:08	10/19/20 17:42	7440-41-7	
Boron	1.1	mg/L	0.50	0.12	20	10/16/20 01:08	10/20/20 13:11	7440-42-8	
Cobalt	0.032	mg/L	0.0050	0.0010	20	10/16/20 01:08	10/19/20 17:42	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/16/20 01:08	10/19/20 17:42	7439-92-1	
Lithium	0.025J	mg/L	0.030	0.0078	20	10/16/20 01:08	10/19/20 17:42	7439-93-2	
Selenium	0.0056J	mg/L	0.010	0.0012	20	10/16/20 01:08	10/19/20 17:42	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		10/19/20 18:32		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5980	mg/L	100	60.0	100		10/17/20 17:18	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 07:45	16984-48-8	
Sulfate	638	mg/L	100	50.0	100		10/17/20 17:18	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: DUP-2		Lab ID: 92500314016		Collected: 10/13/20 00:00	Received: 10/14/20 09:20	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	5.7	mg/L	0.10	0.094	1	10/24/20 02:35	10/26/20 01:34	7440-70-2	
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 17:46	7440-38-2	
Barium	0.11	mg/L	0.010	0.0043	20	10/16/20 01:08	10/19/20 17:46	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/16/20 01:08	10/19/20 17:46	7440-41-7	
Boron	ND	mg/L	0.50	0.12	20	10/16/20 01:08	10/20/20 13:15	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/16/20 01:08	10/19/20 17:46	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/16/20 01:08	10/19/20 17:46	7439-92-1	
Lithium	ND	mg/L	0.030	0.0078	20	10/16/20 01:08	10/19/20 17:46	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/16/20 01:08	10/19/20 17:46	7782-49-2	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville							
Total Dissolved Solids	115	mg/L	25.0	25.0	1		10/19/20 18:32		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	24.0	mg/L	1.0	0.60	1		10/17/20 09:08	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 09:08	16984-48-8	
Sulfate	27.4	mg/L	1.0	0.50	1		10/17/20 09:08	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: FBL101320		Lab ID: 92500314017		Collected: 10/13/20 13:42	Received: 10/14/20 09:20	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	10/24/20 02:35	10/26/20 01:37	7440-70-2		
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.000087	1	10/16/20 01:08	10/19/20 15:23	7440-38-2		
Barium	ND	mg/L	0.010	0.00021	1	10/16/20 01:08	10/19/20 15:23	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	10/16/20 01:08	10/19/20 15:23	7440-41-7		
Boron	ND	mg/L	0.025	0.0062	1	10/16/20 01:08	10/20/20 13:26	7440-42-8		
Cobalt	ND	mg/L	0.0050	0.000050	1	10/16/20 01:08	10/19/20 15:23	7440-48-4		
Lead	ND	mg/L	0.0050	0.000077	1	10/16/20 01:08	10/19/20 15:23	7439-92-1		
Lithium	ND	mg/L	0.030	0.00039	1	10/16/20 01:08	10/19/20 15:23	7439-93-2		
Selenium	ND	mg/L	0.010	0.000061	1	10/16/20 01:08	10/19/20 15:23	7782-49-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/19/20 18:32			
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		10/17/20 09:50	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 09:50	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		10/17/20 09:50	14808-79-8		

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: EQBL101320		Lab ID: 92500314018		Collected: 10/13/20 13:50	Received: 10/14/20 09:20	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	10/24/20 02:35	10/26/20 01:46	7440-70-2		
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	mg/L	0.0050	0.000087	1	10/16/20 01:08	10/19/20 15:27	7440-38-2		
Barium	ND	mg/L	0.010	0.00021	1	10/16/20 01:08	10/19/20 15:27	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	10/16/20 01:08	10/19/20 15:27	7440-41-7		
Boron	ND	mg/L	0.025	0.0062	1	10/16/20 01:08	10/20/20 13:30	7440-42-8		
Cobalt	ND	mg/L	0.0050	0.000050	1	10/16/20 01:08	10/19/20 15:27	7440-48-4		
Lead	ND	mg/L	0.0050	0.000077	1	10/16/20 01:08	10/19/20 15:27	7439-92-1		
Lithium	ND	mg/L	0.030	0.00039	1	10/16/20 01:08	10/19/20 15:27	7439-93-2		
Selenium	ND	mg/L	0.010	0.000061	1	10/16/20 01:08	10/19/20 15:27	7782-49-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		10/19/20 18:32			
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		10/17/20 10:32	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/17/20 10:32	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		10/17/20 10:32	14808-79-8		

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-05 **Lab ID: 92500314019** 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 13:56		
pH	6.53	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	69.1	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 08:01	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.024	mg/L	0.0050	0.0017	20	10/17/20 00:41	10/19/20 20:58	7440-38-2	
Barium	0.45	mg/L	0.010	0.0043	20	10/17/20 00:41	10/19/20 20:58	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/17/20 00:41	10/19/20 20:58	7440-41-7	
Boron	0.61	mg/L	0.50	0.12	20	10/17/20 00:41	10/20/20 10:50	7440-42-8	
Cobalt	0.0019J	mg/L	0.0050	0.0010	20	10/17/20 00:41	10/19/20 20:58	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/17/20 00:41	10/19/20 20:58	7439-92-1	
Lithium	0.57	mg/L	0.030	0.0078	20	10/17/20 00:41	10/19/20 20:58	7439-93-2	
Selenium	0.0028J	mg/L	0.010	0.0012	20	10/17/20 00:41	10/19/20 20:58	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	5100	mg/L	2500	2500	1		10/20/20 12:09		
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 11:22	16887-00-6	
Fluoride	0.22	mg/L	0.10	0.050	1		10/21/20 02:29	16984-48-8	
Sulfate	147	mg/L	100	50.0	100		10/21/20 11:22	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-06 **Lab ID: 92500314020** Collected: 10/14/20 16:52 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 13:56		
pH	6.93	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	245	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 08:05	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.43	mg/L	0.0050	0.0026	30	10/17/20 00:41	10/21/20 13:06	7440-38-2	
Barium	0.14	mg/L	0.010	0.0043	20	10/17/20 00:41	10/19/20 21:02	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/17/20 00:41	10/19/20 21:02	7440-41-7	
Boron	1.5	mg/L	0.75	0.19	30	10/17/20 00:41	10/20/20 11:27	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/17/20 00:41	10/19/20 21:02	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/17/20 00:41	10/19/20 21:02	7439-92-1	
Lithium	0.11	mg/L	0.030	0.0078	20	10/17/20 00:41	10/19/20 21:02	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/17/20 00:41	10/19/20 21:02	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15200	mg/L	2500	2500	1		10/20/20 12:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6630	mg/L	100	60.0	100		10/21/20 11:35	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/21/20 02:43	16984-48-8	
Sulfate	510	mg/L	100	50.0	100		10/21/20 11:35	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: MCM-07 **Lab ID: 92500314021** Collected: 10/14/20 14:42 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 13:56		
pH	6.32	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	207	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 08:08	7440-70-2	
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	10/17/20 00:41	10/19/20 21:06	7440-38-2	
Barium	0.19	mg/L	0.010	0.0043	20	10/17/20 00:41	10/19/20 21:06	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/17/20 00:41	10/19/20 21:06	7440-41-7	
Boron	1.8	mg/L	0.75	0.19	30	10/17/20 00:41	10/20/20 11:31	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/17/20 00:41	10/19/20 21:06	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/17/20 00:41	10/19/20 21:06	7439-92-1	
Lithium	0.039J	mg/L	0.030	0.0078	20	10/17/20 00:41	10/19/20 21:06	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/17/20 00:41	10/19/20 21:06	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18400	mg/L	2500	2500	1		10/20/20 12:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7910	mg/L	100	60.0	100		10/21/20 11:49	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/21/20 02:57	16984-48-8	
Sulfate	904	mg/L	100	50.0	100		10/21/20 11:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: FBL101520		Lab ID: 92500314022		Collected: 10/15/20 17:14	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 08:11	7440-70-2		
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 21:10	7440-38-2		
Barium	ND	mg/L	0.010	0.00021	1	10/17/20 00:41	10/19/20 21:10	7440-39-3		
Beryllium	ND	mg/L	0.0030	0.000050	1	10/17/20 00:41	10/19/20 21:10	7440-41-7		
Boron	ND	mg/L	0.025	0.0062	1	10/17/20 00:41	10/20/20 10:42	7440-42-8		
Cobalt	ND	mg/L	0.0050	0.000050	1	10/17/20 00:41	10/19/20 21:10	7440-48-4		
Lead	ND	mg/L	0.0050	0.000077	1	10/17/20 00:41	10/19/20 21:10	7439-92-1		
Lithium	ND	mg/L	0.030	0.00039	1	10/17/20 00:41	10/19/20 21:10	7439-93-2		
Selenium	ND	mg/L	0.010	0.000061	1	10/17/20 00:41	10/19/20 21:10	7782-49-2		
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			
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville								
Chloride	9.5	mg/L	1.0	0.60	1		10/21/20 03:25	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		10/21/20 03:25	16984-48-8		
Sulfate	0.96J	mg/L	1.0	0.50	1		10/21/20 03:25	14808-79-8		

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: EQBL101520		Lab ID: 92500314023		Collected: 10/15/20 17:20		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 08:15	7440-70-2	
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 21:14	7440-38-2	
Barium	ND	mg/L	0.010	0.00021	1	10/17/20 00:41	10/19/20 21:14	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	10/17/20 00:41	10/19/20 21:14	7440-41-7	
Boron	ND	mg/L	0.025	0.0062	1	10/17/20 00:41	10/20/20 10:46	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.000050	1	10/17/20 00:41	10/19/20 21:14	7440-48-4	
Lead	ND	mg/L	0.0050	0.000077	1	10/17/20 00:41	10/19/20 21:14	7439-92-1	
Lithium	ND	mg/L	0.030	0.00039	1	10/17/20 00:41	10/19/20 21:14	7439-93-2	
Selenium	ND	mg/L	0.010	0.000061	1	10/17/20 00:41	10/19/20 21:14	7782-49-2	
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		
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		10/21/20 03:39	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/21/20 03:39	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		10/21/20 03:39	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR

Pace Project No.: 92500314

Sample: DPZ-2 **Lab ID:** 92500314024 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 13:56		
pH	7.08	Std. Units			1		10/27/20 13:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	194	mg/L	2.0	1.9	20	10/17/20 00:45	10/20/20 08:18	7440-70-2	
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 21:18	7440-38-2	
Barium	0.071	mg/L	0.010	0.0043	20	10/17/20 00:41	10/19/20 21:18	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	10/17/20 00:41	10/19/20 21:18	7440-41-7	
Boron	2.1	mg/L	1.2	0.31	50	10/17/20 00:41	10/20/20 11:35	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	10/17/20 00:41	10/19/20 21:18	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	10/17/20 00:41	10/19/20 21:18	7439-92-1	
Lithium	0.093	mg/L	0.030	0.0078	20	10/17/20 00:41	10/19/20 21:18	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	10/17/20 00:41	10/19/20 21:18	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19300	mg/L	2500	2500	1		10/20/20 12:09		
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		10/20/20 20:43	16887-00-6	
Fluoride	0.11	mg/L	0.10	0.050	1		10/20/20 20:43	16984-48-8	
Sulfate	1060	mg/L	20.0	10.0	20		10/21/20 04:54	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS CCR

Pace Project No.: 92500314

QC Batch: 573329

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006, 92500314007, 92500314008, 92500314009, 92500314010, 92500314011, 92500314012

METHOD BLANK: 3035864

Matrix: Water

Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006, 92500314007, 92500314008, 92500314009, 92500314010, 92500314011, 92500314012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/16/20 19:34	

LABORATORY CONTROL SAMPLE: 3035865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.5	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3035866 3035867

Parameter	Units	92500311015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	mg/L	3420 ug/L	5	5	8.3	8.2	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
 Pace Project No.: 92500314

QC Batch: 573915 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023, 92500314024

METHOD BLANK: 3038654 Matrix: Water
 Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023, 92500314024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	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	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038656 3038657

Parameter	Units	3038656		3038657		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92500569009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	256	5	5	255	243	-16	-248	75-125	5	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS CCR
 Pace Project No.: 92500314

QC Batch: 575519 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018

METHOD BLANK: 3046801 Matrix: Water
 Associated Lab Samples: 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	10/26/20 01:17	

LABORATORY CONTROL SAMPLE: 3046802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.5	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3046803 3046804

Parameter	Units	92501718011		3046804		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Calcium	mg/L	3350 ug/L	5	5	8.2	8.1	98	95	75-125	2	20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
 Pace Project No.: 92500314

QC Batch: 573330 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006, 92500314007, 92500314008, 92500314009, 92500314010, 92500314011, 92500314012

METHOD BLANK: 3035868 Matrix: Water
 Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006, 92500314007, 92500314008, 92500314009, 92500314010, 92500314011, 92500314012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	10/16/20 15:54	
Barium	mg/L	ND	0.010	0.00021	10/16/20 15:54	
Beryllium	mg/L	ND	0.0030	0.000050	10/16/20 15:54	
Boron	mg/L	ND	0.025	0.0062	10/16/20 15:54	
Cobalt	mg/L	ND	0.0050	0.000050	10/16/20 15:54	
Lead	mg/L	ND	0.0050	0.000077	10/16/20 15:54	
Lithium	mg/L	ND	0.030	0.00039	10/16/20 15:54	
Selenium	mg/L	ND	0.010	0.000061	10/16/20 15:54	

LABORATORY CONTROL SAMPLE: 3035869

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	103	80-120	
Beryllium	mg/L	0.01	0.010	102	80-120	
Boron	mg/L	0.05	0.052	103	80-120	
Cobalt	mg/L	0.01	0.010	105	80-120	
Lead	mg/L	0.05	0.052	103	80-120	
Lithium	mg/L	0.05	0.052	103	80-120	
Selenium	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3035870 3035871

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92500378001 Result	Spike Conc.	Spike Conc.	Result							Result
Arsenic	mg/L	ND	0.01	0.01	0.010	0.010	99	102	75-125	2	20	
Barium	mg/L	0.28J ug/L	0.05	0.05	0.050	0.051	100	101	75-125	1	20	
Beryllium	mg/L	ND	0.01	0.01	0.010	0.010	101	101	75-125	0	20	
Boron	mg/L	ND	0.05	0.05	0.051	0.052	99	99	75-125	1	20	
Cobalt	mg/L	ND	0.01	0.01	0.010	0.011	103	106	75-125	2	20	
Lead	mg/L	ND	0.05	0.05	0.051	0.051	102	102	75-125	0	20	
Lithium	mg/L	ND	0.05	0.05	0.050	0.050	101	100	75-125	0	20	
Selenium	mg/L	ND	0.05	0.05	0.050	0.050	100	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
 Pace Project No.: 92500314

QC Batch: 573667 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018

METHOD BLANK: 3037373 Matrix: Water
 Associated Lab Samples: 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	10/19/20 15:31	
Barium	mg/L	ND	0.010	0.00021	10/19/20 15:31	
Beryllium	mg/L	ND	0.0030	0.000050	10/19/20 15:31	
Boron	mg/L	ND	0.025	0.0062	10/20/20 12:40	
Cobalt	mg/L	ND	0.0050	0.000050	10/19/20 15:31	
Lead	mg/L	ND	0.0050	0.000077	10/19/20 15:31	
Lithium	mg/L	ND	0.030	0.00039	10/19/20 15:31	
Selenium	mg/L	ND	0.010	0.000061	10/19/20 15:31	

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	
Barium	mg/L	0.05	0.053	106	80-120	
Beryllium	mg/L	0.01	0.010	105	80-120	
Boron	mg/L	0.05	0.051	102	80-120	
Cobalt	mg/L	0.01	0.011	108	80-120	
Lead	mg/L	0.05	0.054	108	80-120	
Lithium	mg/L	0.05	0.053	106	80-120	
Selenium	mg/L	0.05	0.053	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037375 3037376

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92500314013 Result	Spike Conc.	Spike Conc.	Conc.								
Arsenic	mg/L	ND	0.01	0.01	0.012	0.011	115	108	75-125	6	20		
Barium	mg/L	0.14	0.05	0.05	0.21	0.19	140	103	75-125	9	20	M6	
Beryllium	mg/L	ND	0.01	0.01	0.011	0.011	104	105	75-125	1	20		
Boron	mg/L	1.8	0.05	0.05	1.8	1.8	-51	-9	75-125	1	20	M6	
Cobalt	mg/L	ND	0.01	0.01	0.011	0.010	106	100	75-125	6	20		
Lead	mg/L	ND	0.05	0.05	0.057	0.052	113	103	75-125	9	20		
Lithium	mg/L	0.028J	0.05	0.05	0.081	0.079	107	103	75-125	3	20		
Selenium	mg/L	ND	0.05	0.05	0.019	0.019	37	37	75-125	2	20	M6	

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QUALITY CONTROL DATA

Project: MCMANUS CCR

Pace Project No.: 92500314

QC Batch: 573916

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023, 92500314024

METHOD BLANK: 3038658

Matrix: Water

Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023, 92500314024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	10/19/20 19:37	
Barium	mg/L	ND	0.010	0.00021	10/19/20 19:37	
Beryllium	mg/L	ND	0.0030	0.000050	10/19/20 19:37	
Boron	mg/L	ND	0.025	0.0062	10/20/20 10:27	
Cobalt	mg/L	ND	0.0050	0.000050	10/19/20 19:37	
Lead	mg/L	ND	0.0050	0.000077	10/19/20 19:37	
Lithium	mg/L	ND	0.030	0.00039	10/19/20 19:37	
Selenium	mg/L	ND	0.010	0.000061	10/19/20 19:37	

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	
Barium	mg/L	0.05	0.049	99	80-120	
Beryllium	mg/L	0.01	0.0097	97	80-120	
Boron	mg/L	0.05	0.050	101	80-120	
Cobalt	mg/L	0.01	0.010	103	80-120	
Lead	mg/L	0.05	0.051	102	80-120	
Lithium	mg/L	0.05	0.049	98	80-120	
Selenium	mg/L	0.05	0.049	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3038660 3038661

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92500569010 Result	Spike Conc.	Spike Conc.	MS Result						
Arsenic	mg/L	0.0058	0.01	0.01	0.016	0.016	106	103	75-125	1	20
Barium	mg/L	0.16	0.05	0.05	0.21	0.20	95	93	75-125	0	20
Beryllium	mg/L	ND	0.01	0.01	0.010	0.010	101	102	75-125	1	20
Boron	mg/L	1.8	0.05	0.05	1.7	1.7	-72	-198	75-125	4	20 M6
Cobalt	mg/L	ND	0.01	0.01	0.011	0.010	105	103	75-125	2	20
Lead	mg/L	ND	0.05	0.05	0.052	0.051	103	103	75-125	1	20
Lithium	mg/L	0.058	0.05	0.05	0.11	0.10	99	94	75-125	2	20
Selenium	mg/L	ND	0.05	0.05	0.0047J	0.0043J	9	8	75-125		20 M6

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QUALITY CONTROL DATA

Project: MCMANUS CCR

Pace Project No.: 92500314

QC Batch: 573758 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: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006

METHOD BLANK: 3037654 Matrix: Water
 Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/19/20 10:17	

LABORATORY CONTROL SAMPLE: 3037655

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	264	106	90-110	

SAMPLE DUPLICATE: 3037656

Parameter	Units	92500033005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2600	2580	1	25	

SAMPLE DUPLICATE: 3037657

Parameter	Units	92500314005 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.: 92500314

QC Batch: 574188 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: 92500314007, 92500314008, 92500314009, 92500314010, 92500314011, 92500314012

METHOD BLANK: 3040141 Matrix: Water
 Associated Lab Samples: 92500314007, 92500314008, 92500314009, 92500314010, 92500314011, 92500314012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/19/20 18:26	

LABORATORY CONTROL SAMPLE: 3040142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	250	100	90-110	

SAMPLE DUPLICATE: 3040143

Parameter	Units	92500033010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	288	299	4	25	

SAMPLE DUPLICATE: 3040144

Parameter	Units	92500033020 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	7280	7580	4	25	

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QUALITY CONTROL DATA

Project: MCMANUS CCR
 Pace Project No.: 92500314

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: 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018

METHOD BLANK: 3040151 Matrix: Water
 Associated Lab Samples: 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018

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 CCR
 Pace Project No.: 92500314

QC Batch: 574334 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: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023, 92500314024

METHOD BLANK: 3040507 Matrix: Water
 Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023, 92500314024

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 CCR

Pace Project No.: 92500314

QC Batch:	573641	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006, 92500314007

METHOD BLANK: 3037300 Matrix: Water
 Associated Lab Samples: 92500314001, 92500314002, 92500314003, 92500314004, 92500314005, 92500314006, 92500314007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/16/20 17:06	
Fluoride	mg/L	ND	0.10	0.050	10/16/20 17:06	
Sulfate	mg/L	ND	1.0	0.50	10/16/20 17:06	

LABORATORY CONTROL SAMPLE: 3037301

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.5	99	90-110	
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	50	48.5	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037302 3037303

Parameter	Units	92500361004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	ND	50	50	51.7	51.4	103	103	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	109	108	90-110	2	10		
Sulfate	mg/L	ND	50	50	50.0	49.7	100	99	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037304 3037305

Parameter	Units	92500314005		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	ND	50	50	52.1	52.0	104	104	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	99	100	90-110	2	10		
Sulfate	mg/L	ND	50	50	50.9	50.4	102	101	90-110	1	10		

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QUALITY CONTROL DATA

Project: MCMANUS CCR

Pace Project No.: 92500314

QC Batch:	573642	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92500314008, 92500314009, 92500314010, 92500314011, 92500314012, 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018		

METHOD BLANK:	3037306	Matrix:	Water
Associated Lab Samples:	92500314008, 92500314009, 92500314010, 92500314011, 92500314012, 92500314013, 92500314014, 92500314015, 92500314016, 92500314017, 92500314018		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/17/20 05:12	
Fluoride	mg/L	ND	0.10	0.050	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	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	50	48.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3037308												3037309	
Parameter	Units	92500314017 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Chloride	mg/L	ND	50	50	52.1	52.0	104	104	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	100	99	90-110	1	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	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Chloride	mg/L	ND	50	50	52.1	52.4	104	105	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	99	101	90-110	2	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 CCR

Pace Project No.: 92500314

QC Batch: 574246 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023

METHOD BLANK: 3040304 Matrix: Water
 Associated Lab Samples: 92500314019, 92500314020, 92500314021, 92500314022, 92500314023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/20/20 20:54	
Fluoride	mg/L	ND	0.10	0.050	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	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	48.7	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040306 3040307

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92500860056 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	7.8	50	50	59.7	60.0	104	104	90-110	0	10		
Fluoride	mg/L	57.7	2.5	2.5	58.0	57.5	15	-8	90-110	1	10	M6	
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	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92500314023 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	ND	50	50	51.3	51.8	102	103	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	105	106	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 CCR
 Pace Project No.: 92500314

QC Batch: 574248 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92500314024

METHOD BLANK: 3040316 Matrix: Water
 Associated Lab Samples: 92500314024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/20/20 20:13	
Fluoride	mg/L	ND	0.10	0.050	10/20/20 20:13	
Sulfate	mg/L	ND	1.0	0.50	10/20/20 20:13	

LABORATORY CONTROL SAMPLE: 3040317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.2	102	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	50	51.4	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3040932 3040933

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92501049002 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	ND	50	50	52.6	52.6	105	105	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	106	106	90-110	0	10		
Sulfate	mg/L	ND	50	50	52.3	52.3	104	104	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.

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QUALIFIERS

Project: MCMANUS CCR
Pace Project No.: 92500314

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

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR
 Pace Project No.: 92500314

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500314001	MCM-11				
92500314002	MCM-12				
92500314003	MCM-18				
92500314007	MCM-01				
92500314008	MCM-02				
92500314009	MCM-04				
92500314010	MCM-14				
92500314011	MCM-15				
92500314012	MCM-16				
92500314013	MCM-17				
92500314014	MCM-19				
92500314015	MCM-20				
92500314019	MCM-05				
92500314020	MCM-06				
92500314021	MCM-07				
92500314024	DPZ-2				
92500314001	MCM-11	EPA 3010A	573329	EPA 6010D	573345
92500314002	MCM-12	EPA 3010A	573329	EPA 6010D	573345
92500314003	MCM-18	EPA 3010A	573329	EPA 6010D	573345
92500314004	DUP-1	EPA 3010A	573329	EPA 6010D	573345
92500314005	FBL101220	EPA 3010A	573329	EPA 6010D	573345
92500314006	EQBL101220	EPA 3010A	573329	EPA 6010D	573345
92500314007	MCM-01	EPA 3010A	573329	EPA 6010D	573345
92500314008	MCM-02	EPA 3010A	573329	EPA 6010D	573345
92500314009	MCM-04	EPA 3010A	573329	EPA 6010D	573345
92500314010	MCM-14	EPA 3010A	573329	EPA 6010D	573345
92500314011	MCM-15	EPA 3010A	573329	EPA 6010D	573345
92500314012	MCM-16	EPA 3010A	573329	EPA 6010D	573345
92500314013	MCM-17	EPA 3010A	575519	EPA 6010D	575528
92500314014	MCM-19	EPA 3010A	575519	EPA 6010D	575528
92500314015	MCM-20	EPA 3010A	575519	EPA 6010D	575528
92500314016	DUP-2	EPA 3010A	575519	EPA 6010D	575528
92500314017	FBL101320	EPA 3010A	575519	EPA 6010D	575528
92500314018	EQBL101320	EPA 3010A	575519	EPA 6010D	575528
92500314019	MCM-05	EPA 3010A	573915	EPA 6010D	573927
92500314020	MCM-06	EPA 3010A	573915	EPA 6010D	573927
92500314021	MCM-07	EPA 3010A	573915	EPA 6010D	573927
92500314022	FBL101520	EPA 3010A	573915	EPA 6010D	573927
92500314023	EQBL101520	EPA 3010A	573915	EPA 6010D	573927
92500314024	DPZ-2	EPA 3010A	573915	EPA 6010D	573927
92500314001	MCM-11	EPA 3010A	573330	EPA 6020B	573343
92500314002	MCM-12	EPA 3010A	573330	EPA 6020B	573343
92500314003	MCM-18	EPA 3010A	573330	EPA 6020B	573343
92500314004	DUP-1	EPA 3010A	573330	EPA 6020B	573343
92500314005	FBL101220	EPA 3010A	573330	EPA 6020B	573343
92500314006	EQBL101220	EPA 3010A	573330	EPA 6020B	573343
92500314007	MCM-01	EPA 3010A	573330	EPA 6020B	573343

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR
 Pace Project No.: 92500314

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500314008	MCM-02	EPA 3010A	573330	EPA 6020B	573343
92500314009	MCM-04	EPA 3010A	573330	EPA 6020B	573343
92500314010	MCM-14	EPA 3010A	573330	EPA 6020B	573343
92500314011	MCM-15	EPA 3010A	573330	EPA 6020B	573343
92500314012	MCM-16	EPA 3010A	573330	EPA 6020B	573343
92500314013	MCM-17	EPA 3010A	573667	EPA 6020B	573681
92500314014	MCM-19	EPA 3010A	573667	EPA 6020B	573681
92500314015	MCM-20	EPA 3010A	573667	EPA 6020B	573681
92500314016	DUP-2	EPA 3010A	573667	EPA 6020B	573681
92500314017	FBL101320	EPA 3010A	573667	EPA 6020B	573681
92500314018	EQBL101320	EPA 3010A	573667	EPA 6020B	573681
92500314019	MCM-05	EPA 3010A	573916	EPA 6020B	573935
92500314020	MCM-06	EPA 3010A	573916	EPA 6020B	573935
92500314021	MCM-07	EPA 3010A	573916	EPA 6020B	573935
92500314022	FBL101520	EPA 3010A	573916	EPA 6020B	573935
92500314023	EQBL101520	EPA 3010A	573916	EPA 6020B	573935
92500314024	DPZ-2	EPA 3010A	573916	EPA 6020B	573935
92500314001	MCM-11	SM 2540C-2011	573758		
92500314002	MCM-12	SM 2540C-2011	573758		
92500314003	MCM-18	SM 2540C-2011	573758		
92500314004	DUP-1	SM 2540C-2011	573758		
92500314005	FBL101220	SM 2540C-2011	573758		
92500314006	EQBL101220	SM 2540C-2011	573758		
92500314007	MCM-01	SM 2540C-2011	574188		
92500314008	MCM-02	SM 2540C-2011	574188		
92500314009	MCM-04	SM 2540C-2011	574188		
92500314010	MCM-14	SM 2540C-2011	574188		
92500314011	MCM-15	SM 2540C-2011	574188		
92500314012	MCM-16	SM 2540C-2011	574188		
92500314013	MCM-17	SM 2540C-2011	574190		
92500314014	MCM-19	SM 2540C-2011	574190		
92500314015	MCM-20	SM 2540C-2011	574190		
92500314016	DUP-2	SM 2540C-2011	574190		
92500314017	FBL101320	SM 2540C-2011	574190		
92500314018	EQBL101320	SM 2540C-2011	574190		
92500314019	MCM-05	SM 2540C-2011	574334		
92500314020	MCM-06	SM 2540C-2011	574334		
92500314021	MCM-07	SM 2540C-2011	574334		
92500314022	FBL101520	SM 2540C-2011	574334		
92500314023	EQBL101520	SM 2540C-2011	574334		
92500314024	DPZ-2	SM 2540C-2011	574334		
92500314001	MCM-11	EPA 300.0 Rev 2.1 1993	573641		
92500314002	MCM-12	EPA 300.0 Rev 2.1 1993	573641		
92500314003	MCM-18	EPA 300.0 Rev 2.1 1993	573641		
92500314004	DUP-1	EPA 300.0 Rev 2.1 1993	573641		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR

Pace Project No.: 92500314

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500314005	FBL101220	EPA 300.0 Rev 2.1 1993	573641		
92500314006	EQBL101220	EPA 300.0 Rev 2.1 1993	573641		
92500314007	MCM-01	EPA 300.0 Rev 2.1 1993	573641		
92500314008	MCM-02	EPA 300.0 Rev 2.1 1993	573642		
92500314009	MCM-04	EPA 300.0 Rev 2.1 1993	573642		
92500314010	MCM-14	EPA 300.0 Rev 2.1 1993	573642		
92500314011	MCM-15	EPA 300.0 Rev 2.1 1993	573642		
92500314012	MCM-16	EPA 300.0 Rev 2.1 1993	573642		
92500314013	MCM-17	EPA 300.0 Rev 2.1 1993	573642		
92500314014	MCM-19	EPA 300.0 Rev 2.1 1993	573642		
92500314015	MCM-20	EPA 300.0 Rev 2.1 1993	573642		
92500314016	DUP-2	EPA 300.0 Rev 2.1 1993	573642		
92500314017	FBL101320	EPA 300.0 Rev 2.1 1993	573642		
92500314018	EQBL101320	EPA 300.0 Rev 2.1 1993	573642		
92500314019	MCM-05	EPA 300.0 Rev 2.1 1993	574246		
92500314020	MCM-06	EPA 300.0 Rev 2.1 1993	574246		
92500314021	MCM-07	EPA 300.0 Rev 2.1 1993	574246		
92500314022	FBL101520	EPA 300.0 Rev 2.1 1993	574246		
92500314023	EQBL101520	EPA 300.0 Rev 2.1 1993	574246		
92500314024	DPZ-2	EPA 300.0 Rev 2.1 1993	574248		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 92500314

Client Name: G A Powell



92500314

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: _____

Proj. Name: _____

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

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used _____ Type of Ice: Wet Blue None Samples or ice cooling process has begun

Cooler Temperature: 2.14 Type of Ice: Wet Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C 4.3°C

Date and initials of person examining contents: 10/14/02 [initials]

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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



Document Name:
Bottle Identification Form (BIF)
Document No.:
F-CAR-03-043-Rev.00

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

Project # **WO# : 92500314**

PH: KLH1
Due Date: 10/28/20
CLIENT: GR-CR Power

* Check mark top half of box if pH exp/ or dechlorination is verified and within the acceptance range for preservation purposes.
* Exceptions: VOA, Coliform, TOC, Oil and Grease, OGD/BOLS (water) OOC, LMG
* Bottom half of box is to list number of bottles

Matrix	Name	1	2	3	4	5	6	7	8	9	10	11	12
	BP00-125 ml Plastic Unpreserved (N/A) (C-1)												
	BP00-250 ml Plastic Unpreserved (N/A)												
	BP00-500 ml Plastic Unpreserved (N/A)												
	BP00-1 liter Plastic Unpreserved (N/A)												
	BP00-125 ml Plastic HClSO4 (pH = 2) (C-1)												
	BP00-250 ml plastic HClSO4 (pH = 2)												
	BP00-125 ml Plastic 2N Acetate & NaOH (pH)												
	BP00-125 ml Plastic NaOH (pH = 12) (C-1)												
	V000-V000 (White-cermeted) Glass jar Unpreserved												
	A6510-1 liter Amber Unpreserved (N/A) (C-1)												
	A6510-1 liter Amber (C-1) (pH = 2)												
	A6510-250 ml Amber Unpreserved (N/A) (C-1)												
	A6510-1 liter Amber HClSO4 (pH = 2)												
	A6510-250 ml Amber HClSO4 (pH = 2)												
	A6510-250 ml Amber HClSO4 (pH = 2)												
	A6510-250 ml Amber HClSO4 (pH = 2)												
	0000-40 ml VOA HCl (N/A)												
	V000-40 ml VOA HClSO4 (N/A)												
	V000-40 ml VOA ClOH (N/A)												
	0000-40 ml VOA HClSO4 (N/A)												
	V000 (1 vial per 100 vials in (N/A)												
	V000 (1 vial per 100 vials in (N/A)												
	SPT-225 ml Sanita Plastic (N/A - 140)												
	SPT-250 ml Sanita Plastic (N/A - 140)												
	BP00-250 ml Plastic HClSO4 (pH = 2)												
	A6510-250 ml Amber Unpreserved vials (N/A)												
	V000-40 ml Unpreserved vials (N/A)												

BPTN

KLH

pH Adjustment Log for Preserved Samples

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

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



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

Section I: Requesting Agency Information Agency Name: <u>Orange County - Civil/Custodial Services</u> Address: <u>20000 Harbor Blvd</u> City: <u>Orange, CA 92668</u>		Section II: Requesting Agency Information Agency Name: <u>Orange County - Civil/Custodial Services</u> Address: <u>20000 Harbor Blvd</u> City: <u>Orange, CA 92668</u>		Section III: Requesting Agency Information Agency Name: <u>Orange County - Civil/Custodial Services</u> Address: <u>20000 Harbor Blvd</u> City: <u>Orange, CA 92668</u>	
Section IV: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>		Section V: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>		Section VI: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>	

SAMPLE ID	SAMPLE TYPE	DATE COLLECTED	TIME COLLECTED	ANALYSIS TEST	PRESERVATION		ANALYSIS TEST	REMARKS (if any)
					TEMPERATURE	TIME		

SAMPLE ID	SAMPLE TYPE	DATE COLLECTED	TIME COLLECTED	ANALYSIS TEST	PRESERVATION		ANALYSIS TEST	REMARKS (if any)
					TEMPERATURE	TIME		
1	PH 504	10/11/14	15:15	PH 504	5	2	3	PH 5.0
2	PH 504	10/11/14	15:45	PH 504	5	2	3	PH 6.55
3	PH 504							
4	PH 504							
5	PH 504							
6	PH 504							
7	PH 504							
8	PH 504							
9	PH 504							
10	PH 504							
11	PH 504							
12	PH 504							

Section VII: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>	Section VIII: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>	Section IX: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>
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Section X: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>	Section XI: Requesting Agency Information Request Name: <u>PH 504</u> Request Date: <u>10/11/14</u>
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CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-Of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A: Requested Chain Information
Section B: Requested Project Information
Section C: Requester Information
Requester Name: [Blank]
Requester Title: [Blank]
Requester Address: [Blank]
Requester Phone: [Blank]
Requester Email: [Blank]
Requester Signature: [Blank]
Requester Date: [Blank]

Table with columns: ITEM#, SAMPLE ID, MATRIX CODE, SAMPLE TYPE, DATE COLLECTED, TIME, # OF CONTAINERS, PRESERVATION, ANALYZE TEST, REQUESTED ANALYSIS METHOD (S/N), RESIDUAL (GRAIN) (T/N), and SPECIAL CONDITIONS. Includes handwritten entries for items 1-12 and a signature 'SHE'.

Section D: Laboratory/Field Information
Field Name of Laboratory: [Blank]
Location of Laboratory: [Blank]
Date of Collection: [Blank]
Time of Collection: [Blank]
Signature: [Blank]
Date: [Blank]



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: George Mason - Civil Construction Services
 Address: 2400 Sully Road
Springfield, VA 22150
 Contact: John S. ...
 Phone: (703) 691-7000
 Email: john.s@georgemason.edu

Section B
 Required Project Information:

Project No.: 15-0308 (INSD) - Structure 3 - 50' - GA - 15
 Project Name: George Mason University - Sully Road
 Project Location: Springfield, VA
 Project Start: 07/15/2015
 Project End: 09/15/2015

Section C
 Analytical Information:

Requester: John S. ...
 Requester Title: Director of Environmental Health & Safety
 Requester Phone: (703) 691-7000
 Requester Email: john.s@georgemason.edu
 Requester Signature: [Signature]
 Requester Date: 10/19/2015

ITEM #	SAMPLE ID One Character per box, P-0, 1-9, A-Z Samples to be analyzed	Matrix Code (See cell code in file)	Sample Type (See cell code in file)	COLLECTED		DATE TIME AT COLLECTION	# OF CONTAINERS	PRESERVATION	ANALYSIS TEST	REQUIRED ANALYSIS METHOD (S)	RESIDUAL CONTAINERS (S)	PH
				Box	Time							
				UPPERCASE	LOWER CASE							
1	WQA01	WQA	10/19/20	10:40	10/19/20	5	2	3	10	10	10	6.64
2	WQA02	WQA	10/19/20	11:33	10/19/20	5	2	3	10	10	10	5.03
3	WQA03	WQA	10/19/20	09:17	10/19/20	5	2	3	10	10	10	5.25
4	WQA04	WQA										
5	WQA05	WQA										
6	WQA06	WQA										
7	WQA07	WQA										
8	WQA08	WQA										
9	WQA09	WQA	10/19/20	04:40	10/19/20	5	2	3	10	10	10	6.56
10	WQA10	WQA	10/19/20	13:55	10/19/20	5	2	3	10	10	10	5.02
11	WQA11	WQA	10/19/20	14:08	10/19/20	5	2	3	10	10	10	5.17
12	WQA12	WQA	10/19/20	12:32	10/19/20	5	2	3	10	10	10	6.34

ANALYZED BY: John S. ...

DATE: 10/19/20

TIME: 1:28

INITIALS: [Signature]

DATE: 10/20/20

TIME: 09:24:43

INITIALS: [Signature]

LABORATORY NAME AND LOCATION:
 NAME: Enviro Services, LLC
 ADDRESS: 10000 Sully Road, Springfield, VA 22150
 CONTACT: [Signature]
 PHONE: (703) 691-7000
 FAX: (703) 691-7000
 EMAIL: info@enviro-services.com



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

Section A: Analytical Client Information
 Section B: Analytical Request Information
 Section C: Service Information
 Section D: Analytical Agency

Company: Energy Center Coal Conversion Project
 Address: 1740 Weaver Road
Atlanta, GA 30338
 Contact: 1404-770-7700 Fax: _____
 Project Name: Coal Conversion (CC)
 Requested Date: _____
 Requested By: _____
 Address: _____
 City: _____
 State: _____
 Zip: _____
 Project Name: Coal Conversion (CC)
 Requested Date: _____
 Requested By: _____
 Project Name: _____
 Project Manager: Erin Lovett/Deborah Love
 Project #: _____
 Project #: _____
 Project #: _____

ITEM #	SAMPLE ID	ANALYSE TEST	DATE	TIME	ANALYST	LABORATORY	DATE	TIME	REMARKS
1	10001-100	10001-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
2	10002-100	10002-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
3	10003-100	10003-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
4	10004-100	10004-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
5	10005-100	10005-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
6	10006-100	10006-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
7	10007-100	10007-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
8	10008-100	10008-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
9	10009-100	10009-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
10	10010-100	10010-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
11	10011-100	10011-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714
12	10012-100	10012-100	10/13/20	13:50	Erin Lovett	Energy Center Coal Conversion Project	10/13/20	14:00	675000714

Section E: Analytical Agency Information
 Agency Name: Energy Center Coal Conversion Project
 Agency Address: 1740 Weaver Road
Atlanta, GA 30338
 Agency Contact: 1404-770-7700
 Agency Project Name: Coal Conversion (CC)
 Agency Project #: _____
 Agency Project Manager: Erin Lovett/Deborah Love
 Agency Project #: _____
 Agency Project #: _____

Section F: Analytical Agency Information
 Agency Name: Energy Center Coal Conversion Project
 Agency Address: 1740 Weaver Road
Atlanta, GA 30338
 Agency Contact: 1404-770-7700
 Agency Project Name: Coal Conversion (CC)
 Agency Project #: _____
 Agency Project Manager: Erin Lovett/Deborah Love
 Agency Project #: _____
 Agency Project #: _____



January 25, 2021

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

RE: Project: PLANT MCMANUS CCR RADS
Pace Project No.: 92514705

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on January 05, 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,

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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CERTIFICATIONS

Project: PLANT MCMANUS CCR RAD5
Pace Project No.: 92514705

Pace Analytical Services Pennsylvania

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PLANT MCMANUS CCR RADS
Pace Project No.: 92514705

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92514705001	MCM-05	Water	01/04/21 15:03	01/05/21 11:20
92514705002	FBL010421	Water	01/04/21 16:20	01/05/21 11:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92514705001	MCM-05	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92514705002	FBL010421	EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92514705001	MCM-05					
EPA 9315	Radium-226	3.87 ± 0.783 (0.487)	pCi/L		01/14/21 19:16	
EPA 9320	Radium-228	C:88% T:NA 1.97 ± 0.638 (0.899)	pCi/L		01/13/21 14:41	
Total Radium Calculation	Total Radium	C:76% T:87% 5.84 ± 1.42 (1.39)	pCi/L		01/15/21 09:29	
92514705002	FBL010421					
EPA 9315	Radium-226	0.237 ± 0.150 (0.258)	pCi/L		01/14/21 19:16	
EPA 9320	Radium-228	C:86% T:NA -0.0890 ± 0.321 (0.766)	pCi/L		01/13/21 14:41	
Total Radium Calculation	Total Radium	C:76% T:86% 0.237 ± 0.471 (1.02)	pCi/L		01/15/21 09:29	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

Sample: MCM-05 **Lab ID: 92514705001** Collected: 01/04/21 15:03 Received: 01/05/21 11:20 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.87 ± 0.783 (0.487) C:88% T:NA	pCi/L	01/14/21 19:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.97 ± 0.638 (0.899) C:76% T:87%	pCi/L	01/13/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	5.84 ± 1.42 (1.39)	pCi/L	01/15/21 09:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FBL010421 Lab ID: 92514705002 Collected: 01/04/21 16:20 Received: 01/05/21 11:20 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	0.237 ± 0.150 (0.258) C:86% T:NA	pCi/L	01/14/21 19:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.0890 ± 0.321 (0.766) C:76% T:86%	pCi/L	01/13/21 14:41	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.237 ± 0.471 (1.02)	pCi/L	01/15/21 09:29	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

QC Batch: 430546

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92514705001, 92514705002

METHOD BLANK: 2079708

Matrix: Water

Associated Lab Samples: 92514705001, 92514705002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0781 ± 0.154 (0.302) C:84% T:NA	pCi/L	01/14/21 16:31	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

QC Batch: 430167

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92514705001, 92514705002

METHOD BLANK: 2077766

Matrix: Water

Associated Lab Samples: 92514705001, 92514705002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.347 ± 0.391 (0.816) C:77% T:69%	pCi/L	01/13/21 14:38	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCMANUS CCR RADS

Pace Project No.: 92514705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92514705001	MCM-05	EPA 9315	430546		
92514705002	FBL010421	EPA 9315	430546		
92514705001	MCM-05	EPA 9320	430167		
92514705002	FBL010421	EPA 9320	430167		
92514705001	MCM-05	Total Radium Calculation	431068		
92514705002	FBL010421	Total Radium Calculation	431068		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

Duke Energy

Project:

WO#: **92514705**

Coaster:

Commercial

Fed Ex

UPS

USPS

Other

Pace

Other



92514705

Track/Label/Paper Counting Contents: 2-2LRF

Coolest Seal Present?

Yes

No

Seals Intact?

Yes

No

Packing Material:

Bubble Wrap

Bubble Bags

None

Other

Biological Tissue Frame?

Yes No N/A

Thermometer:

If Gun ID: 95-7071

Type of Ice:

Dry

Blue

None

Cooler Temp:

0.1

Correction Factor:

Add/Subtract (°C)

0

Temp should be above freezing to °C

Sample out of temp criteria. Sample on ice, cooling process has begun

Cooler Temp Corrected (°C):

0.1

USDA Regulated Soil () / () w/w, water sample)

Did samples originate in a quarantine zone within the United States: CA, HI, or SC (check maps)?

Yes No

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

	Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 1
Samples Analyzed within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 2
Short Hold Time Analysis (≤72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A 3
Hold Time Beyond Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 4 <u>3 day TAT</u>
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 5
Correct Container's Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 6
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 7
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A 8
Sample Labels Match COCT	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 9
-Includes Date/Time/ID/Analysis Matrix	<u>WT</u>
Headspace in VOA Vials (≥5 lines)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A 10
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A 11
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

COMMENTS/SAMPLE DISCREPANCY

Field Data Requested? Yes No

UM ID of spill container

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCUR Review:

Date:

Project Manager BRP Review:

Date:



WO# : 92514705

Project #

PR: KLH1

Due Date: 01/26/21

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, DMS/RODS (water) DOC, UTM

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

Method	1	2	3	4	5	6	7	8	9	10	11	12
8910-125 ml, Plastic, Unpreserved (N/A) (D)	/	/	/	/	/	/	/	/	/	/	/	/
8910-250 ml, Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
8910-500 ml, Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
8910-1 liter, Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
8910-125 ml, Plastic, 02504 (pH < 2) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
8910-250 ml, Plastic, 02501 (pH < 2)	/	/	/	/	/	/	/	/	/	/	/	/
8910-125 ml, Plastic, 03 Accurate & Reagent (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
8910-125 ml, Plastic, 0301 (pH < 2) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
9001A-100ml, 100ml Glass, per unpreserved	/	/	/	/	/	/	/	/	/	/	/	/
9010-1 liter, Amber, Unpreserved (N/A) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
9010-1 liter, Amber, 100 (pH < 2)	/	/	/	/	/	/	/	/	/	/	/	/
9010-250 ml, Amber, Unpreserved (N/A) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
9010-1 liter, Amber, 02501 (pH < 2)	/	/	/	/	/	/	/	/	/	/	/	/
9010-250 ml, Amber, 02501 (pH < 2)	/	/	/	/	/	/	/	/	/	/	/	/
9010-100ml, 100 ml, Amber, 0301 (pH < 2) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
9010-40 ml, VOA, 40 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-40 ml, VOA, 02501 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-40 ml, VOA, 03 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-40 ml, VOA, 0301 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-10 vials per 100 vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-10 vials per 100 vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-100 ml, 100ml, Plastic, (N/A) - 100	/	/	/	/	/	/	/	/	/	/	/	/
9010-100 ml, 100ml, Plastic, (N/A) - 100	/	/	/	/	/	/	/	/	/	/	/	/
9010-100 ml, Plastic, 02501 (pH < 2)	/	/	/	/	/	/	/	/	/	/	/	/
9010-100 ml, Amber, Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-100 ml, Substitution vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
9010-40 ml, Amber, Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/

Handwritten: PPA BPIK

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 District Certification Office (N.C. Out of State), incorrect preservative, out of temp, incorrect containers.

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

Section A Analytical Chain Administration Section B Analytical Project Administration Section C Sample Administration

Analytical Chain Administration: Project Name: 2008 Major Road, City: Atlanta, GA 30303
 Analytical Project Administration: Project Name: 2008 Major Road, City: Atlanta, GA 30303
 Section C: Sample ID: 12519705, Project Number: 12519705
 Date: 1/14/21, Time: 1:00 PM
 Location: 12519705
 Analyst: William Leaker
 Date Reported: 1/14/21

ITEM #	SAMPLE ID	ANALYTICAL CHAIN #	PROJECT #	DATE	TIME	LOCATION	ANALYST	ANALYTICAL METHOD	ANALYTICAL RESULT	ANALYTICAL UNIT	ANALYTICAL RANGE	ANALYTICAL TOLERANCE	ANALYTICAL COMMENTS	ANALYTICAL SIGNATURE	ANALYTICAL DATE
1	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
2	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
3	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
4	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
5	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
6	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
7	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
8	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
9	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
10	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21
11	12519705	12519705	12519705	1/14/21	1:00 PM	12519705	William Leaker	12519705	12519705	12519705	12519705	12519705	12519705	William Leaker	1/14/21

ANALYTICAL CHAIN ADMINISTRATION: Project Name: 2008 Major Road, City: Atlanta, GA 30303
 ANALYTICAL PROJECT ADMINISTRATION: Project Name: 2008 Major Road, City: Atlanta, GA 30303
 ANALYST: William Leaker, Date Reported: 1/14/21
 SIGNATURE: [Signature]
 DATE: 1/14/21



January 12, 2021

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

RE: Project: PLANT MCMANUS CCR
Pace Project No.: 92514770

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on January 05, 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: 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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CERTIFICATIONS

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92514770001	MCM-05	Water	01/04/21 15:03	01/05/21 11:20
92514770002	FBL010421	Water	01/04/21 16:21	01/05/21 11:20

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SAMPLE ANALYTE COUNT

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92514770001	MCM-05	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92514770002	FBL010421	EPA 6010D	KQ	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	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 CCR

Pace Project No.: 92514770

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92514770001	MCM-05					
	Performed by	CUSTOME			01/05/21 14:56	
		R				
	pH	6.66	Std. Units		01/05/21 14:56	
EPA 6010D	Calcium	104	mg/L	0.50	01/06/21 23:11	M1
EPA 6020B	Arsenic	0.0072	mg/L	0.0050	01/08/21 13:42	
EPA 6020B	Barium	0.051	mg/L	0.010	01/08/21 13:42	
EPA 6020B	Boron	0.98	mg/L	0.50	01/08/21 13:42	
EPA 6020B	Lithium	0.043J	mg/L	0.030	01/08/21 13:42	
SM 2540C-2011	Total Dissolved Solids	7750	mg/L	1250	01/06/21 17:06	
EPA 300.0 Rev 2.1 1993	Chloride	2460	mg/L	50.0	01/08/21 17:04	M6
EPA 300.0 Rev 2.1 1993	Sulfate	262	mg/L	50.0	01/08/21 17:04	M6
92514770002	FBL010421					
EPA 6020B	Barium	0.00050J	mg/L	0.010	01/08/21 14:09	

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ANALYTICAL RESULTS

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

Sample: MCM-05 **Lab ID: 92514770001** Collected: 01/04/21 15:03 Received: 01/05/21 11:20 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		01/05/21 14:56		
pH	6.66	Std. Units			1		01/05/21 14:56		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	104	mg/L	0.50	0.47	5	01/06/21 00:59	01/06/21 23:11	7440-70-2	M1
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0072	mg/L	0.0050	0.0017	20	01/06/21 00:52	01/08/21 13:42	7440-38-2	
Barium	0.051	mg/L	0.010	0.0043	20	01/06/21 00:52	01/08/21 13:42	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.0010	20	01/06/21 00:52	01/08/21 13:42	7440-41-7	
Boron	0.98	mg/L	0.50	0.12	20	01/06/21 00:52	01/08/21 13:42	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.0010	20	01/06/21 00:52	01/08/21 13:42	7440-48-4	
Lead	ND	mg/L	0.0050	0.0015	20	01/06/21 00:52	01/08/21 13:42	7439-92-1	
Lithium	0.043J	mg/L	0.030	0.0078	20	01/06/21 00:52	01/08/21 13:42	7439-93-2	
Selenium	ND	mg/L	0.010	0.0012	20	01/06/21 00:52	01/08/21 13:42	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	7750	mg/L	1250	1250	1		01/06/21 17:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	2460	mg/L	50.0	30.0	50		01/08/21 17:04	16887-00-6	M6
Fluoride	ND	mg/L	0.10	0.050	1		01/08/21 10:40	16984-48-8	M1
Sulfate	262	mg/L	50.0	25.0	50		01/08/21 17:04	14808-79-8	M6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

Sample: FBL010421		Lab ID: 92514770002		Collected: 01/04/21 16:21		Received: 01/05/21 11:20		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	01/06/21 00:59	01/06/21 14:30	7440-70-2	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic	ND	mg/L	0.0050	0.000087	1	01/06/21 00:52	01/08/21 14:09	7440-38-2	
Barium	0.00050J	mg/L	0.010	0.00021	1	01/06/21 00:52	01/08/21 14:09	7440-39-3	
Beryllium	ND	mg/L	0.0030	0.000050	1	01/06/21 00:52	01/08/21 14:09	7440-41-7	
Boron	ND	mg/L	0.025	0.0062	1	01/06/21 00:52	01/08/21 14:09	7440-42-8	
Cobalt	ND	mg/L	0.0050	0.000050	1	01/06/21 00:52	01/08/21 14:09	7440-48-4	
Lead	ND	mg/L	0.0050	0.000077	1	01/06/21 00:52	01/08/21 14:09	7439-92-1	
Lithium	ND	mg/L	0.030	0.00039	1	01/06/21 00:52	01/08/21 14:09	7439-93-2	
Selenium	ND	mg/L	0.010	0.000061	1	01/06/21 00:52	01/08/21 14:09	7782-49-2	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville							
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		01/06/21 17:06		
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		01/08/21 11:28	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		01/08/21 11:28	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		01/08/21 11:28	14808-79-8	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

QC Batch: 590829

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92514770001, 92514770002

METHOD BLANK: 3119327

Matrix: Water

Associated Lab Samples: 92514770001, 92514770002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	01/06/21 14:10	

LABORATORY CONTROL SAMPLE: 3119328

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.7	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119329 3119330

Parameter	Units	3119329		3119330		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92514770001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	104	5	5	109	107	98	60	75-125	2	20 M1

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QUALITY CONTROL DATA

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

QC Batch: 590831

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92514770001, 92514770002

METHOD BLANK: 3119335

Matrix: Water

Associated Lab Samples: 92514770001, 92514770002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	01/08/21 13:26	
Barium	mg/L	ND	0.010	0.00021	01/08/21 13:26	
Beryllium	mg/L	ND	0.0030	0.000050	01/08/21 13:26	
Boron	mg/L	ND	0.025	0.0062	01/08/21 13:26	
Cobalt	mg/L	ND	0.0050	0.000050	01/08/21 13:26	
Lead	mg/L	ND	0.0050	0.000077	01/08/21 13:26	
Lithium	mg/L	ND	0.030	0.00039	01/08/21 13:26	
Selenium	mg/L	ND	0.010	0.000061	01/08/21 13:26	

LABORATORY CONTROL SAMPLE: 3119336

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	101	80-120	
Barium	mg/L	0.05	0.050	100	80-120	
Beryllium	mg/L	0.01	0.010	101	80-120	
Boron	mg/L	0.05	0.049	98	80-120	
Cobalt	mg/L	0.01	0.010	103	80-120	
Lead	mg/L	0.05	0.050	100	80-120	
Lithium	mg/L	0.05	0.051	103	80-120	
Selenium	mg/L	0.05	0.050	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3119337 3119338

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		92514770002	Result	Spike Conc.	Spike Conc.							
Arsenic	mg/L	ND	0.01	0.01	0.010	0.010	102	102	75-125	0	20	
Barium	mg/L	0.00050J	0.05	0.05	0.051	0.051	102	101	75-125	0	20	
Beryllium	mg/L	ND	0.01	0.01	0.010	0.010	101	101	75-125	0	20	
Boron	mg/L	ND	0.05	0.05	0.053	0.054	103	104	75-125	2	20	
Cobalt	mg/L	ND	0.01	0.01	0.010	0.010	103	102	75-125	1	20	
Lead	mg/L	ND	0.05	0.05	0.050	0.050	101	100	75-125	0	20	
Lithium	mg/L	ND	0.05	0.05	0.051	0.052	103	104	75-125	1	20	
Selenium	mg/L	ND	0.05	0.05	0.051	0.050	102	100	75-125	1	20	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS CCR
 Pace Project No.: 92514770

QC Batch: 591060 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: 92514770001, 92514770002

METHOD BLANK: 3120507 Matrix: Water
 Associated Lab Samples: 92514770001, 92514770002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	01/06/21 17:05	

LABORATORY CONTROL SAMPLE: 3120508

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	260	104	90-110	

SAMPLE DUPLICATE: 3120509

Parameter	Units	92514543001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	4170	4530	8	25	

SAMPLE DUPLICATE: 3120510

Parameter	Units	92514623008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	139	143	3	25	

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QUALITY CONTROL DATA

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

QC Batch:	591206	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92514770001, 92514770002

METHOD BLANK: 3121081 Matrix: Water

Associated Lab Samples: 92514770001, 92514770002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	01/07/21 13:26	
Fluoride	mg/L	ND	0.10	0.050	01/07/21 13:26	
Sulfate	mg/L	ND	1.0	0.50	01/07/21 13:26	

LABORATORY CONTROL SAMPLE: 3121082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.3	101	90-110	
Fluoride	mg/L	2.5	2.6	102	90-110	
Sulfate	mg/L	50	50.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121083 3121084

Parameter	Units	92514770001		3121083		3121084		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	2460	2520	50	50	2520	2510	101	81	90-110	0	10	M6
Fluoride	mg/L	ND	ND	2.5	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	262	299	50	50	294	299	64	75	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3121085 3121086

Parameter	Units	92515188004		3121085		3121086		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	12.6	63.5	50	50	63.5	65.7	102	106	90-110	3	10	
Fluoride	mg/L	0.055J	2.6	2.5	2.5	2.6	2.7	100	105	90-110	5	10	
Sulfate	mg/L	ND	50.0	50	50	50.0	52.4	100	105	90-110	5	10	

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QUALIFIERS

Project: PLANT MCMANUS CCR
Pace Project No.: 92514770

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

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PLANT MCMANUS CCR

Pace Project No.: 92514770

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92514770001	MCM-05				
92514770001	MCM-05	EPA 3010A	590829	EPA 6010D	590848
92514770002	FBL010421	EPA 3010A	590829	EPA 6010D	590848
92514770001	MCM-05	EPA 3010A	590831	EPA 6020B	590847
92514770002	FBL010421	EPA 3010A	590831	EPA 6020B	590847
92514770001	MCM-05	SM 2540C-2011	591060		
92514770002	FBL010421	SM 2540C-2011	591060		
92514770001	MCM-05	EPA 300.0 Rev 2.1 1993	591206		
92514770002	FBL010421	EPA 300.0 Rev 2.1 1993	591206		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

Duke Energy

Project:

WO#: 92514770

Container:

Commercial

Field In

UPS

USPS

Other



92514770

Regulatory Person Counting Container: L-2-ALFA

Custody Seal Present?

Yes

No

Seals Intact?

Yes

No

Packing Material:

Bubble Wrap

Bubble Bags

None

Other

Biological Tissue Present?

Yes

No

N/A

Thermometer:

In Use ID: 93-7071

Type of use:

Direct

Indirect

Other

Cooler Temp:

0.1

Correction Factor:

ADD/Subtract (°C)

0

Temp should be above freezing to 4°C

Samples out of temp either. Samples on ice, cooling process in progress

Cooler Temp Corrected (°C):

0.1

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States CA, HI, or SC (check map)?

Yes

No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?

Yes

No

		Comments/Discrepancy	
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Short Hold Time Analysis (22 hr.?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		3.
Both Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4. <u>3 day TAT</u>
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		6.
-Free Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		7.
Unopened analysis Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		8.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Include Date/Time/ID/Analysis Matrix	<u>WT</u>		
Headspace in VOC Vials (>5-6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		10.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11.
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Requested? Yes No

Lot ID of all containers:

CLIENT ACQUISITION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCUR Review

Date:

Project Manager SRF Review

Date:



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

Project # **WO# : 92514770**

Exception: VOA, Coliform, TOC, Oil and Grease, OBG/MS (water) DOC, UHg
 **Bottom half of box is to list number of bottles

PH: KLH1 Due Date: 01/08/21
 CLIENT: GA-GA Power

Method	1	2	3	4	5	6	7	8	9	10	11	12
APHA-125 ml. Phos. (Unpreserved) (M) (P)												
APHA-200 ml. Phos. (Unpreserved) (M)												
APHA-600 ml. Phos. (Unpreserved) (M)												
APHA-1 liter Phos. (Unpreserved) (M)												
APHA-125 ml. Phos. (SCUR) (M) (P) (2)												
APHA-200 ml. Phos. (SCUR) (M) (P) (2)												
APHA-600 ml. Phos. (SCUR) (M) (P) (2)												
APHA-1 liter Phos. (SCUR) (M) (P) (2)												
Water Vials - unfiltered (M) (P) (Unpreserved)												
APHA-1 liter Ammonia (M) (P) (2)												
APHA-200 ml. Ammonia (Unpreserved) (M) (P) (2)												
APHA-1 liter Ammonia (SCUR) (M) (P) (2)												
APHA-200 ml. Ammonia (SCUR) (M) (P) (2)												
APHA-600 ml. Ammonia (SCUR) (M) (P) (2)												
APHA-1 liter Ammonia (SCUR) (M) (P) (2)												
APHA-200 ml. VOA (M) (P) (M)												
APHA-600 ml. VOA (M) (P) (M)												
APHA-1 liter VOA (M) (P) (M)												
APHA-1 liter VOA (SCUR) (M) (P) (M)												
APHA-200 ml. VOA (SCUR) (M) (P) (M)												
APHA-600 ml. VOA (SCUR) (M) (P) (M)												
APHA-1 liter VOA (SCUR) (M) (P) (M)												
APHA-125 ml. Total Phos. (M) (P) (2)												
APHA-200 ml. Total Phos. (M) (P) (2)												
APHA-600 ml. Total Phos. (M) (P) (2)												
APHA-1 liter Total Phos. (M) (P) (2)												

PAX
 BPTM

pH Adjustment Log for Preserved Samples						
Sample ID	Type of Preservation	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina Division of Environment and Natural Resources (NCEM) Certification Office (i.e. Out of field, 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 of 1

Section A Requesting Agency Information Request to: <u>State Department of Health</u> Requesting Agency: <u>State Department of Health</u> Requesting Agency Address: <u>1000 Broadway</u> Requesting Agency City: <u>NY</u> Requesting Agency State: <u>NY</u> Requesting Agency Zip: <u>10003</u>	Section B Requesting Project Information Project Name: <u>NY State Department of Health</u> Project Number: <u>10003</u>	Section C Sample Information Sample ID: <u>625147720</u> Sample Description: <u>425147720</u> Sample Location: <u>NY</u> Sample Date: <u>1/12/21</u> Sample Time: <u>12:00</u>
Section D Requesting Agency Contact Information Requesting Agency Contact Name: <u>William Leader</u> Requesting Agency Contact Title: <u>Director</u> Requesting Agency Contact Phone: <u>1/12/21</u> Requesting Agency Contact Email: <u>1/12/21</u>	Section E Requesting Agency Signature Requesting Agency Signature: <u>William Leader</u> Requesting Agency Signature Date: <u>1/12/21</u>	Section F Requesting Agency Signature Requesting Agency Signature: <u>William Leader</u> Requesting Agency Signature Date: <u>1/12/21</u>
Section G Requesting Agency Information Requesting Agency Name: <u>State Department of Health</u> Requesting Agency Address: <u>1000 Broadway</u> Requesting Agency City: <u>NY</u> Requesting Agency State: <u>NY</u> Requesting Agency Zip: <u>10003</u>	Section H Requesting Project Information Project Name: <u>NY State Department of Health</u> Project Number: <u>10003</u>	Section I Sample Information Sample ID: <u>625147720</u> Sample Description: <u>425147720</u> Sample Location: <u>NY</u> Sample Date: <u>1/12/21</u> Sample Time: <u>12:00</u>
Section J Requesting Agency Contact Information Requesting Agency Contact Name: <u>William Leader</u> Requesting Agency Contact Title: <u>Director</u> Requesting Agency Contact Phone: <u>1/12/21</u> Requesting Agency Contact Email: <u>1/12/21</u>	Section K Requesting Agency Signature Requesting Agency Signature: <u>William Leader</u> Requesting Agency Signature Date: <u>1/12/21</u>	Section L Requesting Agency Signature Requesting Agency Signature: <u>William Leader</u> Requesting Agency Signature Date: <u>1/12/21</u>



March 22, 2021

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

RE: Project: MCMANUS CCR SPRING SAMPLING
Pace Project No.: 92525912

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 05, 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: 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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CERTIFICATIONS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92525912001	MCM-04	Water	03/04/21 10:04	03/05/21 10:30
92525912002	MCM-05	Water	03/04/21 10:03	03/05/21 10:30
92525912003	MCM-06	Water	03/04/21 11:36	03/05/21 10:30
92525912004	MCM-07	Water	03/04/21 14:18	03/05/21 10:30
92525912005	DPZ-02	Water	03/04/21 14:20	03/05/21 10:30
92525912006	FB-3	Water	03/04/21 15:05	03/05/21 10:30
92525912007	EB-2	Water	03/04/21 15:08	03/05/21 10:30
92525912008	DUP-2	Water	03/04/21 00:00	03/05/21 10:30

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SAMPLE ANALYTE COUNT

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92525912001	MCM-04	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92525912002	MCM-05	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92525912003	MCM-06	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92525912004	MCM-07	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92525912005	DPZ-02	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92525912006	FB-3	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
92525912007	EB-2	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92525912008	DUP-2	EPA 6010D	SH1	1	PASI-A
		EPA 6020B	JOR	8	PASI-A
		SM 2540C-2011	RED	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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92525912001	MCM-04					
	Performed by	CUSTOMER			03/22/21 08:52	
	pH	5.31	Std. Units		03/22/21 08:52	
EPA 6010D	Calcium	15.1	mg/L	1.0	03/13/21 02:03	
EPA 6020B	Arsenic	0.0018J	mg/L	0.0050	03/22/21 15:03	
EPA 6020B	Barium	0.062	mg/L	0.0050	03/22/21 15:03	
EPA 6020B	Boron	0.11J	mg/L	0.25	03/22/21 15:03	
EPA 6020B	Cobalt	0.0060	mg/L	0.0050	03/22/21 15:03	
EPA 6020B	Selenium	0.00038J	mg/L	0.010	03/22/21 15:03	
SM 2540C-2011	Total Dissolved Solids	285	mg/L	25.0	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	69.6	mg/L	1.0	03/14/21 00:36	
EPA 300.0 Rev 2.1 1993	Sulfate	99.1	mg/L	2.0	03/14/21 13:57	
92525912002	MCM-05					
	Performed by	CUSTOMER			03/22/21 08:52	
	pH	6.52	Std. Units		03/22/21 08:52	
EPA 6010D	Calcium	23.4	mg/L	1.0	03/13/21 02:06	
EPA 6020B	Barium	0.0082J	mg/L	0.020	03/22/21 15:14	
EPA 6020B	Boron	0.40J	mg/L	1.0	03/22/21 15:14	
EPA 6020B	Lithium	0.017J	mg/L	0.050	03/22/21 15:14	
SM 2540C-2011	Total Dissolved Solids	1700	mg/L	417	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	652	mg/L	14.0	03/14/21 14:55	
EPA 300.0 Rev 2.1 1993	Fluoride	0.45	mg/L	0.10	03/14/21 07:51	
EPA 300.0 Rev 2.1 1993	Sulfate	82.2	mg/L	1.0	03/14/21 07:51	
92525912003	MCM-06					
	Performed by	CUSTOMER			03/22/21 08:52	
	pH	6.94	Std. Units		03/22/21 08:52	
EPA 6010D	Calcium	233	mg/L	1.0	03/13/21 02:10	
EPA 6020B	Arsenic	0.35	mg/L	0.050	03/22/21 15:24	
EPA 6020B	Barium	0.14	mg/L	0.050	03/22/21 15:24	
EPA 6020B	Boron	1.4J	mg/L	2.5	03/22/21 15:24	
EPA 6020B	Lithium	0.096J	mg/L	0.12	03/22/21 15:24	
SM 2540C-2011	Total Dissolved Solids	14200	mg/L	2500	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	6310	mg/L	100	03/14/21 01:05	
EPA 300.0 Rev 2.1 1993	Sulfate	596	mg/L	100	03/14/21 01:05	
92525912004	MCM-07					
	Performed by	CUSTOMER			03/22/21 08:52	
	pH	6.33	Std. Units		03/22/21 08:52	
EPA 6010D	Calcium	244	mg/L	1.0	03/13/21 02:13	
EPA 6020B	Arsenic	0.015J	mg/L	0.050	03/22/21 15:27	
EPA 6020B	Barium	0.20	mg/L	0.050	03/22/21 15:27	
EPA 6020B	Boron	1.6J	mg/L	2.5	03/22/21 15:27	
EPA 6020B	Lithium	0.035J	mg/L	0.12	03/22/21 15:27	
SM 2540C-2011	Total Dissolved Solids	17100	mg/L	2500	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	7540	mg/L	100	03/14/21 01:19	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92525912004	MCM-07					
EPA 300.0 Rev 2.1 1993	Sulfate	982	mg/L	100	03/14/21 01:19	
92525912005	DPZ-02					
	Performed by	CUSTOME R			03/22/21 08:52	
	pH	7.21	Std. Units		03/22/21 08:52	
EPA 6010D	Calcium	257	mg/L	1.0	03/13/21 02:16	
EPA 6020B	Arsenic	0.017J	mg/L	0.050	03/22/21 15:30	
EPA 6020B	Barium	0.096	mg/L	0.050	03/22/21 15:30	
EPA 6020B	Boron	2.2J	mg/L	2.5	03/22/21 15:30	
EPA 6020B	Lithium	0.094J	mg/L	0.12	03/22/21 15:30	
SM 2540C-2011	Total Dissolved Solids	19000	mg/L	2500	03/09/21 18:57	
EPA 300.0 Rev 2.1 1993	Chloride	8280	mg/L	100	03/14/21 03:02	
EPA 300.0 Rev 2.1 1993	Sulfate	1060	mg/L	100	03/14/21 03:02	
92525912006	FB-3					
EPA 6020B	Arsenic	0.00028J	mg/L	0.0010	03/16/21 13:22	
EPA 6020B	Cobalt	0.00035J	mg/L	0.0010	03/16/21 13:22	
92525912008	DUP-2					
EPA 6010D	Calcium	15.2	mg/L	1.0	03/13/21 02:20	
EPA 6020B	Arsenic	0.0015J	mg/L	0.0050	03/22/21 15:34	
EPA 6020B	Barium	0.056	mg/L	0.0050	03/22/21 15:34	
EPA 6020B	Boron	0.099J	mg/L	0.25	03/22/21 15:34	
EPA 6020B	Cobalt	0.0055	mg/L	0.0050	03/22/21 15:34	
SM 2540C-2011	Total Dissolved Solids	30.0	mg/L	25.0	03/09/21 18:51	
EPA 300.0 Rev 2.1 1993	Chloride	65.1	mg/L	1.0	03/13/21 14:02	
EPA 300.0 Rev 2.1 1993	Sulfate	99.8	mg/L	1.0	03/13/21 14:02	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Sample: MCM-04 **Lab ID: 92525912001** Collected: 03/04/21 10:04 Received: 03/05/21 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		03/22/21 08:52		
pH	5.31	Std. Units			1		03/22/21 08:52		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	15.1	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:03	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0050	0.00043	5	03/09/21 01:07	03/22/21 15:03	7440-38-2	
Barium	0.062	mg/L	0.0050	0.0011	5	03/09/21 01:07	03/22/21 15:03	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.00025	5	03/09/21 01:07	03/22/21 15:03	7440-41-7	
Boron	0.11J	mg/L	0.25	0.042	5	03/09/21 01:07	03/22/21 15:03	7440-42-8	
Cobalt	0.0060	mg/L	0.0050	0.00025	5	03/09/21 01:07	03/22/21 15:03	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	03/09/21 01:07	03/22/21 15:03	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	03/09/21 01:07	03/22/21 15:03	7439-93-2	
Selenium	0.00038J	mg/L	0.010	0.00036	5	03/09/21 01:07	03/22/21 15:03	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	285	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	69.6	mg/L	1.0	0.60	1		03/14/21 00:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/14/21 00:36	16984-48-8	
Sulfate	99.1	mg/L	2.0	1.0	2		03/14/21 13:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING
 Pace Project No.: 92525912

Sample: MCM-05		Lab ID: 92525912002		Collected: 03/04/21 10:03		Received: 03/05/21 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		03/22/21 08:52		
pH	6.52	Std. Units			1		03/22/21 08:52		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	23.4	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:06	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.020	0.0017	20	03/09/21 01:07	03/22/21 15:14	7440-38-2	
Barium	0.0082J	mg/L	0.020	0.0043	20	03/09/21 01:07	03/22/21 15:14	7440-39-3	
Beryllium	ND	mg/L	0.0020	0.0010	20	03/09/21 01:07	03/22/21 15:14	7440-41-7	
Boron	0.40J	mg/L	1.0	0.17	20	03/09/21 01:07	03/22/21 15:14	7440-42-8	
Cobalt	ND	mg/L	0.020	0.0010	20	03/09/21 01:07	03/22/21 15:14	7440-48-4	
Lead	ND	mg/L	0.020	0.0015	20	03/09/21 01:07	03/22/21 15:14	7439-92-1	
Lithium	0.017J	mg/L	0.050	0.010	20	03/09/21 01:07	03/22/21 15:14	7439-93-2	
Selenium	ND	mg/L	0.040	0.0014	20	03/09/21 01:07	03/22/21 15:14	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	1700	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	652	mg/L	14.0	8.4	14		03/14/21 14:55	16887-00-6	
Fluoride	0.45	mg/L	0.10	0.050	1		03/14/21 07:51	16984-48-8	
Sulfate	82.2	mg/L	1.0	0.50	1		03/14/21 07:51	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING
 Pace Project No.: 92525912

Sample: MCM-06		Lab ID: 92525912003		Collected: 03/04/21 11:36		Received: 03/05/21 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		03/22/21 08:52		
pH	6.94	Std. Units			1		03/22/21 08:52		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	233	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:10	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.35	mg/L	0.050	0.0043	50	03/09/21 01:07	03/22/21 15:24	7440-38-2	
Barium	0.14	mg/L	0.050	0.011	50	03/09/21 01:07	03/22/21 15:24	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/22/21 15:24	7440-41-7	
Boron	1.4J	mg/L	2.5	0.42	50	03/09/21 01:07	03/22/21 15:24	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/22/21 15:24	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/22/21 15:24	7439-92-1	
Lithium	0.096J	mg/L	0.12	0.025	50	03/09/21 01:07	03/22/21 15:24	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/22/21 15:24	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14200	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	6310	mg/L	100	60.0	100		03/14/21 01:05	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/14/21 08:05	16984-48-8	
Sulfate	596	mg/L	100	50.0	100		03/14/21 01:05	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Sample: MCM-07 **Lab ID: 92525912004** Collected: 03/04/21 14:18 Received: 03/05/21 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		03/22/21 08:52		
pH	6.33	Std. Units			1		03/22/21 08:52		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	244	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:13	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.015J	mg/L	0.050	0.0043	50	03/09/21 01:07	03/22/21 15:27	7440-38-2	
Barium	0.20	mg/L	0.050	0.011	50	03/09/21 01:07	03/22/21 15:27	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/22/21 15:27	7440-41-7	
Boron	1.6J	mg/L	2.5	0.42	50	03/09/21 01:07	03/22/21 15:27	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/22/21 15:27	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/22/21 15:27	7439-92-1	
Lithium	0.035J	mg/L	0.12	0.025	50	03/09/21 01:07	03/22/21 15:27	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/22/21 15:27	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17100	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	7540	mg/L	100	60.0	100		03/14/21 01:19	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/14/21 08:49	16984-48-8	
Sulfate	982	mg/L	100	50.0	100		03/14/21 01:19	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Sample: DPZ-02 **Lab ID: 92525912005** Collected: 03/04/21 14:20 Received: 03/05/21 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		03/22/21 08:52		
pH	7.21	Std. Units			1		03/22/21 08:52		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	257	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:16	7440-70-2	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.017J	mg/L	0.050	0.0043	50	03/09/21 01:07	03/22/21 15:30	7440-38-2	
Barium	0.096	mg/L	0.050	0.011	50	03/09/21 01:07	03/22/21 15:30	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/22/21 15:30	7440-41-7	
Boron	2.2J	mg/L	2.5	0.42	50	03/09/21 01:07	03/22/21 15:30	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/22/21 15:30	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/22/21 15:30	7439-92-1	
Lithium	0.094J	mg/L	0.12	0.025	50	03/09/21 01:07	03/22/21 15:30	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/22/21 15:30	7782-49-2	
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19000	mg/L	2500	2500	1		03/09/21 18:57		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	8280	mg/L	100	60.0	100		03/14/21 03:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/14/21 09:03	16984-48-8	
Sulfate	1060	mg/L	100	50.0	100		03/14/21 03:02	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Sample: FB-3		Lab ID: 92525912006		Collected: 03/04/21 15:05	Received: 03/05/21 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	0.10	0.094	1	03/09/21 01:10	03/13/21 01:04	7440-70-2		
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	0.00028J	mg/L	0.0010	0.000087	1	03/09/21 01:07	03/16/21 13:22	7440-38-2		
Barium	ND	mg/L	0.0010	0.00021	1	03/09/21 01:07	03/16/21 13:22	7440-39-3		
Beryllium	ND	mg/L	0.00010	0.000050	1	03/09/21 01:07	03/16/21 13:22	7440-41-7		
Boron	ND	mg/L	0.050	0.0085	1	03/09/21 01:07	03/16/21 13:22	7440-42-8		
Cobalt	0.00035J	mg/L	0.0010	0.000050	1	03/09/21 01:07	03/16/21 13:22	7440-48-4		
Lead	ND	mg/L	0.0010	0.000077	1	03/09/21 01:07	03/16/21 13:22	7439-92-1		
Lithium	ND	mg/L	0.0025	0.00050	1	03/09/21 01:07	03/16/21 13:22	7439-93-2		
Selenium	ND	mg/L	0.0020	0.000072	1	03/09/21 01:07	03/16/21 13:22	7782-49-2		
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 18:51			
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		03/14/21 03:16	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		03/14/21 03:16	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		03/14/21 03:16	14808-79-8		

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Sample: EB-2		Lab ID: 92525912007		Collected: 03/04/21 15:08	Received: 03/05/21 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	0.10	0.094	1	03/09/21 01:10	03/13/21 01:08	7440-70-2		
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 13:26	7440-38-2		
Barium	ND	mg/L	0.0010	0.00021	1	03/09/21 01:07	03/16/21 13:26	7440-39-3		
Beryllium	ND	mg/L	0.00010	0.000050	1	03/09/21 01:07	03/16/21 13:26	7440-41-7		
Boron	ND	mg/L	0.050	0.0085	1	03/09/21 01:07	03/16/21 13:26	7440-42-8		
Cobalt	ND	mg/L	0.0010	0.000050	1	03/09/21 01:07	03/16/21 13:26	7440-48-4		
Lead	ND	mg/L	0.0010	0.000077	1	03/09/21 01:07	03/16/21 13:26	7439-92-1		
Lithium	ND	mg/L	0.0025	0.00050	1	03/09/21 01:07	03/16/21 13:26	7439-93-2		
Selenium	ND	mg/L	0.0020	0.000072	1	03/09/21 01:07	03/16/21 13:26	7782-49-2		
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 18:51			
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		03/13/21 13:16	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		03/13/21 13:16	16984-48-8		
Sulfate	ND	mg/L	1.0	0.50	1		03/13/21 13:16	14808-79-8		

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ANALYTICAL RESULTS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Sample: DUP-2		Lab ID: 92525912008		Collected: 03/04/21 00:00		Received: 03/05/21 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	15.2	mg/L	1.0	0.94	10	03/09/21 01:10	03/13/21 02:20	7440-70-2	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic	0.0015J	mg/L	0.0050	0.00043	5	03/09/21 01:07	03/22/21 15:34	7440-38-2	
Barium	0.056	mg/L	0.0050	0.0011	5	03/09/21 01:07	03/22/21 15:34	7440-39-3	
Beryllium	ND	mg/L	0.00050	0.00025	5	03/09/21 01:07	03/22/21 15:34	7440-41-7	
Boron	0.099J	mg/L	0.25	0.042	5	03/09/21 01:07	03/22/21 15:34	7440-42-8	
Cobalt	0.0055	mg/L	0.0050	0.00025	5	03/09/21 01:07	03/22/21 15:34	7440-48-4	
Lead	ND	mg/L	0.0050	0.00038	5	03/09/21 01:07	03/22/21 15:34	7439-92-1	
Lithium	ND	mg/L	0.012	0.0025	5	03/09/21 01:07	03/22/21 15:34	7439-93-2	
Selenium	ND	mg/L	0.010	0.00036	5	03/09/21 01:07	03/22/21 15:34	7782-49-2	
2540C Total Dissolved Solids		Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville							
Total Dissolved Solids	30.0	mg/L	25.0	25.0	1		03/09/21 18:51		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville							
Chloride	65.1	mg/L	1.0	0.60	1		03/13/21 14:02	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/13/21 14:02	16984-48-8	
Sulfate	99.8	mg/L	1.0	0.50	1		03/13/21 14:02	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

QC Batch:	605089	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92525912001, 92525912002, 92525912003, 92525912004, 92525912005, 92525912006, 92525912007, 92525912008		

METHOD BLANK:	3187889	Matrix:	Water
Associated Lab Samples:	92525912001, 92525912002, 92525912003, 92525912004, 92525912005, 92525912006, 92525912007, 92525912008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	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	

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		

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QUALITY CONTROL DATA

Project: MCMANUS CCR SPRING SAMPLING
 Pace Project No.: 92525912

QC Batch: 605092 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92525912001, 92525912002, 92525912003, 92525912004, 92525912005, 92525912006, 92525912007, 92525912008

METHOD BLANK: 3187901 Matrix: Water
 Associated Lab Samples: 92525912001, 92525912002, 92525912003, 92525912004, 92525912005, 92525912006, 92525912007, 92525912008

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92526099004 Result	Spike Conc.	Spike Conc.	Result							Result
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 SPRING SAMPLING
 Pace Project No.: 92525912

QC Batch: 605313 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: 92525912001, 92525912002, 92525912003, 92525912004, 92525912005

METHOD BLANK: 3189077 Matrix: Water
 Associated Lab Samples: 92525912001, 92525912002, 92525912003, 92525912004, 92525912005

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 SPRING SAMPLING
 Pace Project No.: 92525912

QC Batch: 605318 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: 92525912006, 92525912007, 92525912008

METHOD BLANK: 3189116 Matrix: Water
 Associated Lab Samples: 92525912006, 92525912007, 92525912008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/09/21 18:51	

LABORATORY CONTROL SAMPLE: 3189117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	248	99	90-110	

SAMPLE DUPLICATE: 3189118

Parameter	Units	92525912006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 3189119

Parameter	Units	92526014039 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 SPRING SAMPLING
 Pace Project No.: 92525912

QC Batch: 606453 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92525912001, 92525912002, 92525912003, 92525912004, 92525912005, 92525912006

METHOD BLANK: 3195124 Matrix: Water
 Associated Lab Samples: 92525912001, 92525912002, 92525912003, 92525912004, 92525912005, 92525912006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/13/21 18:50	
Fluoride	mg/L	ND	0.10	0.050	03/13/21 18:50	
Sulfate	mg/L	ND	1.0	0.50	03/13/21 18:50	

LABORATORY CONTROL SAMPLE: 3195125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.4	105	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	54.7	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195126 3195127

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92525657005	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	ND	50	50	53.3	53.5	106	107	90-110	0	10		
Fluoride	mg/L	ND	2.5	2.5	2.8	2.8	112	113	90-110	0	10	M1	
Sulfate	mg/L	ND	50	50	55.5	55.9	111	112	90-110	1	10	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195128 3195129

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92527275001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	6.2	50	50	59.3	60.2	106	108	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	3.6	3.6	141	143	90-110	1	10	M1	
Sulfate	mg/L	ND	50	50	55.7	56.6	111	113	90-110	1	10	M1	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

QC Batch:	606455	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92525912007, 92525912008

METHOD BLANK: 3195134 Matrix: Water

Associated Lab Samples: 92525912007, 92525912008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/13/21 12:45	
Fluoride	mg/L	ND	0.10	0.050	03/13/21 12:45	
Sulfate	mg/L	ND	1.0	0.50	03/13/21 12:45	

LABORATORY CONTROL SAMPLE: 3195135

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.8	100	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	52.8	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195136 3195137

Parameter	Units	92525912007		3195136		3195137		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	ND	ND	50	50	50.5	51.0	101	102	90-110	1	10	
Fluoride	mg/L	ND	ND	2.5	2.5	2.5	2.6	102	103	90-110	1	10	
Sulfate	mg/L	ND	ND	50	50	53.6	54.2	107	108	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3195138 3195139

Parameter	Units	92525919009		3195138		3195139		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	1.6	1.6	50	50	54.1	53.7	105	104	90-110	1	10	
Fluoride	mg/L	0.12	0.12	2.5	2.5	2.8	2.8	106	105	90-110	1	10	
Sulfate	mg/L	39.2	39.2	50	50	95.4	95.1	112	112	90-110	0	10 M1	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

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

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS CCR SPRING SAMPLING

Pace Project No.: 92525912

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92525912001	MCM-04				
92525912002	MCM-05				
92525912003	MCM-06				
92525912004	MCM-07				
92525912005	DPZ-02				
92525912001	MCM-04	EPA 3010A	605089	EPA 6010D	605105
92525912002	MCM-05	EPA 3010A	605089	EPA 6010D	605105
92525912003	MCM-06	EPA 3010A	605089	EPA 6010D	605105
92525912004	MCM-07	EPA 3010A	605089	EPA 6010D	605105
92525912005	DPZ-02	EPA 3010A	605089	EPA 6010D	605105
92525912006	FB-3	EPA 3010A	605089	EPA 6010D	605105
92525912007	EB-2	EPA 3010A	605089	EPA 6010D	605105
92525912008	DUP-2	EPA 3010A	605089	EPA 6010D	605105
92525912001	MCM-04	EPA 3010A	605092	EPA 6020B	605103
92525912002	MCM-05	EPA 3010A	605092	EPA 6020B	605103
92525912003	MCM-06	EPA 3010A	605092	EPA 6020B	605103
92525912004	MCM-07	EPA 3010A	605092	EPA 6020B	605103
92525912005	DPZ-02	EPA 3010A	605092	EPA 6020B	605103
92525912006	FB-3	EPA 3010A	605092	EPA 6020B	605103
92525912007	EB-2	EPA 3010A	605092	EPA 6020B	605103
92525912008	DUP-2	EPA 3010A	605092	EPA 6020B	605103
92525912001	MCM-04	SM 2540C-2011	605313		
92525912002	MCM-05	SM 2540C-2011	605313		
92525912003	MCM-06	SM 2540C-2011	605313		
92525912004	MCM-07	SM 2540C-2011	605313		
92525912005	DPZ-02	SM 2540C-2011	605313		
92525912006	FB-3	SM 2540C-2011	605318		
92525912007	EB-2	SM 2540C-2011	605318		
92525912008	DUP-2	SM 2540C-2011	605318		
92525912001	MCM-04	EPA 300.0 Rev 2.1 1993	606453		
92525912002	MCM-05	EPA 300.0 Rev 2.1 1993	606453		
92525912003	MCM-06	EPA 300.0 Rev 2.1 1993	606453		
92525912004	MCM-07	EPA 300.0 Rev 2.1 1993	606453		
92525912005	DPZ-02	EPA 300.0 Rev 2.1 1993	606453		
92525912006	FB-3	EPA 300.0 Rev 2.1 1993	606453		
92525912007	EB-2	EPA 300.0 Rev 2.1 1993	606455		
92525912008	DUP-2	EPA 300.0 Rev 2.1 1993	606455		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Ashville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition:
Upon Receipt

Client Name:
GEORGIA POWER

Project #: **WO#: 92525912**

Container: Fed Ex UPS USPS Client
 Commercial Piece Other



Date/Initials Person Examining Contents: 3-3-21/PC

Custody Seal Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other
 Biological Tissue Present? Yes No N/A

Thermometer: In Use Co. 93T071 Type of Ice: Dry Blue None

Cooler Temp: 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
 See Report

Cooler Temp Corrected (°C): 2.8

USDA Regulated Soil: N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, WY, or SC (check map)?

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

			Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<02 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Floor Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved Analysis (Samples Field Filtered)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix:	<u>VT</u>		
Headspace in VOA Vials (>3-Grams)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Requested? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRP Review: _____ Date: _____



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

Project #

WO#: 92525912

PR: KJW1

Due Date: 03/19/21

Exceptional: VOA, Coliform, TOC, Oil and Grease, DRB/MSB (water) DOC, UHg

CLIENT: GA-GA Power

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

Serial	Normal	1	2	3	4	5	6	7	8	9	10	11	12
BP4U-125 ml, Plastic, Unpreserved (N/A) (D-)													
BP5U-250 ml, Plastic, Unpreserved (N/A)													
BP6U-500 ml, Plastic, Unpreserved (N/A)													
BP7U-1 liter, Plastic, Unpreserved (N/A)													
BP8U-125 ml, Plastic, R20004 (pH = 2) (D-)													
BP9U-250 ml, plastic, M200 (pH = 2)													
BP4C-125 ml, Plastic, D9 Acetate & NaOH (D9)													
BP4C-250 ml, Plastic, NaOH (pH = 12) (D-)													
WSP10-100ml, acidified Glass jar, Unpreserved													
AD10U-1 liter Amber Unpreserved (N/A) (D-)													
AD10U-1 liter Amber (D) (pH = 2)													
AD10U-250 ml, Amber, Unpreserved (N/A) (D-)													
AD10U-1 liter Amber R2004 (pH = 2)													
AD10U-250 ml, Amber, R2004 (pH = 2)													
AD10U (200ml)-250 ml Amber (MSD) (N/A)(D-)													
DO99U-40 ml, VOA, HD (N/A)													
VO99U-40 ml, VOA, Na2SO3 (N/A)													
VO99U-40 ml, VOA, UHg (N/A)													
DO99U-40 ml, VOA, UHg (N/A)													
VO99U (6 vials per lot)-500 ml (N/A)													
VO99U (6 vials per lot)-500 ml (N/A)													
BP9U-125 ml, Borate Plastic (N/A) - (D-)													
BP9U-250 ml, Borate Plastic (N/A) - (D-)													
BP9U-250 ml, Plastic (pH=12) (D-)													
AD10U-250 ml, Amber, Unpreserved vials (N/A)													
VO99U-40 ml, Substrate vials (N/A)													
DO99U-40 ml, Amber, Unpreserved vials (N/A)													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservative adjusted	Time preservative 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 District Certification Office (i.e. Out of field, incorrect preservative, out of temp, incorrect containers).



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section 1: Client Information

Client Name: Providence
 Client Address: 1000 Exchange Street
 Client City: Providence, RI 02903
 Client Phone: 401-455-1234
 Client Email: info@providence.com

Section 2: Analytical Request Information

Request No.: 12345
 Report To: System 123
 Request Date: 10/25/2023
 Request Status: Addressed

Section 3: Sample Information

Sample ID: 42525912
 Sample Description: Water sample from tap
 Sample Location: 1000 Exchange Street, Providence, RI

SAMPLE ID	Description	Location	Collection			Preservation							Initials	Date	Time	Temp	Remarks	
			Start	End	Time	Method	Media	Time	Temp	Temp	Temp	Temp						Temp
MCU-04	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	42525912
MCU-05	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	6.84
MCU-06	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	6.83
MCU-07	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	7.23
MCU-08	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	
MCU-09	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	
MCU-10	Water	1000 Exchange Street	10/25/2023	10/25/2023	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	10:00	

Section 4: Signatures

Client Signature: [Signature]
 Date: 10/25/2023
 Time: 10:50

Analyst Signature: [Signature]
 Date: 10/25/2023
 Time: 10:50

Section 5: Laboratory Information

Laboratory Name: Providence Environmental Services
 Laboratory Address: 1000 Exchange Street, Providence, RI
 Laboratory Phone: 401-455-1234
 Laboratory Email: info@providence.com



April 05, 2021

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

RE: Project: McManus CCR Sampling
Pace Project No.: 92526098

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

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: McManus CCR Sampling

Pace Project No.: 92526098

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: McManus CCR Sampling
Pace Project No.: 92526098

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526098001	MCM-12	Water	03/02/21 11:54	03/06/21 11:15
92526098002	MCM-14	Water	03/02/21 14:36	03/06/21 11:15
92526098003	MCM-15	Water	03/02/21 16:20	03/06/21 11:15
92526098004	DUP-1	Water	03/02/21 00:00	03/06/21 11:15
92526098005	FB-1	Water	03/02/21 00:00	03/06/21 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: McManus CCR Sampling
 Pace Project No.: 92526098

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526098001	MCM-12	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
92526098002	MCM-14	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
92526098003	MCM-15	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
92526098004	DUP-1	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
92526098005	FB-1	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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus CCR Sampling
 Pace Project No.: 92526098

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526098001	MCM-12					
	Performed by	CUSTOME			03/11/21 14:02	
		R				
	pH	6.34	Std. Units		03/11/21 14:02	
EPA 6020B	Barium	0.10	mg/L	0.050	03/11/21 13:12	
EPA 6020B	Boron	1.4J	mg/L	2.5	03/11/21 13:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	496	mg/L	5.0	03/12/21 19:30	
SM 2320B-2011	Alkalinity, Total as CaCO3	496	mg/L	5.0	03/12/21 19:30	M1
SM 2540C-2011	Total Dissolved Solids	1430	mg/L	250	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Chloride	459	mg/L	10.0	03/08/21 13:13	
EPA 300.0 Rev 2.1 1993	Fluoride	1.0	mg/L	0.10	03/08/21 04:32	
EPA 300.0 Rev 2.1 1993	Sulfate	1.2	mg/L	1.0	03/08/21 04:32	
92526098002	MCM-14					
	Performed by	CUSTOME			03/11/21 14:02	
		R				
	pH	6.55	Std. Units		03/11/21 14:02	
EPA 6020B	Barium	0.16	mg/L	0.050	03/11/21 13:15	
EPA 6020B	Boron	1.4J	mg/L	2.5	03/11/21 13:15	
EPA 6020B	Lithium	0.046J	mg/L	0.12	03/11/21 13:15	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	170	mg/L	5.0	03/12/21 13:22	
SM 2320B-2011	Alkalinity, Total as CaCO3	170	mg/L	5.0	03/12/21 13:22	
SM 2540C-2011	Total Dissolved Solids	12000	mg/L	1250	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Sulfate	97.5	mg/L	1.0	03/08/21 04:47	
92526098003	MCM-15					
	Performed by	CUSTOME			03/11/21 14:02	
		R				
	pH	5.16	Std. Units		03/11/21 14:02	
EPA 6020B	Arsenic	0.021J	mg/L	0.050	03/11/21 13:19	
EPA 6020B	Barium	0.067	mg/L	0.050	03/11/21 13:19	
SM 2540C-2011	Total Dissolved Solids	40.0	mg/L	25.0	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Chloride	4.2	mg/L	1.0	03/08/21 05:01	
EPA 300.0 Rev 2.1 1993	Sulfate	8.0	mg/L	1.0	03/08/21 05:01	
92526098004	DUP-1					
EPA 6020B	Barium	0.14	mg/L	0.050	03/11/21 13:22	
EPA 6020B	Boron	1.3J	mg/L	2.5	03/11/21 13:22	
EPA 6020B	Lithium	0.047J	mg/L	0.12	03/11/21 13:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	169	mg/L	5.0	03/12/21 13:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	169	mg/L	5.0	03/12/21 13:41	
SM 2540C-2011	Total Dissolved Solids	11400	mg/L	2500	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Chloride	5520	mg/L	100	03/08/21 16:58	M1, M6
EPA 300.0 Rev 2.1 1993	Sulfate	96.5	mg/L	1.0	03/08/21 05:44	M6

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

Pace Project No.: 92526098

Sample: MCM-12 **Lab ID: 92526098001** Collected: 03/02/21 11:54 Received: 03/06/21 11:15 Matrix: Water

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

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		03/11/21 14:02		
pH	6.34	Std. Units			1		03/11/21 14:02		

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 13:12	7440-38-2	
Barium	0.10	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:12	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:12	7440-41-7	
Boron	1.4J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:12	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:12	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:12	7439-92-1	
Lithium	ND	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:12	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:12	7782-49-2	

2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity, Bicarbonate (CaCO3)	496	mg/L	5.0	5.0	1		03/12/21 19:30		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 19:30		
Alkalinity, Total as CaCO3	496	mg/L	5.0	5.0	1		03/12/21 19:30		M1

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Asheville

Total Dissolved Solids	1430	mg/L	250	250	1		03/09/21 19:04		
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300.0 IC Anions 28 Days

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

Chloride	459	mg/L	10.0	6.0	10		03/08/21 13:13	16887-00-6	
Fluoride	1.0	mg/L	0.10	0.050	1		03/08/21 04:32	16984-48-8	
Sulfate	1.2	mg/L	1.0	0.50	1		03/08/21 04:32	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

Pace Project No.: 92526098

Sample: MCM-14 **Lab ID: 92526098002** Collected: 03/02/21 14:36 Received: 03/06/21 11:15 Matrix: Water

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

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		03/11/21 14:02		
pH	6.55	Std. Units			1		03/11/21 14:02		

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 13:15	7440-38-2	
Barium	0.16	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:15	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:15	7440-41-7	
Boron	1.4J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:15	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:15	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:15	7439-92-1	
Lithium	0.046J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:15	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:15	7782-49-2	

2320B Alkalinity

Analytical Method: SM 2320B-2011
Pace Analytical Services - Asheville

Alkalinity,Bicarbonate (CaCO3)	170	mg/L	5.0	5.0	1		03/12/21 13:22		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 13:22		
Alkalinity, Total as CaCO3	170	mg/L	5.0	5.0	1		03/12/21 13:22		

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Asheville

Total Dissolved Solids	12000	mg/L	1250	1250	1		03/09/21 19:04		
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300.0 IC Anions 28 Days

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

Chloride	ND	mg/L	1.0	0.60	1		03/08/21 04:47	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 04:47	16984-48-8	
Sulfate	97.5	mg/L	1.0	0.50	1		03/08/21 04:47	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

Pace Project No.: 92526098

Sample: MCM-15 **Lab ID: 92526098003** Collected: 03/02/21 16:20 Received: 03/06/21 11:15 Matrix: Water

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

Analytical Method:
Pace Analytical Services - Charlotte

Performed by	CUSTOMER				1		03/11/21 14:02		
pH	5.16	Std. Units			1		03/11/21 14:02		

6020 MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3010A
Pace Analytical Services - Asheville

Arsenic	0.021J	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 13:19	7440-38-2	
Barium	0.067	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:19	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:19	7440-41-7	
Boron	ND	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:19	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:19	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:19	7439-92-1	
Lithium	ND	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:19	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:19	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 13:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 13:36		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 13:36		

2540C Total Dissolved Solids

Analytical Method: SM 2540C-2011
Pace Analytical Services - Asheville

Total Dissolved Solids	40.0	mg/L	25.0	25.0	1		03/09/21 19:04		
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300.0 IC Anions 28 Days

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

Chloride	4.2	mg/L	1.0	0.60	1		03/08/21 05:01	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 05:01	16984-48-8	
Sulfate	8.0	mg/L	1.0	0.50	1		03/08/21 05:01	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

Pace Project No.: 92526098

Sample: DUP-1 **Lab ID: 92526098004** Collected: 03/02/21 00:00 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 13:22	7440-38-2	
Barium	0.14	mg/L	0.050	0.011	50	03/09/21 01:07	03/11/21 13:22	7440-39-3	
Beryllium	ND	mg/L	0.0050	0.0025	50	03/09/21 01:07	03/11/21 13:22	7440-41-7	
Boron	1.3J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:22	7440-42-8	
Cobalt	ND	mg/L	0.050	0.0025	50	03/09/21 01:07	03/11/21 13:22	7440-48-4	
Lead	ND	mg/L	0.050	0.0038	50	03/09/21 01:07	03/11/21 13:22	7439-92-1	
Lithium	0.047J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:22	7439-93-2	
Selenium	ND	mg/L	0.10	0.0036	50	03/09/21 01:07	03/11/21 13:22	7782-49-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	169	mg/L	5.0	5.0	1		03/12/21 13:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 13:41		
Alkalinity, Total as CaCO3	169	mg/L	5.0	5.0	1		03/12/21 13:41		
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 19:04		
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		03/08/21 16:58	16887-00-6	M1, M6
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 05:44	16984-48-8	M1
Sulfate	96.5	mg/L	1.0	0.50	1		03/08/21 05:44	14808-79-8	M6

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

Pace Project No.: 92526098

Sample: FB-1 **Lab ID: 92526098005** Collected: 03/02/21 00:00 Received: 03/06/21 11:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0010	0.000087	1	03/09/21 01:07	03/10/21 19:08	7440-38-2	
Barium	ND	mg/L	0.0010	0.00021	1	03/09/21 01:07	03/10/21 19:08	7440-39-3	
Beryllium	ND	mg/L	0.00010	0.000050	1	03/09/21 01:07	03/10/21 19:08	7440-41-7	
Boron	ND	mg/L	0.050	0.0085	1	03/09/21 01:07	03/10/21 19:08	7440-42-8	
Cobalt	ND	mg/L	0.0010	0.000050	1	03/09/21 01:07	03/10/21 19:08	7440-48-4	
Lead	ND	mg/L	0.0010	0.000077	1	03/09/21 01:07	03/10/21 19:08	7439-92-1	
Lithium	ND	mg/L	0.0025	0.00050	1	03/09/21 01:07	03/10/21 19:08	7439-93-2	
Selenium	ND	mg/L	0.0020	0.000072	1	03/09/21 01:07	03/10/21 19:08	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 13:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/12/21 13:54		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/12/21 13:54		
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 19:04		
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 06:57	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 06:57	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/08/21 06:57	14808-79-8	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling

Pace Project No.: 92526098

QC Batch:	605091	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92526098001, 92526098002, 92526098003, 92526098004, 92526098005

METHOD BLANK: 3187897 Matrix: Water

Associated Lab Samples: 92526098001, 92526098002, 92526098003, 92526098004, 92526098005

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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014042 Result	Spike Conc.	Spike Conc.	Result						
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
 Pace Project No.: 92526098

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: 92526098001, 92526098002, 92526098003, 92526098004, 92526098005

METHOD BLANK: 3193657 Matrix: Water
 Associated Lab Samples: 92526098001, 92526098002, 92526098003, 92526098004, 92526098005

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		3193660		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	496	50	506	510	20	28	80-120	1	25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193661 3193662

Parameter	Units	92526099006		3193662		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	ND	50	25.2	25.5	50	51	80-120	1	25	M1

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QUALITY CONTROL DATA

Project: McManus CCR Sampling
 Pace Project No.: 92526098

QC Batch: 605303 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: 92526098001, 92526098002, 92526098003, 92526098004, 92526098005

METHOD BLANK: 3188987 Matrix: Water
 Associated Lab Samples: 92526098001, 92526098002, 92526098003, 92526098004, 92526098005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/09/21 19:00	

LABORATORY CONTROL SAMPLE: 3188988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	246	98	90-110	

SAMPLE DUPLICATE: 3188989

Parameter	Units	92526014046 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	15600	15800	1	25	

SAMPLE DUPLICATE: 3188990

Parameter	Units	92526014021 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13900	14400	4	25	

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QUALITY CONTROL DATA

Project: McManus CCR Sampling

Pace Project No.: 92526098

QC Batch:	604772	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92526098001, 92526098002, 92526098003		

METHOD BLANK: 3186349 Matrix: Water

Associated Lab Samples: 92526098001, 92526098002, 92526098003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/07/21 21:15	
Fluoride	mg/L	ND	0.10	0.050	03/07/21 21:15	
Sulfate	mg/L	ND	1.0	0.50	03/07/21 21:15	

LABORATORY CONTROL SAMPLE: 3186350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.3	99	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	50	50.1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186351 3186352

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526067001	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	10.4	50	50	59.4	58.0	98	95	90-110	2	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	103	100	90-110	3	10		
Sulfate	mg/L	3.4	50	50	53.1	51.9	100	97	90-110	2	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186353 3186354

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014046	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	6540	50	50	6740	7630	390	2170	90-110	12	10	M6, R1	
Fluoride	mg/L	ND	2.5	2.5	ND	ND	272	296	90-110			M6	
Sulfate	mg/L	993	50	50	1130	1320	281	655	90-110	15	10	M6, R1	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McManus CCR Sampling

Pace Project No.: 92526098

QC Batch: 604773	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92526098004, 92526098005

METHOD BLANK: 3186355 Matrix: Water

Associated Lab Samples: 92526098004, 92526098005

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		3186357		3186358		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	5520	50	50	50	5710	5750	381	460	90-110	1	10	M6
Fluoride	mg/L	ND	2.5	2.5	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	96.5	50	50	50	724	737	1260	1280	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186359 3186360

Parameter	Units	92526099009		3186359		3186360		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Chloride	mg/L	ND	50	50	50	49.2	49.2	97	97	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	3.2	2.8	129	113	90-110	13	10	M1,R1
Sulfate	mg/L	ND	50	50	50	50.1	49.8	99	99	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.

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QUALIFIERS

Project: McManus CCR Sampling
Pace Project No.: 92526098

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

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

Pace Project No.: 92526098

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526098001	MCM-12				
92526098002	MCM-14				
92526098003	MCM-15				
92526098001	MCM-12	EPA 3010A	605091	EPA 6020B	605104
92526098002	MCM-14	EPA 3010A	605091	EPA 6020B	605104
92526098003	MCM-15	EPA 3010A	605091	EPA 6020B	605104
92526098004	DUP-1	EPA 3010A	605091	EPA 6020B	605104
92526098005	FB-1	EPA 3010A	605091	EPA 6020B	605104
92526098001	MCM-12	SM 2320B-2011	606220		
92526098002	MCM-14	SM 2320B-2011	606220		
92526098003	MCM-15	SM 2320B-2011	606220		
92526098004	DUP-1	SM 2320B-2011	606220		
92526098005	FB-1	SM 2320B-2011	606220		
92526098001	MCM-12	SM 2540C-2011	605303		
92526098002	MCM-14	SM 2540C-2011	605303		
92526098003	MCM-15	SM 2540C-2011	605303		
92526098004	DUP-1	SM 2540C-2011	605303		
92526098005	FB-1	SM 2540C-2011	605303		
92526098001	MCM-12	EPA 300.0 Rev 2.1 1993	604772		
92526098002	MCM-14	EPA 300.0 Rev 2.1 1993	604772		
92526098003	MCM-15	EPA 300.0 Rev 2.1 1993	604772		
92526098004	DUP-1	EPA 300.0 Rev 2.1 1993	604773		
92526098005	FB-1	EPA 300.0 Rev 2.1 1993	604773		

REPORT OF LABORATORY ANALYSIS

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

Document Revised: October 28, 2009
 Page 1 of 2
 Issuing Authority:
 Pace Carolina Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mooresville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:
Georgia Power

Project #: **WO#: 92526098**

Courier:
 Commercial Fed Ex UPS USPS Other Client



Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: 3-6-2010

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?
 Yes No N/A

Thermometer: IR Gun ID: 93-7071 Type of Ice: Dry Snow None

Cooler Temp: 2.7 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 5°C
 Samples out of temp limits. Samples on ice, cooling process halting

Cooler Temp Corrected (°C): 2.7

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 Protocols?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Short Hold Time Analysis (<24 hr.)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	6.
-Face Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Dissolved analytes: Samples Field Filtered?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	8.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Matrix <u>WT</u>				
Headspace in VOA Vials (>5-Beams)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	10.
Spig Blank Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	11.
Spig Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____

Date: _____

Project Manager SRP Review: _____

Date: _____



Document Number:
 Sample Condition Upon Receipt (SCUR)
 Document No. J:
 F-CAR-CL-053-Rev. 07

Document Revised: October 28, 2009
 Page 2 of 2
 Issuing Authority:
 Face Analytical 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, DRG/MS5 (water) DOC, Lung

Project # **WO# : 92526098**
 PI: KLH1 Due Date: 03/18/21
 CLIENT: CA-CA Power

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

Method	1	2	3	4	5	6	7	8	9	10	11	12
BP04-125 ml, Plastic, Unpreserved (N/A) (D-)	/	/	/	/	/	/	/	/	/	/	/	/
BP06-250 ml, Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
BP07-500 ml, Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
BP10-1 liter Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
BP45-125 ml, Plastic, H2SO4 (pH = 2) (D-)	/	/	/	/	/	/	/	/	/	/	/	/
BP74-250 ml, Plastic, H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
BP42-125 ml, Plastic, 2% Acetic Acid, HAcOH (pH)	/	/	/	/	/	/	/	/	/	/	/	/
BP43-125 ml, Plastic, HAcOH (pH = 2) (D-)	/	/	/	/	/	/	/	/	/	/	/	/
VE010-1000-sterilized Glass jar Unpreserved	/	/	/	/	/	/	/	/	/	/	/	/
AD014-1 liter Amber Unpreserved (N/A) (D-)	/	/	/	/	/	/	/	/	/	/	/	/
AD016-1 liter Amber HCl (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AD014-250 ml, Amber Unpreserved (N/A) (D-)	/	/	/	/	/	/	/	/	/	/	/	/
AD016-1 liter Amber H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AG016-250 ml, Amber H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AG016-250 ml, Amber H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AG016-250 ml, Amber H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AG016-250 ml, Amber H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AG016-250 ml, Amber H2SO4 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
DO014-40 ml, VOA HCl (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
VO01-40 ml, VOA H2SO4 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
VO01-40 ml, VOA HCl (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
CO01-40 ml, VOA H2SO4 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
VO01 (B) vials per 100-1000 ml (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
VO01 (B) vials per 100-1000 ml (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
BP05-125 ml, Plastic, (N/A - pH)	/	/	/	/	/	/	/	/	/	/	/	/
BP07-500 ml, Plastic, (N/A - pH)	/	/	/	/	/	/	/	/	/	/	/	/
BP04-125 ml, Plastic, DRG/MS5 (B, B- & D)	/	/	/	/	/	/	/	/	/	/	/	/
AD001-120 ml, Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
VO014-20 ml, Sorbention vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
DO014-40 ml, Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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



CHAIN-OF-CUSTODY / Analytical Request Document

Section A: Client Information

Client Name: George Baker
 Client Address: 1001 Industrial Park
 Client City: Atlanta, GA 30328
 Client Phone: 404-123-4567
 Client Email: gbaker@company.com

Section B: Analytical Request Information

Request Type: General Screening
 Project Name: Project Alpha
 Request Date: 10/26/2023
 Requested By: John Doe

Section C: Project Information

Project Number: 1001
 Project Location: Atlanta, GA

SAMPLE ID One Character per box. Sample ID must be unique	ANALYSIS REQUESTED	DATE RECEIVED	TIME RECEIVED	COLLECTOR			ANALYSIS REQUESTED								ANALYSIS COST (\$)	
				NAME	ID	TITLE	ANALYSIS TESTS									
							GC	MS	IR	NMR	TOC	Other	Y/N	Y/N		Y/N
MCHA-12	GC/MS	10/26/23	09:00	J. Doe	1234	Analyst	X	X	X	X	X	X	X	X	X	50.00
MCHA-14	GC/MS	10/26/23	10:00	J. Doe	1234	Analyst	X	X	X	X	X	X	X	X	X	60.00
MCHA-15	GC/MS	10/26/23	11:00	J. Doe	1234	Analyst	X	X	X	X	X	X	X	X	X	55.00
DVP-1	GC/MS	10/26/23	12:00	J. Doe	1234	Analyst	X	X	X	X	X	X	X	X	X	65.00
ETS-1	GC/MS	10/26/23	13:00	J. Doe	1234	Analyst	X	X	X	X	X	X	X	X	X	70.00

APPROVAL COMMENTS	RECEIVED BY / INITIALES	DATE	SIGNATURE	APPROVED BY / INITIALES	DATE	SIGNATURE	APPROVED BY / INITIALES	DATE	SIGNATURE
	<u>John Doe</u>	<u>10/26/23</u>	<u>[Signature]</u>	<u>John Doe</u>	<u>10/26/23</u>	<u>[Signature]</u>	<u>John Doe</u>	<u>10/26/23</u>	<u>[Signature]</u>

LABORATORY USE ONLY

Received on: 10/26/23
 Checked by: [Signature]
 Sample ID: 1001
 Project Name: Project Alpha
 Client Name: George Baker



June 02, 2021

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

RE: Project: McManus CCR Sampling
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

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: McManus CCR Sampling

Pace Project No.: 92526099

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: McManus CCR Sampling

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
 Pace Project No.: 92526099

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526099001	MCM-01	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 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 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 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 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 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 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 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
92526099009	FB-2	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 6020B	JOR	8	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: McManus CCR Sampling
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

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

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus CCR Sampling

Pace Project No.: 92526099

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526099001	MCM-01					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	5.81	Std. Units		03/11/21 14:01	
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 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 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 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	
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 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	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus CCR Sampling
 Pace Project No.: 92526099

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92526099005	MCM-17					
SM 2320B-2011	Alkalinity, Total as CaCO ₃	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	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 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 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	
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 (CaCO ₃)	5.6	mg/L	5.0	03/12/21 15:01	
SM 2320B-2011	Alkalinity, Total as CaCO ₃	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	
92526099008	MCM-20					
	Performed by	CUSTOMER			03/11/21 14:01	
	pH	3.36	Std. Units		03/11/21 14:01	
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	Sulfate	743	mg/L	100	03/08/21 15:35	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

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
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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		

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		
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300.0 IC Anions 28 Days

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

Chloride	13.6	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

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
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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		

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		
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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

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
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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		

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		
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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

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
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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		

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 (CaCO ₃)	10.7	mg/L	5.0	5.0	1		03/12/21 14:30		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		03/12/21 14:30		
Alkalinity, Total as CaCO ₃	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		
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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

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
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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		

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		
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300.0 IC Anions 28 Days

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

Chloride	ND	mg/L	1.0	0.60	1		03/08/21 08:09	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 08:09	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

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
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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		

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 (CaCO ₃)	ND	mg/L	5.0	5.0	1		03/12/21 14:46		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		03/12/21 14:46		
Alkalinity, Total as CaCO ₃	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		
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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

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
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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		

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 (CaCO ₃)	5.6	mg/L	5.0	5.0	1		03/12/21 15:01		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		03/12/21 15:01		
Alkalinity, Total as CaCO ₃	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		
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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	0.10	0.050	1		03/08/21 08:38	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/08/21 08:38	14808-79-8	

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ANALYTICAL RESULTS

Project: McManus CCR Sampling

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
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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		

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		
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300.0 IC Anions 28 Days

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

Chloride	ND	mg/L	1.0	0.60	1		03/08/21 09:36	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
 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			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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

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			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
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

Pace Project No.: 92526099

QC Batch:	605091	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014042 Result	Spike Conc.	Spike Conc.	Result						
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

Pace Project No.: 92526099

QC Batch:	605092	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	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	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526099004 Result	Spike Conc.	Spike Conc.	Result							Result
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
 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		3193660		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Alkalinity, Total as CaCO3	mg/L	496	50	50	506	510	20	28	80-120	1	25 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3193661 3193662

Parameter	Units	92526099006		3193662		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	ND	50	50	25.2	25.5	50	51	80-120	1	25 M1

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QUALITY CONTROL DATA

Project: McManus CCR Sampling

Pace Project No.: 92526099

QC Batch:	606222	Analysis Method:	SM 2320B-2011
QC Batch 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		3193671		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.						
Alkalinity, Total as CaCO3	mg/L	ND	50	ND	50	0	0	80-120		25	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3194100 3194101

Parameter	Units	92526099009		3194101		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.						
Alkalinity, Total as CaCO3	mg/L	ND	50	51.4	51.6	103	103	80-120	0	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McManus CCR Sampling

Pace Project No.: 92526099

QC Batch: 605313

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: 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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McManus CCR Sampling

Pace Project No.: 92526099

QC Batch: 604773 Analysis Method: EPA 300.0 Rev 2.1 1993

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

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 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		3186358		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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		3186360		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
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
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.

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

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	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		
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		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McManus CCR Sampling
Pace Project No.: 92526099

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526099009	FB-2	EPA 300.0 Rev 2.1 1993	604773		
92526099010	EB-1	EPA 300.0 Rev 2.1 1993	604773		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt (SCUR)
Document No.:
P-CAR-CI-093-Rev.07

Document Revised: October 28, 2010
Page 1 of 2
Issuing Authority:
Pace Carolina Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

Georgia Power

Project

W0#: **92526099**

Counter:

Commercial

Fed Ex

UPS

USPS

Other

Pace

Other



92526099

Custody Seal Present?

Yes

No

Seals Intact?

Yes

No

see/initial Person Examining Contents 3-C-11-BK

Packing Material:

Bubble wrap

Bubble Bag

None

Other

Biological Tissue Frozen?

Yes

No

N/A

Thermometer:

N/A

Type of Ice:

Dry Ice

Other

None

Cooler Temp:

2.7

Correction Factor:

0

Temp should be above freezing to 4°C

Compliance of temp criteria. Samples on ice, cooling process too long.

Cooler Temp Corrected (°C):

2.7

USDA Regulated Soil (No/NA, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

Yes

No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?

Yes

No

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of qts containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCUR Review:

Date:

Project Manager SRF Review:

Date:



Document Name:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAN-CL-003-Rev.07

Document Revised: October 26, 2020
 Page 2 of 2
 Issuing Authority:
 Pace Carolina Quality Office

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

Exception: VOA, Coliform, TOC, Oil and Grease, DRB/DBP (water) DOC, U/ig

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

Project **W0# : 92526099**

PR: KLH1

Due Date: 03/15/21

CLIENT: GR-GR Power

Item	Material	1	2	3	4	5	6	7	8	9	10	11	12
BP40-125 ml, Plastic, Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-250 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-500 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-1 liter Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-125 ml, Plastic HDPE (per 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-250 ml, plastic HDPE (per 12)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Plastic 24 Acetone & Acetone (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Plastic HDPE (per 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
WSP-1000 1000-ml, 1000-ml, Glass jar, Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
AD100-1 liter Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD200-1 liter Amber HD (per 12)		/	/	/	/	/	/	/	/	/	/	/	/
AD100-125 ml, Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD100-1 liter Amber HDPE (per 12)		/	/	/	/	/	/	/	/	/	/	/	/
AD100-250 ml, Amber HDPE (per 12)		/	/	/	/	/	/	/	/	/	/	/	/
AD100-500 ml, Amber HDPE (per 12)		/	/	/	/	/	/	/	/	/	/	/	/
AD100-1000ml-1000 ml, Amber HDPE (per 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
DBH-40 ml, VOA HD (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOR-40 ml, VOA HD5000 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOR-40 ml, VOA Low (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOOR-40 ml, VOA HDPE (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOR-10 vials per 100-5000 ml (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOR-10 vials per 100-5000 ml (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
SP10-125 ml, Sterile Plastic (N/A - 100)		/	/	/	/	/	/	/	/	/	/	/	/
SP10-250 ml, Sterile Plastic (N/A - 100)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-125 ml, Plastic (per 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD100-100 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOR-40 ml, Sterilization vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DBH-40 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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



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

Section 1: Requester Information		Section 2: Sample Information		Section 3: Requester Information	
Requester Name	George Brown	Requester Title	Senior Analyst	Requester Name	George Brown
Requester Address	1234 Main Street, San Diego, CA 92101	Requester Phone	(619) 555-1234	Requester Title	Senior Analyst
Requester Email	gbrown@parker.com	Requester Fax		Requester Address	1234 Main Street, San Diego, CA 92101
Requester Contact	619-555-1234	Requester Email	gbrown@parker.com	Requester Phone	(619) 555-1234
Requester Fax		Requester Title	Senior Analyst	Requester Address	1234 Main Street, San Diego, CA 92101

SAMPLE ID	Requester Name	Requester Title	Requester Address	Requester Phone	Requester Email	Requester Fax	Requester Contact	Collection		Analysis Test		Requester Signature
								START	END	Analysis Test	Requester Signature	
1	MCN-01											
2	MCN-02											
3	MCN-11											
4	MCN-16											
5	MCN-17											
6	MCN-18											
7	MCN-19											
8	MCN-20											
9	FB-2											
10	FB-1											

APPROVAL COMMENTS		APPROVAL COMMENTS		APPROVAL COMMENTS	
Requester Signature		Requester Signature		Requester Signature	
Requester Date		Requester Date		Requester Date	
Requester Title		Requester Title		Requester Title	



May 06, 2021

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

RE: Project: MCMANUS
Pace Project No.: 92532068

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 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,

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS
Pace Project No.: 92532068

Pace Analytical Services Pennsylvania

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS

Pace Project No.: 92532068

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92532068001	MCM-01	Water	04/06/21 16:44	04/08/21 11:45
92532068002	MCM-02	Water	04/06/21 15:24	04/08/21 11:45
92532068003	MCM-04	Water	04/06/21 17:25	04/08/21 11:45
92532068004	MCM-05	Water	04/06/21 12:22	04/08/21 11:45
92532068005	MCM-06	Water	04/06/21 11:02	04/08/21 11:45
92532068006	MCM-07	Water	04/06/21 09:44	04/08/21 11:45
92532068007	MCM-11	Water	04/06/21 13:58	04/08/21 11:45
92532068008	MCM-12	Water	04/06/21 14:20	04/08/21 11:45
92532068009	MCM-14	Water	04/06/21 16:15	04/08/21 11:45
92532068010	MCM-15	Water	04/06/21 14:43	04/08/21 11:45
92532068011	MCM-16	Water	04/06/21 17:47	04/08/21 11:45
92532068012	MCM-17	Water	04/06/21 15:20	04/08/21 11:45
92532068013	MCM-18	Water	04/06/21 09:40	04/08/21 11:45
92532068014	MCM-19	Water	04/06/21 10:42	04/08/21 11:45
92532068015	MCM-20	Water	04/06/21 11:36	04/08/21 11:45
92532068016	DPZ-2	Water	04/06/21 11:00	04/08/21 11:45
92532068017	DUP-1	Water	04/06/21 00:00	04/08/21 11:45
92532068018	DUP-2	Water	04/06/21 00:00	04/08/21 11:45
92532068019	FB-1	Water	04/06/21 17:54	04/08/21 11:45
92532068020	EB-1	Water	04/06/21 18:02	04/08/21 11:45
92532068021	FB-2	Water	04/06/21 17:58	04/08/21 11:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS

Pace Project No.: 92532068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92532068001	MCM-01	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92532068002	MCM-02	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92532068003	MCM-04	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068004	MCM-05	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92532068005	MCM-06	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068006	MCM-07	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068007	MCM-11	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92532068008	MCM-12	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068009	MCM-14	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068010	MCM-15	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068011	MCM-16	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068012	MCM-17	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068013	MCM-18	EPA 9315	LAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: MCMANUS
 Pace Project No.: 92532068

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92532068014	MCM-19	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92532068015	MCM-20	Total Radium Calculation	RMK	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
92532068016	DPZ-2	EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	RMK	1	PASI-PA
		EPA 9315	LAL	1	PASI-PA
92532068017	DUP-1	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92532068018	DUP-2	Total Radium Calculation	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	CLA	1	PASI-PA
92532068019	FB-1	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
92532068020	EB-1	Total Radium Calculation	CMC	1	PASI-PA
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92532068021	FB-2	EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS

Pace Project No.: 92532068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532068001	MCM-01					
EPA 9315	Radium-226	0.480 ± 0.311 (0.485) C:86% T:NA	pCi/L		04/16/21 07:31	
EPA 9320	Radium-228	0.533 ± 0.446 (0.897) C:71% T:84%	pCi/L		05/05/21 16:32	
Total Radium Calculation	Total Radium	1.01 ± 0.757 (1.38)	pCi/L		05/06/21 13:03	
92532068002	MCM-02					
EPA 9315	Radium-226	0.197 ± 0.267 (0.574) C:84% T:NA	pCi/L		04/16/21 07:31	
EPA 9320	Radium-228	0.277 ± 0.431 (0.934) C:73% T:78%	pCi/L		05/05/21 16:32	
Total Radium Calculation	Total Radium	0.474 ± 0.698 (1.51)	pCi/L		05/06/21 13:03	
92532068003	MCM-04					
EPA 9315	Radium-226	1.71 ± 0.390 (0.217) C:83% T:NA	pCi/L		05/06/21 07:02	
EPA 9320	Radium-228	1.12 ± 0.561 (0.984) C:75% T:71%	pCi/L		05/05/21 16:32	
Total Radium Calculation	Total Radium	2.83 ± 0.951 (1.20)	pCi/L		05/06/21 16:34	
92532068004	MCM-05					
EPA 9315	Radium-226	0.738 ± 0.353 (0.389) C:84% T:NA	pCi/L		04/16/21 07:31	
EPA 9320	Radium-228	0.687 ± 0.546 (1.10) C:70% T:78%	pCi/L		05/05/21 16:32	
Total Radium Calculation	Total Radium	1.43 ± 0.899 (1.49)	pCi/L		05/06/21 13:03	

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SUMMARY OF DETECTION

Project: MCMANUS

Pace Project No.: 92532068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532068005	MCM-06					
EPA 9315	Radium-226	4.08 ± 0.737 (0.153)	pCi/L		05/06/21 07:03	
EPA 9320	Radium-228	C:92% T:NA 3.81 ± 1.16 (1.48)	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	C:71% T:52% 7.89 ± 1.90 (1.63)	pCi/L		05/06/21 16:34	
92532068006	MCM-07					
EPA 9315	Radium-226	4.64 ± 0.811 (0.134)	pCi/L		05/06/21 07:03	
EPA 9320	Radium-228	C:93% T:NA 5.02 ± 1.16 (0.865)	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	C:71% T:79% 9.66 ± 1.97 (0.999)	pCi/L		05/06/21 16:34	
92532068007	MCM-11					
EPA 9315	Radium-226	0.911 ± 0.549 (1.01)	pCi/L		04/16/21 06:31	
EPA 9320	Radium-228	C:92% T:NA 0.972 ± 0.453 (0.763)	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	C:75% T:86% 1.88 ± 1.00 (1.77)	pCi/L		05/06/21 13:03	
92532068008	MCM-12					
EPA 9315	Radium-226	1.07 ± 0.270 (0.141)	pCi/L		05/06/21 07:03	
EPA 9320	Radium-228	C:91% T:NA 1.13 ± 0.559 (0.985)	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	C:69% T:85% 2.20 ± 0.829 (1.13)	pCi/L		05/06/21 16:34	
92532068009	MCM-14					
EPA 9315	Radium-226	3.00 ± 0.564 (0.145)	pCi/L		05/06/21 07:03	
		C:96% T:NA				

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SUMMARY OF DETECTION

Project: MCMANUS

Pace Project No.: 92532068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532068009	MCM-14					
EPA 9320	Radium-228	4.02 ± 0.989 (0.902) C:70% T:83%	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	7.02 ± 1.55 (1.05)	pCi/L		05/06/21 16:34	
92532068010	MCM-15					
EPA 9315	Radium-226	1.19 ± 0.289 (0.143) C:95% T:NA	pCi/L		05/06/21 07:03	
EPA 9320	Radium-228	0.552 ± 0.437 (0.870) C:70% T:89%	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	1.74 ± 0.726 (1.01)	pCi/L		05/06/21 16:34	
92532068011	MCM-16					
EPA 9315	Radium-226	0.537 ± 0.185 (0.169) C:89% T:NA	pCi/L		05/06/21 07:03	
EPA 9320	Radium-228	1.27 ± 0.634 (1.12) C:68% T:75%	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	1.81 ± 0.819 (1.29)	pCi/L		05/06/21 16:34	
92532068012	MCM-17					
EPA 9315	Radium-226	4.00 ± 0.713 (0.132) C:96% T:NA	pCi/L		05/06/21 07:06	
EPA 9320	Radium-228	3.80 ± 0.973 (0.952) C:70% T:78%	pCi/L		05/05/21 16:33	
Total Radium Calculation	Total Radium	7.80 ± 1.69 (1.08)	pCi/L		05/06/21 16:34	
92532068013	MCM-18					
EPA 9315	Radium-226	4.39 ± 0.795 (0.188) C:76% T:NA	pCi/L		05/06/21 07:07	

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SUMMARY OF DETECTION

Project: MCMANUS

Pace Project No.: 92532068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532068013	MCM-18					
EPA 9320	Radium-228	5.18 ± 1.31 (1.22) C:70% T:83%	pCi/L		05/05/21 19:43	
Total Radium Calculation	Total Radium	9.57 ± 2.11 (1.41)	pCi/L		05/06/21 16:34	
92532068014	MCM-19					
EPA 9315	Radium-226	5.60 ± 0.970 (0.171) C:87% T:NA	pCi/L		05/06/21 07:07	
EPA 9320	Radium-228	14.8 ± 2.98 (1.13) C:73% T:83%	pCi/L		05/05/21 19:44	
Total Radium Calculation	Total Radium	20.4 ± 3.95 (1.30)	pCi/L		05/06/21 16:34	
92532068015	MCM-20					
EPA 9315	Radium-226	5.90 ± 1.01 (0.172) C:87% T:NA	pCi/L		05/06/21 07:07	
EPA 9320	Radium-228	25.6 ± 4.91 (1.31) C:69% T:83%	pCi/L		05/05/21 19:44	
Total Radium Calculation	Total Radium	31.5 ± 5.92 (1.48)	pCi/L		05/06/21 16:34	
92532068016	DPZ-2					
EPA 9315	Radium-226	5.02 ± 0.873 (0.134) C:96% T:NA	pCi/L		05/06/21 07:07	
EPA 9320	Radium-228	2.31 ± 1.01 (1.67) C:68% T:63%	pCi/L		05/05/21 19:44	
Total Radium Calculation	Total Radium	7.33 ± 1.88 (1.80)	pCi/L		05/06/21 16:34	
92532068017	DUP-1					
EPA 9315	Radium-226	3.32 ± 0.692 (0.287) C:88% T:NA	pCi/L		04/27/21 08:24	
EPA 9320	Radium-228	4.14 ± 1.11 (1.13) C:71% T:76%	pCi/L		05/05/21 17:56	
Total Radium Calculation	Total Radium	7.46 ± 1.80 (1.42)	pCi/L		05/06/21 16:53	

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SUMMARY OF DETECTION

Project: MCMANUS

Pace Project No.: 92532068

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92532068018	DUP-2					
EPA 9315	Radium-226	0.368 ± 0.195 (0.248) C:81% T:NA	pCi/L		04/27/21 08:24	
EPA 9320	Radium-228	0.416 ± 0.439 (0.910) C:74% T:86%	pCi/L		05/05/21 17:56	
Total Radium Calculation	Total Radium	0.784 ± 0.634 (1.16)	pCi/L		05/06/21 13:07	
92532068019	FB-1					
EPA 9315	Radium-226	-0.0418 ± 0.0776 (0.265) C:86% T:NA	pCi/L		04/27/21 08:24	
EPA 9320	Radium-228	0.268 ± 0.425 (0.922) C:71% T:78%	pCi/L		05/05/21 17:54	
Total Radium Calculation	Total Radium	0.268 ± 0.503 (1.19)	pCi/L		05/06/21 13:07	
92532068020	EB-1					
EPA 9315	Radium-226	0.0438 ± 0.125 (0.303) C:93% T:NA	pCi/L		04/27/21 08:24	
EPA 9320	Radium-228	-0.143 ± 0.417 (1.02) C:71% T:79%	pCi/L		05/05/21 17:55	
Total Radium Calculation	Total Radium	0.0438 ± 0.542 (1.32)	pCi/L		05/06/21 15:03	
92532068021	FB-2					
EPA 9315	Radium-226	-0.0166 ± 0.0759 (0.239) C:91% T:NA	pCi/L		04/27/21 08:24	
EPA 9320	Radium-228	-0.127 ± 0.405 (0.965) C:71% T:79%	pCi/L		05/05/21 14:32	
Total Radium Calculation	Total Radium	0.000 ± 0.481 (1.20)	pCi/L		05/06/21 13:07	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-01 Lab ID: 92532068001 Collected: 04/06/21 16:44 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.480 ± 0.311 (0.485) C:86% T:NA	pCi/L	04/16/21 07:31	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.533 ± 0.446 (0.897) C:71% T:84%	pCi/L	05/05/21 16:32	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.01 ± 0.757 (1.38)	pCi/L	05/06/21 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.197 ± 0.267 (0.574) C:84% T:NA	pCi/L	04/16/21 07:31	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.277 ± 0.431 (0.934) C:73% T:78%	pCi/L	05/05/21 16:32	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.474 ± 0.698 (1.51)	pCi/L	05/06/21 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-04 Lab ID: 92532068003 Collected: 04/06/21 17:25 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.71 ± 0.390 (0.217) C:83% T:NA	pCi/L	05/06/21 07:02	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.12 ± 0.561 (0.984) C:75% T:71%	pCi/L	05/05/21 16:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.83 ± 0.951 (1.20)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.738 ± 0.353 (0.389) C:84% T:NA	pCi/L	04/16/21 07:31	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.687 ± 0.546 (1.10) C:70% T:78%	pCi/L	05/05/21 16:32	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.43 ± 0.899 (1.49)	pCi/L	05/06/21 13:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Sample: MCM-06 **Lab ID: 92532068005** Collected: 04/06/21 11:02 Received: 04/08/21 11:45 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.08 ± 0.737 (0.153) C:92% T:NA	pCi/L	05/06/21 07:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	3.81 ± 1.16 (1.48) C:71% T:52%	pCi/L	05/05/21 16:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.89 ± 1.90 (1.63)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-07 Lab ID: 92532068006 Collected: 04/06/21 09:44 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.64 ± 0.811 (0.134) C:93% T:NA	pCi/L	05/06/21 07:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	5.02 ± 1.16 (0.865) C:71% T:79%	pCi/L	05/05/21 16:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	9.66 ± 1.97 (0.999)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-11 Lab ID: 92532068007 Collected: 04/06/21 13:58 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.911 ± 0.549 (1.01) C:92% T:NA	pCi/L	04/16/21 06:31	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.972 ± 0.453 (0.763) C:75% T:86%	pCi/L	05/05/21 16:33	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.88 ± 1.00 (1.77)	pCi/L	05/06/21 13:03	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-12 Lab ID: 92532068008 Collected: 04/06/21 14:20 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.07 ± 0.270 (0.141) C:91% T:NA	pCi/L	05/06/21 07:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	1.13 ± 0.559 (0.985) C:69% T:85%	pCi/L	05/05/21 16:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	2.20 ± 0.829 (1.13)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-14 Lab ID: 92532068009 Collected: 04/06/21 16:15 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.00 ± 0.564 (0.145) C:96% T:NA	pCi/L	05/06/21 07:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	4.02 ± 0.989 (0.902) C:70% T:83%	pCi/L	05/05/21 16:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.02 ± 1.55 (1.05)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Sample: MCM-15 **Lab ID: 92532068010** Collected: 04/06/21 14:43 Received: 04/08/21 11:45 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	1.19 ± 0.289 (0.143) C:95% T:NA	pCi/L	05/06/21 07:03	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.552 ± 0.437 (0.870) C:70% T:89%	pCi/L	05/05/21 16:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	1.74 ± 0.726 (1.01)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.537 ± 0.185 (0.169) C:89% T:NA	pCi/L	05/06/21 07:03	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	1.27 ± 0.634 (1.12) C:68% T:75%	pCi/L	05/05/21 16:33	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	1.81 ± 0.819 (1.29)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Sample: MCM-17 **Lab ID: 92532068012** Collected: 04/06/21 15:20 Received: 04/08/21 11:45 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.00 ± 0.713 (0.132) C:96% T:NA	pCi/L	05/06/21 07:06	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	3.80 ± 0.973 (0.952) C:70% T:78%	pCi/L	05/05/21 16:33	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.80 ± 1.69 (1.08)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-18 Lab ID: 92532068013 Collected: 04/06/21 09:40 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	4.39 ± 0.795 (0.188) C:76% T:NA	pCi/L	05/06/21 07:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	5.18 ± 1.31 (1.22) C:70% T:83%	pCi/L	05/05/21 19:43	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	9.57 ± 2.11 (1.41)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-19 Lab ID: 92532068014 Collected: 04/06/21 10:42 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.60 ± 0.970 (0.171) C:87% T:NA	pCi/L	05/06/21 07:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	14.8 ± 2.98 (1.13) C:73% T:83%	pCi/L	05/05/21 19:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	20.4 ± 3.95 (1.30)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: MCM-20 Lab ID: 92532068015 Collected: 04/06/21 11:36 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.90 ± 1.01 (0.172) C:87% T:NA	pCi/L	05/06/21 07:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	25.6 ± 4.91 (1.31) C:69% T:83%	pCi/L	05/05/21 19:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	31.5 ± 5.92 (1.48)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: DPZ-2 Lab ID: 92532068016 Collected: 04/06/21 11:00 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	5.02 ± 0.873 (0.134) C:96% T:NA	pCi/L	05/06/21 07:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	2.31 ± 1.01 (1.67) C:68% T:63%	pCi/L	05/05/21 19:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.33 ± 1.88 (1.80)	pCi/L	05/06/21 16:34	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Sample: DUP-1 **Lab ID: 92532068017** Collected: 04/06/21 00:00 Received: 04/08/21 11:45 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	3.32 ± 0.692 (0.287) C:88% T:NA	pCi/L	04/27/21 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	4.14 ± 1.11 (1.13) C:71% T:76%	pCi/L	05/05/21 17:56	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	7.46 ± 1.80 (1.42)	pCi/L	05/06/21 16:53	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.368 ± 0.195 (0.248) C:81% T:NA	pCi/L	04/27/21 08:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	0.416 ± 0.439 (0.910) C:74% T:86%	pCi/L	05/05/21 17:56	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.784 ± 0.634 (1.16)	pCi/L	05/06/21 13:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: FB-1 Lab ID: 92532068019 Collected: 04/06/21 17:54 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	-0.0418 ± 0.0776 (0.265) C:86% T:NA	pCi/L	04/27/21 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	0.268 ± 0.425 (0.922) C:71% T:78%	pCi/L	05/05/21 17:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.268 ± 0.503 (1.19)	pCi/L	05/06/21 13:07	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Sample: EB-1 Lab ID: 92532068020 Collected: 04/06/21 18:02 Received: 04/08/21 11:45 Matrix: Water PWS: Site ID: Sample Type:						
Pace Analytical Services - Greensburg						
Radium-226	EPA 9315	0.0438 ± 0.125 (0.303) C:93% T:NA	pCi/L	04/27/21 08:24	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	-0.143 ± 0.417 (1.02) C:71% T:79%	pCi/L	05/05/21 17:55	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	0.0438 ± 0.542 (1.32)	pCi/L	05/06/21 15:03	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

Sample: FB-2 **Lab ID: 92532068021** Collected: 04/06/21 17:58 Received: 04/08/21 11:45 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	-0.0166 ± 0.0759 (0.239) C:91% T:NA	pCi/L	04/27/21 08:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	-0.127 ± 0.405 (0.965) C:71% T:79%	pCi/L	05/05/21 14:32	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	0.000 ± 0.481 (1.20)	pCi/L	05/06/21 13:07	7440-14-4	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

QC Batch: 443753

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92532068021

METHOD BLANK: 2141931

Matrix: Water

Associated Lab Samples: 92532068021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	-0.0917 ± 0.357 (0.858) C:71% T:77%	pCi/L	05/05/21 14:36	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

QC Batch:	443752	Analysis Method:	EPA 9320
QC Batch Method:	EPA 9320	Analysis Description:	9320 Radium 228
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92532068001, 92532068002, 92532068003, 92532068004, 92532068005, 92532068006, 92532068007, 92532068008, 92532068009, 92532068010, 92532068011, 92532068012, 92532068013, 92532068014, 92532068015, 92532068016, 92532068017, 92532068018, 92532068019, 92532068020

METHOD BLANK:	2141930	Matrix:	Water
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Associated Lab Samples: 92532068001, 92532068002, 92532068003, 92532068004, 92532068005, 92532068006, 92532068007, 92532068008, 92532068009, 92532068010, 92532068011, 92532068012, 92532068013, 92532068014, 92532068015, 92532068016, 92532068017, 92532068018, 92532068019, 92532068020

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.383 ± 0.381 (0.782) C:73% T:78%	pCi/L	05/05/21 16:33	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

QC Batch:	443236	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92532068001, 92532068002, 92532068003, 92532068004, 92532068005, 92532068006, 92532068007, 92532068008, 92532068009, 92532068010, 92532068011, 92532068012, 92532068013, 92532068014, 92532068015, 92532068016

METHOD BLANK: 2139349 Matrix: Water

Associated Lab Samples: 92532068001, 92532068002, 92532068003, 92532068004, 92532068005, 92532068006, 92532068007, 92532068008, 92532068009, 92532068010, 92532068011, 92532068012, 92532068013, 92532068014, 92532068015, 92532068016

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0175 ± 0.115 (0.371) C:93% T:NA	pCi/L	04/16/21 07:31	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: MCMANUS

Pace Project No.: 92532068

QC Batch: 443919

Analysis Method: EPA 9315

QC Batch Method: EPA 9315

Analysis Description: 9315 Total Radium

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92532068017, 92532068018, 92532068019, 92532068020, 92532068021

METHOD BLANK: 2143003

Matrix: Water

Associated Lab Samples: 92532068017, 92532068018, 92532068019, 92532068020, 92532068021

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.00157 ± 0.0800 (0.230) C:92% T:NA	pCi/L	04/27/21 08:24	

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QUALIFIERS

Project: MCMANUS

Pace Project No.: 92532068

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS
 Pace Project No.: 92532068

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92532068001	MCM-01	EPA 9315	443236		
92532068002	MCM-02	EPA 9315	443236		
92532068003	MCM-04	EPA 9315	443236		
92532068004	MCM-05	EPA 9315	443236		
92532068005	MCM-06	EPA 9315	443236		
92532068006	MCM-07	EPA 9315	443236		
92532068007	MCM-11	EPA 9315	443236		
92532068008	MCM-12	EPA 9315	443236		
92532068009	MCM-14	EPA 9315	443236		
92532068010	MCM-15	EPA 9315	443236		
92532068011	MCM-16	EPA 9315	443236		
92532068012	MCM-17	EPA 9315	443236		
92532068013	MCM-18	EPA 9315	443236		
92532068014	MCM-19	EPA 9315	443236		
92532068015	MCM-20	EPA 9315	443236		
92532068016	DPZ-2	EPA 9315	443236		
92532068017	DUP-1	EPA 9315	443919		
92532068018	DUP-2	EPA 9315	443919		
92532068019	FB-1	EPA 9315	443919		
92532068020	EB-1	EPA 9315	443919		
92532068021	FB-2	EPA 9315	443919		
92532068001	MCM-01	EPA 9320	443752		
92532068002	MCM-02	EPA 9320	443752		
92532068003	MCM-04	EPA 9320	443752		
92532068004	MCM-05	EPA 9320	443752		
92532068005	MCM-06	EPA 9320	443752		
92532068006	MCM-07	EPA 9320	443752		
92532068007	MCM-11	EPA 9320	443752		
92532068008	MCM-12	EPA 9320	443752		
92532068009	MCM-14	EPA 9320	443752		
92532068010	MCM-15	EPA 9320	443752		
92532068011	MCM-16	EPA 9320	443752		
92532068012	MCM-17	EPA 9320	443752		
92532068013	MCM-18	EPA 9320	443752		
92532068014	MCM-19	EPA 9320	443752		
92532068015	MCM-20	EPA 9320	443752		
92532068016	DPZ-2	EPA 9320	443752		
92532068017	DUP-1	EPA 9320	443752		
92532068018	DUP-2	EPA 9320	443752		
92532068019	FB-1	EPA 9320	443752		
92532068020	EB-1	EPA 9320	443752		
92532068021	FB-2	EPA 9320	443753		
92532068001	MCM-01	Total Radium Calculation	446771		
92532068002	MCM-02	Total Radium Calculation	446771		
92532068003	MCM-04	Total Radium Calculation	446858		
92532068004	MCM-05	Total Radium Calculation	446771		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS
Pace Project No.: 92532068

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92532068005	MCM-06	Total Radium Calculation	446858		
92532068006	MCM-07	Total Radium Calculation	446858		
92532068007	MCM-11	Total Radium Calculation	446771		
92532068008	MCM-12	Total Radium Calculation	446858		
92532068009	MCM-14	Total Radium Calculation	446858		
92532068010	MCM-15	Total Radium Calculation	446858		
92532068011	MCM-16	Total Radium Calculation	446858		
92532068012	MCM-17	Total Radium Calculation	446858		
92532068013	MCM-18	Total Radium Calculation	446858		
92532068014	MCM-19	Total Radium Calculation	446858		
92532068015	MCM-20	Total Radium Calculation	446858		
92532068016	DPZ-2	Total Radium Calculation	446858		
92532068017	DUP-1	Total Radium Calculation	446862		
92532068018	DUP-2	Total Radium Calculation	446775		
92532068019	FB-1	Total Radium Calculation	446775		
92532068020	EB-1	Total Radium Calculation	446775		
92532068021	FB-2	Total Radium Calculation	446775		

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

GA Power

Project #:

WO#: 92532068



Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Date/Initial Person Examining Contents: *4-8-21 AR*

Custody Seal Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer: All-Gel NA Type of Ice: None Other None

Cooler Temp: *NA* Correction Factor: Add/Subtract (°C) *NA*

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

Cooler Temp Corrected (°C): *NA*

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, HI, or SC (check map)?

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

Yes No

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SP2 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, Cellulose, TOC, Oil and Grease, DRD/8015 (water) DOC, URG

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

Project #

WO# : 92532068

PR: KLH1

Due Date: 04/29/21

CLIENT: GR-GR Power

Method	Sample ID	1	2	3	4	5	6	7	8	9	10	11	12
BP40-125 ml, Fluorid, Unpreserved (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
BP50-250 ml, Fluorid, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP70-500 ml, Fluorid, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP100-1 liter Fluorid Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Fluorid, 60504 (pH < 2) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
BP70-250 ml, Fluorid, 60501 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Fluorid, 20 Acetate & 60504 (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Fluorid, 60501 (pH > 12) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
WSPU -wide-mouthed Glass jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
60510-1 liter Amber Unpreserved (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
60510-1 liter Amber 60 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
60510-250 ml, Amber Unpreserved (N/A) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
60510-1 liter Amber 60504 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
60510-250 ml, Amber 60504 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
60510-250 ml, Amber 60504 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
60510-250 ml, Amber 60501 (pH > 12) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
60510-250 ml, Amber 60501 (pH > 12) (C-1)		/	/	/	/	/	/	/	/	/	/	/	/
60510-40 ml, VOA 601 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
60510-40 ml, VOA 601001 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
60510-40 ml, VOA 601 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
60510-40 ml, VOA 60504 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOA 60 vials per 100-6000 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOA 60 vials per 100-6000 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
SP01-125 ml, Sterile Fluorid (N/A - 100)		/	/	/	/	/	/	/	/	/	/	/	/
SP01-250 ml, Sterile Fluorid (N/A - 100)		/	/	/	/	/	/	/	/	/	/	/	/
BP 210													
BP10-250 ml, Fluorid, 6051004 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
60500-100 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VOA 60 vials per 100-6000 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
60510-40 ml, Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples						
Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preserved (or 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 OCA/CR Certification Office (i.e. Out of field, 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, OR and Grease, DBO/BO5 (water) DOC, UMG

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

Project

WO# : 92532068

PM: KLH1

Due Date: 04/29/21

CLIENT: GR-GR Power

Bottle	Sample	1	2	3	4	5	6	7	8	9	10	11	12
BP10-125 ml, Plastic Unpreserved (N/A) (C)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP10-150 ml, Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP20-200 ml, Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP20-1 liter Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP42-125 ml, Plastic 423504 (pH x 2) (C)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP20-150 ml, plastic 42350 (pH x 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP42-125 ml, Plastic 20 Acetate & NaOH (C)	/	/	/	/	/	/	/	/	/	/	/	/	/
BP42-125 ml, Plastic NaOH (pH x 2) (C)	/	/	/	/	/	/	/	/	/	/	/	/	/
Wide-mouthed Glass Jar Unpreserved	/	/	/	/	/	/	/	/	/	/	/	/	/
AD100-1 liter Amber Unpreserved (N/A) (C)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD100-1 liter Amber ND (pH x 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD100-150 ml, Amber Unpreserved (N/A) (C)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD100-1 liter Amber 423504 (pH x 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD100-150 ml, Amber 42350 (pH x 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD100 423504-150 ml Amber 42350 (N/A)(C)	/	/	/	/	/	/	/	/	/	/	/	/	/
DO200-40 ml, VOA ND (N/A)													
VOSP-40 ml, VOA As2000 (N/A)													
VOSP-40 ml, VOA 5mg (N/A)													
VOSP-40 ml, VOA, NaOH (N/A)													
VOWE (6 vials per 423504) (N/A)													
VWAS (2 vials per 423504) (N/A)													
SP42-125 ml, Sample Plastic (N/A - 60)													
SP20-150 ml, Sample Plastic (N/A - 30)													
BP10-150 ml, Plastic (pH-20) (pH x 2)													
AD100-100 ml, Amber unpreserved vial (N/A)													
VOWE-10 ml, NaOH solution vial (N/A)													
DO200-40 ml, amber unpreserved vial (N/A)													

BP 20
 P P P P P P P P P P

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 DEQ/Certification Office (i.e. Out of field, 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 1 Project Information Project Name: <u>George Meyer</u> Project Location: <u>1000 Washington Street</u> City: <u>San Francisco, CA 94108</u>		Section 2 Analytical Information Analytical Request: <u>Lead, Cadmium, Nickel, Copper, Zinc, Manganese, Selenium</u> Analytical Method: <u>ICP-MS</u>	
Project Manager: <u>[Signature]</u> Date: <u>4/8/15</u>		Project Analyst: <u>[Signature]</u> Date: <u>4/8/15</u>	

SAMPLE ID	ANALYTE CODE	ANALYTE NAME	COLLECTOR		DATE	TIME	ANALYST	DATE	TIME	ANALYSIS TEST	REMARKS	RECEIVED DATE (Y/M)
			FROM	TO								
MSM-001	LEAD	Lead	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-002	CADMIUM	Cadmium	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-004	NICKEL	Nickel	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-005	COPPER	Copper	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-006	MANGANESE	Manganese	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-007	SELENIUM	Selenium	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-008	ZINC	Zinc	MSM	MSM	4/8/15	12:00	MSM	4/8/15	12:00	ICP-MS		
MSM-009	OTHER											
MSM-010	OTHER											
MSM-011	OTHER											
MSM-012	OTHER											
MSM-013	OTHER											
MSM-014	OTHER											
MSM-015	OTHER											
MSM-016	OTHER											
MSM-017	OTHER											

Section 3 Chain of Custody and Signatures Project Name: <u>George Meyer</u> Project Location: <u>1000 Washington Street</u> City: <u>San Francisco, CA 94108</u>		Project Manager: <u>[Signature]</u> Date: <u>4/8/15</u>		Project Analyst: <u>[Signature]</u> Date: <u>4/8/15</u>	
Received on: <u>4/8/15</u> By: <u>[Signature]</u> Title: <u>Project Manager</u>	Received on: <u>4/8/15</u> By: <u>[Signature]</u> Title: <u>Project Analyst</u>	Received on: <u>4/8/15</u> By: <u>[Signature]</u> Title: <u>QA</u>	Received on: <u>4/8/15</u> By: <u>[Signature]</u> Title: <u>QC</u>	Received on: <u>4/8/15</u> By: <u>[Signature]</u> Title: <u>Lab Director</u>	Received on: <u>4/8/15</u> By: <u>[Signature]</u> Title: <u>QA</u>



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

Page: 1 of 1

Section A Client Information			Section B Requestor Information		
Client Name	Sample Type	Requestor Name	Requestor Title	Requestor Agency	Requestor Address
1000 1st Street	1000 1st Street	John Doe	John Doe	City of Chicago	1000 1st Street
Chicago, IL 60601	Chicago, IL 60601	1234 N. Dearborn St.	1234 N. Dearborn St.	Chicago, IL 60610	Chicago, IL 60610
Requestor Phone	Requestor Email	Requestor Fax	Requestor Email	Requestor Email	Requestor Email
(312) 555-1234	john.doe@cityofchicago.gov	(312) 555-1234	john.doe@cityofchicago.gov	john.doe@cityofchicago.gov	john.doe@cityofchicago.gov

SAMPLE ID	ANALYTICAL REQUEST	DATE	TIME	ANALYST	LAB	ANALYSIS TEST	Y/N	REASON FOR TEST	REMARKS	COURT ORDER (Y/N)
MEGA-08	1000 1st Street	1/15/20	10:00	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-09	1000 1st Street	1/15/20	10:05	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-10	1000 1st Street	1/15/20	10:10	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-11	1000 1st Street	1/15/20	10:15	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-12	1000 1st Street	1/15/20	10:20	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-13	1000 1st Street	1/15/20	10:25	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-14	1000 1st Street	1/15/20	10:30	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-15	1000 1st Street	1/15/20	10:35	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-16	1000 1st Street	1/15/20	10:40	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-17	1000 1st Street	1/15/20	10:45	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-18	1000 1st Street	1/15/20	10:50	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-19	1000 1st Street	1/15/20	10:55	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y
MEGA-20	1000 1st Street	1/15/20	11:00	J. Smith	Lab A	MEGA	Y	MEGA	MEGA	Y

Section C Client Signature and Date					
Client Name	Signature	Date	Signature	Date	Signature
1000 1st Street	[Signature]	1/15/20	[Signature]	1/15/20	[Signature]
Chicago, IL 60601	[Signature]	1/15/20	[Signature]	1/15/20	[Signature]

**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 15 groundwater samples collected as part of the August 2020 Ash Pond Scan sampling 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) and Huntersville, North Carolina (Pace Charlotte) for total metals by SW-846 Method 60100 and 6020B; for mercury by SW-846 Method 7470A; for total dissolved solids (TDS) by Standard Method (SM) 2540C; and for anions (specifically, chloride, fluoride, and sulfate) by US EPA Method 300.0. 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 on 8/26/2020 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, and MCM-20.

The following Pace inorganic SDG was evaluated as part of this QA review: 92493014.

The following Pace radiological SDG was evaluated as part of this QA review: 92493016.

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 analyses are based upon a review of the following QC measures:

- Sample condition upon laboratory receipt
- Chain-of-Custody (COC) Records
- Blank analysis results
- Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries
- Laboratory duplicate precision
- Sample holding times
- Case Narratives
- Chemical yield
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and 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 92493014, the laboratory did not provide the subcontracted COC Record or the Sample Login Receipt Checklist from Pace Asheville to Pace Charlotte. 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 SDG 92493016, the laboratory did not provide the subcontracted COC Record or the Sample Login Receipt Checklist from Pace Asheville to 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.
4. In the anion fraction of SDG 92493014, the laboratory performed matrix QC (MS/MSD) analyses on an equipment 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 an equipment blank sample. The data reviewer evaluated the MS/MSD analyses performed on the field blank and equipment blank as an LCS/LCSD analysis.
5. In the metals fraction of SDG 92493014, the reported recovery concentration of boron in the MS/MSD was reported as ND. Due to the LIMS limitation the percent recovery is calculated using the on-instrument concentration. The boron recovery listed as ND, indicates the percent recovery is 0%; however, the parent sample was diluted twenty-

- fold, raising the sample's MDL. As a result, boron was spiked in the MS/MSD below the sample-specific MDL. Qualification due to this issue was not warranted.
6. 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 electronic data deliverable (EDD) and the database only include the laboratory results for the combined radium-226+228; therefore, qualification of the individual isotopes is not addressed in this QA review.
 7. 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.
 8. 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.
 9. 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.
 10. 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).
 11. 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.
 12. 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 $\leq 20\%$ when both results were $\geq 5\times$ the reporting limit [RL], the difference between results was \leq the RL when at least one result was $< 5\times$ the RL, or replicate error ratio [RER] < 3).

<u>Laboratory SDG(s)</u>	<u>Sample</u>	<u>Field Duplicate</u>
92493014 92493016	MCM-04	DUP-1
92493014 92493016	MCM-20	DUP-2

Overall Assessment of Data

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

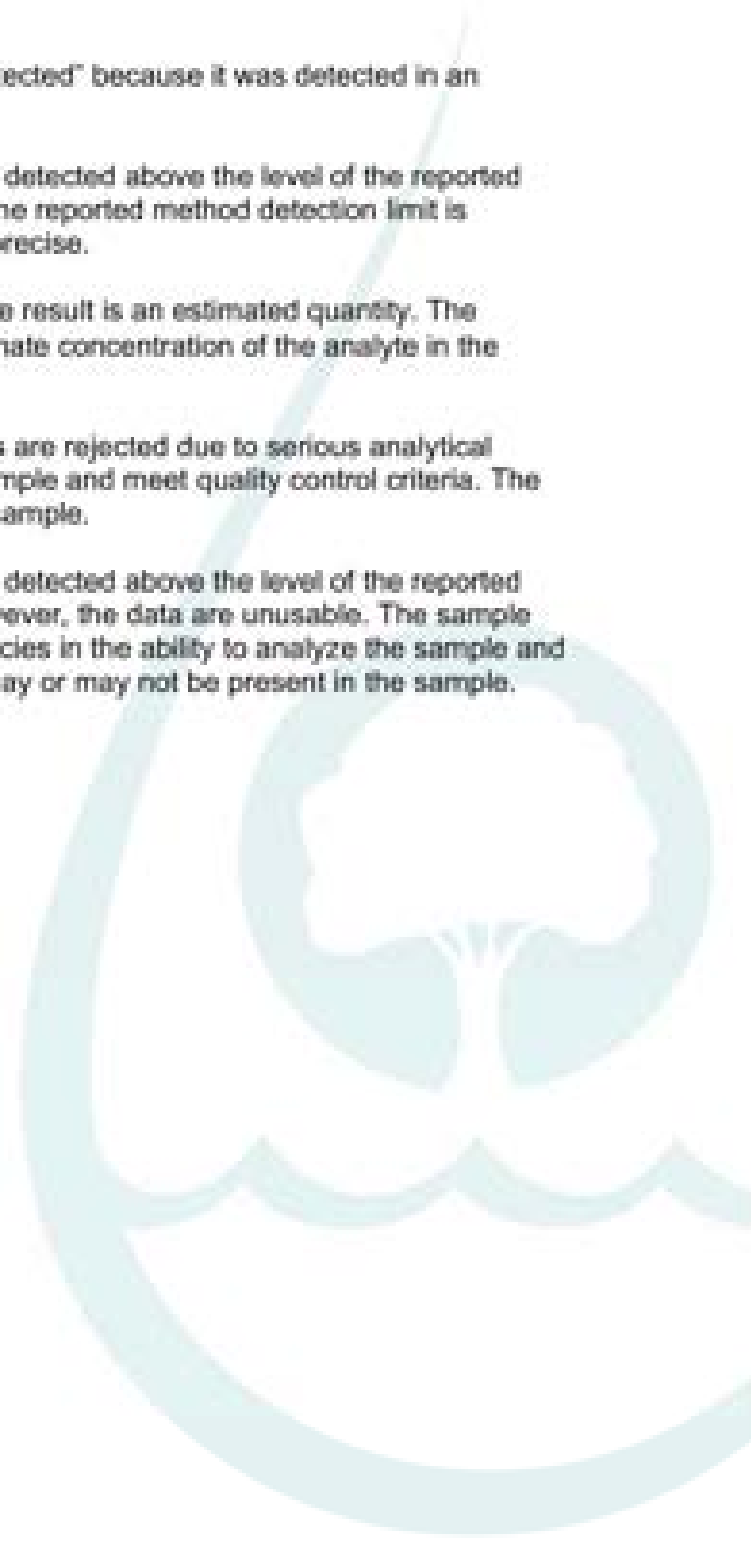
<u>Laboratory SDG(s)</u>	<u>Sample(s)</u>	<u>Analyte(s)</u>	<u>Qualifier</u>	<u>Reason(s) for Qualification</u>
92493014	MCM-11, MCM-12, MCM-18, and MCM-20	fluoride	J	M+ - High MS/MSD recoveries MP- MS/MSD imprecision
92493016	MCM-04 and MCM-12	combined radium-226+228	J	BF – Field Blank Contamination BE – Equipment Blank contamination
92493016	MCM-06, MCM-17, MCM-18, MCM-19, and MCM-20	combined radium-226+228	J	L+ - High LCSD 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 Bossbaly M.S., Quality Assurance Chemist
 Report reviewed by: Alyssa M. Reed, Senior Quality Assurance Chemist/Project Manager
 Report approved by: David L. Thai, CEAC, CQA, Principal Chemist
 Date: 11/4/2020

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.
- UU - 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. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
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

**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 October 2020 Semi-Annual Sampling 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; and for anions (specifically, chloride, fluoride, and sulfate) by US EPA Method 300.0.

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 on 10/12/2020 through 10/15/2020 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 was evaluated as part of this QA review: 92500314.

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



Inorganic 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 analyses are based upon a review of the following QC measures:

- Sample condition upon laboratory receipt
- Chain-of-Custody (COC) Records
- Blank analysis results
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and precision
- Field duplicate precision
- Sample holding times
- Case Narratives
- Laboratory control sample (LCS) recoveries
- Laboratory 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 SDG 92500314, the laboratory did not provide a Case Narrative associated with the inorganic 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 92500314, the laboratory did not provide the subcontracted COC Record or the Sample Login Receipt Checklist from Pace Asheville to Pace Charlotte. 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 92500314, the laboratory performed matrix QC (MS/MSD) analyses on an equipment 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 or equipment blank sample. The data reviewer evaluated the MS/MSD analyses performed on the equipment blank as an LCS/LCSD analysis.
4. The following field duplicate pairs (see table) were submitted and analyzed for inorganic 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 $\leq 20\%$ when both results were $\geq 5\times$ the reporting limit [RL], the difference between results was \leq the RL when at least one result was $< 5\times$ the RL).

<u>Laboratory SDG(s)</u>	<u>Sample</u>	<u>Field Duplicate</u>
92500314	MCM-11	DUP-1
92500314	MCM-16	DUP-2

Overall Assessment of Data

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

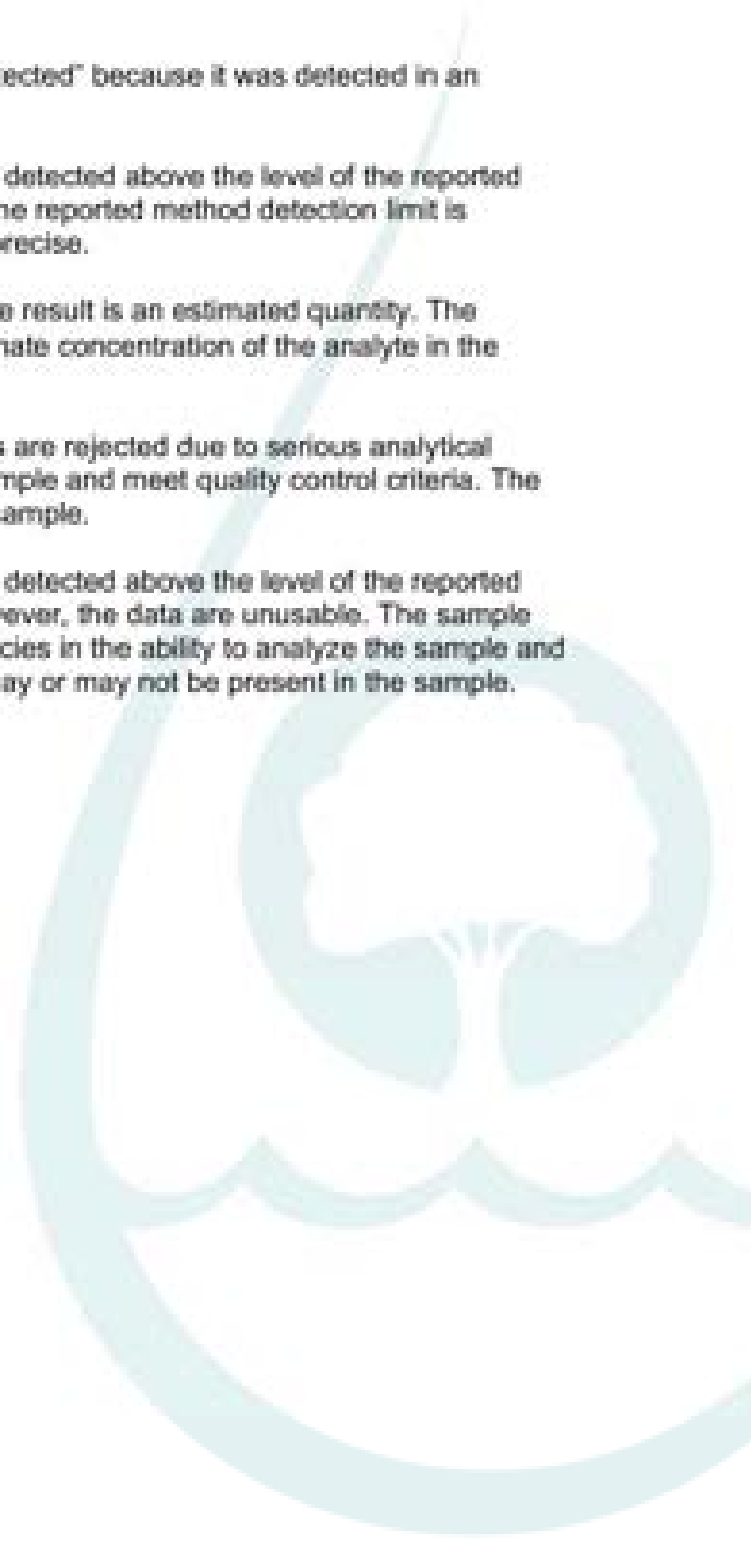
<u>Laboratory SDG(s)</u>	<u>Sample(s)</u>	<u>Analyte(s)</u>	<u>Qualifier</u>	<u>Reason(s) for Qualification</u>
92500314	MCM-17, MCM-19, and MCM-20	barium	J	M+ - High MS recovery
92500314	MCM-17, MCM-19, and MCM-20	selenium	J/UJ	M- - Low MS/MSD recoveries

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

Report prepared by: Abigail Bossbaly M.S., Quality Assurance Chemist
 Report reviewed by: Alyssa M. Reed, Senior Quality Assurance Chemist/Project Manager
 Report approved by: David L. Thal, CEAC, CQA, Principal Chemist
 Date: 11/11/2020

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.
- UU - 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. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
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

**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 October 2020 semi-annual sampling at the Georgia Power McManus Fossil Plant facility. 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 SW-846 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 SW-846 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 10/12/20 through 10/15/20 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 radiological SDG was evaluated as part of this QA review: 92500310.

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

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 analyses are based upon a review of the following QC measures:

- Sample condition upon laboratory receipt
- Chain-of-Custody (COC) Records
- Blank analysis results
- Laboratory control sample (LCS) recoveries
- Laboratory duplicate precision
- Sample holding times
- Case Narratives
- Chemical yield
- 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. The laboratory did not provide a Case Narrative associated with the 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. The laboratory did not provide the subcontracted COC Record or the Sample Login Receipt Checklist from Pace of Peachtree Corners, Georgia to 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. The laboratory did not provide the COC Record for the samples collected on 10/15/20. The missing COC pages had been requested and provided in the associated inorganic data package, SDG 92500314. Qualification due to this issue was not warranted.
4. The COC Record reported the sample collection time for MCM-14 as 9:10; the laboratory incorrectly logged in the collection time for the sample MCM-14 as 00:10 upon receipt at the laboratory. As this discrepancy did not impact the data quality, a revision was not requested. Qualification due to this issue was not warranted.
5. 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 electronic data deliverable (EDD) and the database only include the laboratory results for the combined radium-226+228; therefore, qualification of the individual isotopes is not addressed in this QA review.
6. 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.

7. 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.
8. 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.
9. 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).
10. 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.
11. 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 (replicate error ratio [RER] < 3).

<u>Laboratory SDG(s)</u>	<u>Sample</u>	<u>Field Duplicate</u>
92500310	MCM-11	DUP-1
92500310	MCM-16	DUP-2

Overall Assessment of Data

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

<u>Laboratory SDG(s)</u>	<u>Sample(s)</u>	<u>Analyte(s)</u>	<u>Qualifier(s)</u>	<u>Reason(s) for Qualification</u>
92500310	MCM-04, MCM-06, MCM-07, MCM-14, MCM-15, MCM-16, MCM-17, and MCM-19	combined radium-226+228	J	BE – Equipment blank contamination
92500310	MCM-11	combined radium-226+228	J	FD – Field duplicate imprecision
92500310	All samples	combined radium-226+228	J/UJ	L- – Low LCS/LCSD recoveries

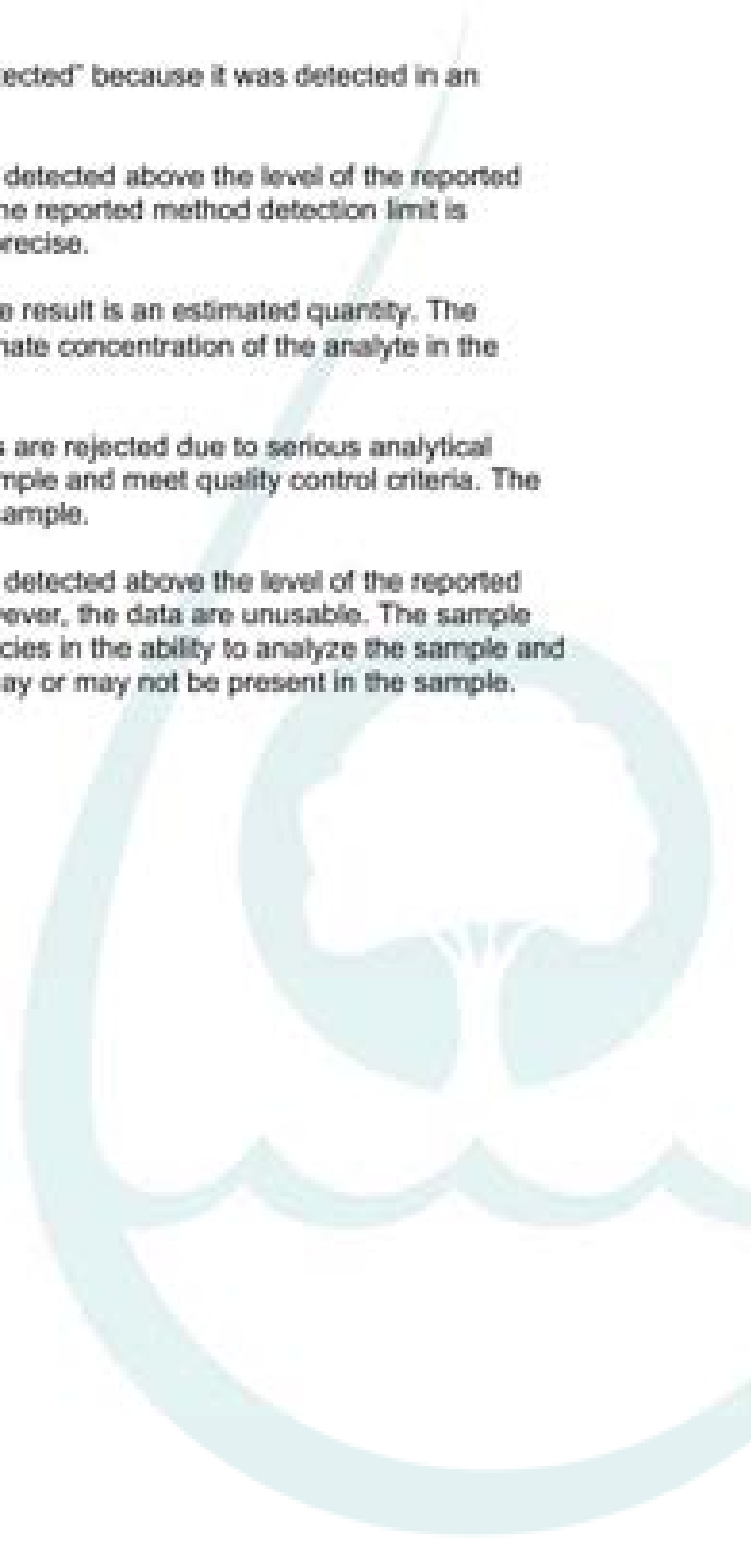
- All radiological results reported below the MDC have been flagged "U."

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: 12/15/2020



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.
- UU - 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. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
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

**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 March and April 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 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.

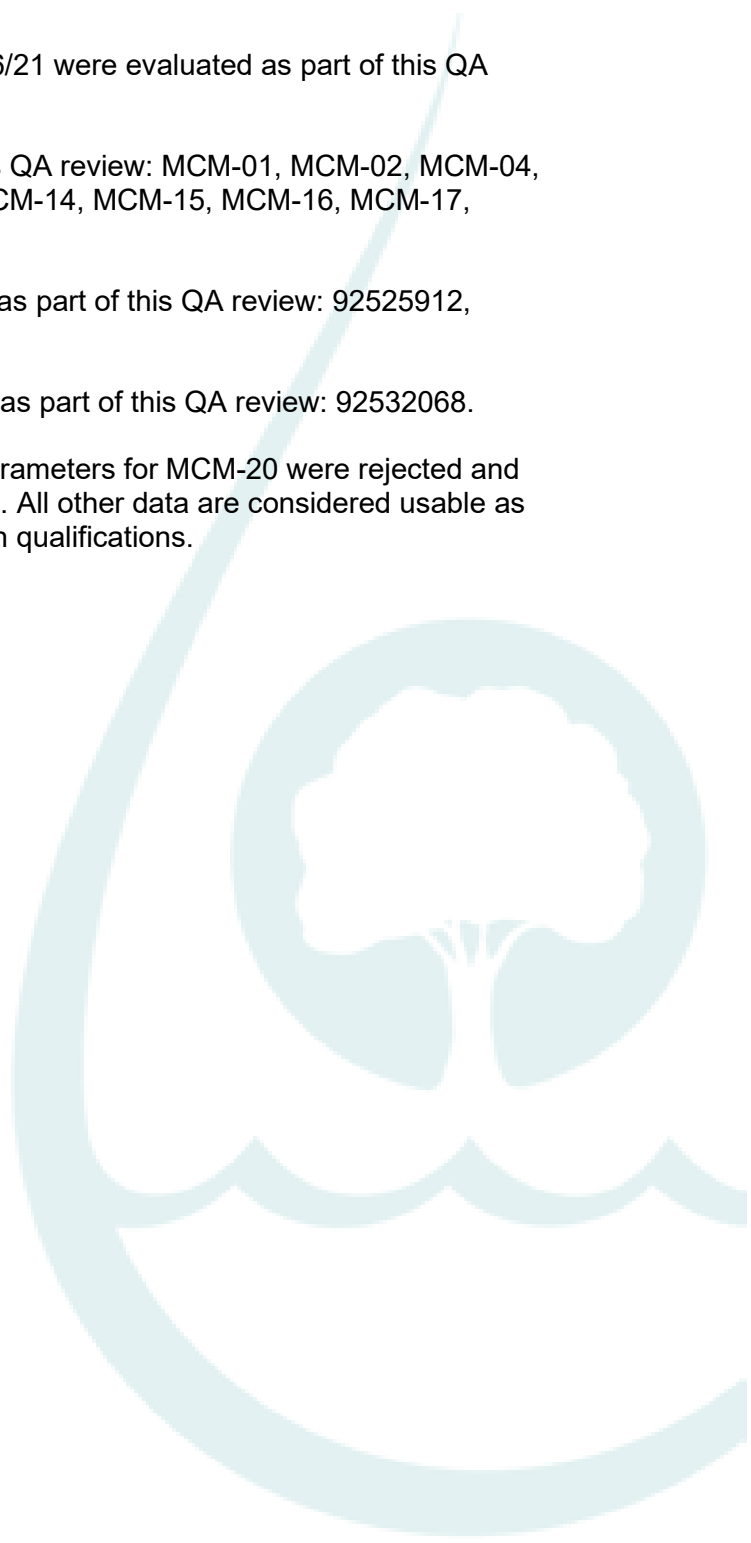
The samples collected 3/2/21 through 3/4/21 and 4/6/21 were evaluated as part of this QA review.

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 SDGs were evaluated as part of this QA review: 92525912, 92526098, and 92526099.

The following Pace radiological SDG was evaluated as part of this QA review: 92532068.

The results for chloride for MCM-14 and alkalinity parameters for MCM-20 were rejected and are not considered useable for the intended purpose. All other 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
- Chain-of-Custody (COC) Records
- Blank analysis results
- Laboratory control sample (LCS) recoveries
- Laboratory duplicate precision
- Sample holding times
- Case Narratives
- Chemical yield
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries and 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 92532068, 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. A large discrepancy was noted for chloride in the field duplicate pair in SDG 92526098. Environmental Standards requested the laboratory to review the sample chromatograms; however, the laboratory responded that no transcription errors or batch issues were found. Confirmation analysis could not be performed as the sample bottles had been disposed. The chloride sample result for MCM-14 is inconsistent with historical results and should not be used for trending analysis or the calculation of groundwater statistics. Qualification of data due to this issue is addressed in the Overall Assessment of Data section below.
4. A large discrepancy was noted for TDS in the field duplicate pair in SDG 92525912. Environmental Standards requested the laboratory to review the bottlenecks labels, sample analysis, and reported results. The laboratory indicated that the bottlenecks had been disposed of following sample analysis, so confirmation of bottle labels or confirmation analysis could not be performed. The reported result for MCM-04 is consistent with historical data. Qualification of data due to this issue is addressed in the Overall Assessment of Data section below.

5. In the TDS fraction of SDG 92525912, the laboratory performed matrix QC (laboratory duplicate) analysis 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.
6. In the anions fraction of SDG 92525912, the laboratory performed matrix QC (MS/MSD) analyses on an associated equipment 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 an equipment blank sample. The data reviewer evaluated the MS/MSD analyses performed on the equipment blank as an LCS/LCSD analysis
7. In the anions fraction of SDG 92526099, the laboratory performed matrix QC (MS/MSD) analyses on an associated equipment 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 an equipment blank sample. The data reviewer evaluated the MS/MSD analyses performed on the equipment blank as an LCS/LCSD analysis.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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).

13. 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.
14. 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 $\leq 20\%$ when both results were $\geq 5\times$ the reporting limit [RL], the difference between results was \leq the RL when at least one result was $< 5\times$ the RL, or replicate error ratio [RER] < 3).

<u>Laboratory SDG(s)</u>	<u>Sample</u>	<u>Field Duplicate</u>
92526098 92532068	MCM-14	DUP-1
92525912 92532068	MCM-04	DUP-2

Overall Assessment of Data

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

<u>Laboratory SDG(s)</u>	<u>Sample(s)</u>	<u>Analyte(s)</u>	<u>Qualifier</u>	<u>Reason(s) for Qualification</u>
92526098	MCM-14	chloride	UR	FD – Field duplicate imprecision
92526099	MCM-20	bicarbonate alkalinity, carbonate alkalinity and total alkalinity	UR	M- – Low MS/MSD recoveries
92525912	MCM-04	arsenic	U*	BF – Field blank contamination
92525912	MCM-04, MCM-05, MCM-06, MCM-07, and DPZ-2	boron	J	M- – Low MSD recovery
92526098	MCM-12, MCM-14, and MCM-15	bicarbonate alkalinity, carbonate alkalinity, and total alkalinity	J/UJ	M- – Low MS/MSD recoveries
92526099	MCM-16, MCM-17, MCM-18, MCM-19, and MCM-20	boron	J/UJ	M- – Low MSD recovery
92526099	MCM-11 and MCM-18	fluoride	J	M+ – High MS/MSD recoveries MP – High MS/MSD RPD

<u>Laboratory SDG(s)</u>	<u>Sample(s)</u>	<u>Analyte(s)</u>	<u>Qualifier</u>	<u>Reason(s) for Qualification</u>
92526099	MCM-01, MCM-02, MCM-11, MCM-16, MCM-17, MCM-18, and MCM-19	bicarbonate alkalinity, carbonate alkalinity and total alkalinity	J/UJ	M- - Low MS/MSD recoveries
92525912	MCM-04	TDS	J	FD – Field duplicate imprecision
92532068	MCM-04	combined radium-226+228	J	FD – Field duplicate imprecision

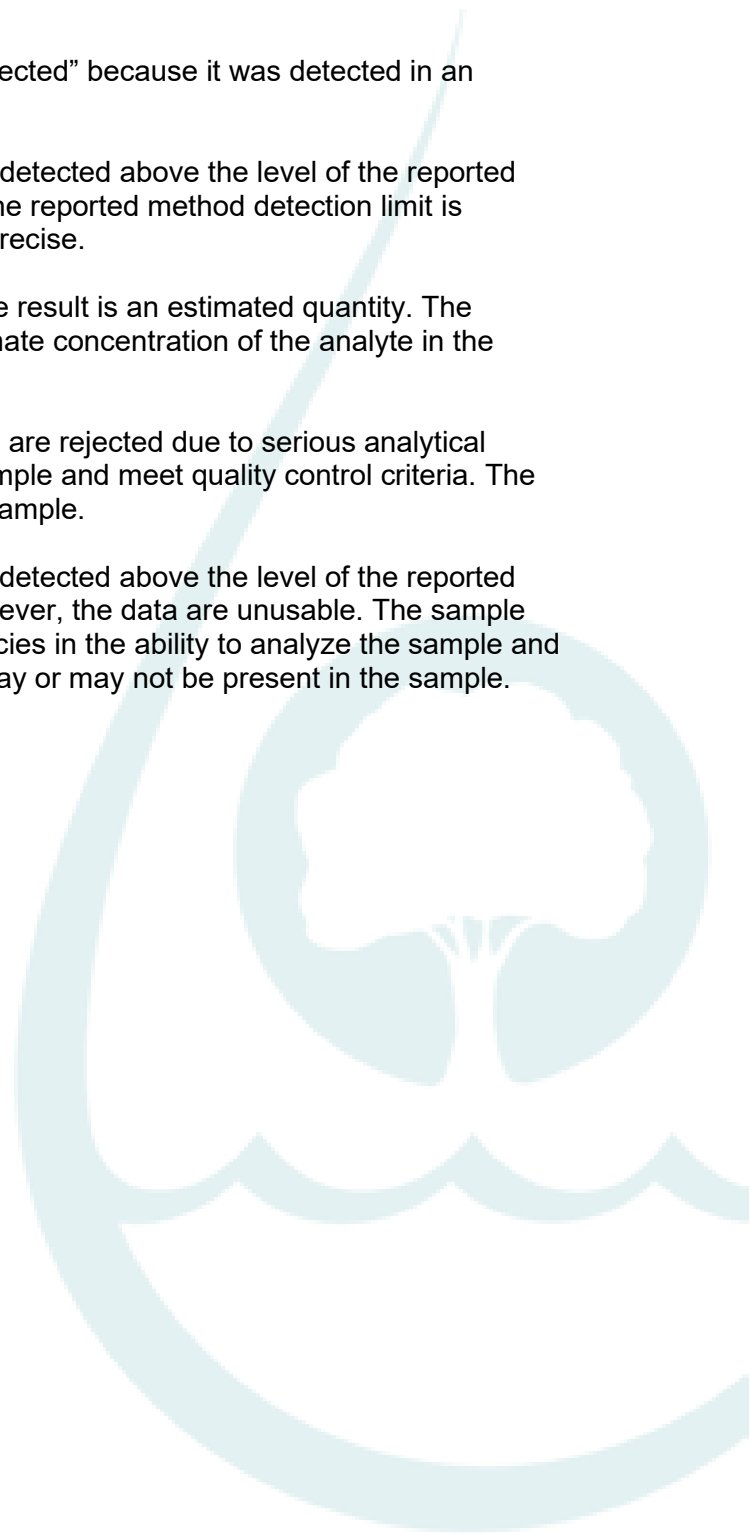
- All inorganic positive results reported between the method detection limit (MDL) and RL have been flagged “J” (unless previously flagged “U*”).
- All radiological results reported below the MDC have been flagged “U.”

Report prepared by: Bryan J. Eck, 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: 6/11/21



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 A2

Field Sampling Forms and Calibration Reports

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728541

Created 8/26/2020

Sensor

Sensor RDO

Serial Number 728741

Last Calibrated 8/26/2020

Calibration Details

Slope 1.067077

Offset 0.00 mg/L

Calibration point 100%

Concentration 7.34 mg/L

Temperature 27.50 °C

Barometric Pressure 1,019.4 mbar

Sensor

Sensor Conductivity

Serial Number 728541

Last Calibrated 8/26/2020

Calibration Details

Cell Constant 0.949

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724053
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20773
Last Calibrated	8/26/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.01 pH
pH mV	171.3 mV
Temperature	27.93 °C

Calibration Point 2

pH of Buffer	6.99 pH
pH mV	-0.3 mV
Temperature	28.83 °C

Calibration Point 3

pH of Buffer	9.96 pH
pH mV	-174.3 mV
Temperature	29.16 °C

Slope and Offset 1

Slope	-57.6 mV/pH
Offset	-0.9 mV

Slope and Offset 2

Slope -58.58 mV/pH

Offset -0.9 mV

ORP

ORP Solution ORP Standard

Offset 11.2 mV

Temperature 29.19 °C

MCM-01	Metals TDS Inorganics Radium
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Calibration Report

Instrument Aqua TROLL 400

Serial Number 728550

Created 8/26/2020

Sensor

Sensor RDO

Serial Number 728776

Last Calibrated 8/26/2020

Calibration Details

Slope 1.101762

Offset 0.00 mg/L

Calibration point 100%

Concentration 6.99 mg/L

Temperature 29.30 °C

Barometric Pressure 1,019.1 mbar

Sensor

Sensor Conductivity

Serial Number 728550

Last Calibrated 8/26/2020

Calibration Details

Cell Constant 1.005

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	718937
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20796
Last Calibrated	8/26/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.01 pH
pH mV	171.6 mV
Temperature	28.92 °C

Calibration Point 2

pH of Buffer	6.99 pH
pH mV	-2.4 mV
Temperature	29.05 °C

Calibration Point 3

pH of Buffer	9.96 pH
pH mV	-175.4 mV
Temperature	29.11 °C

Slope and Offset 1

Slope	-58.39 mV/pH
Offset	-3.0 mV

Slope and Offset 2

Slope -58.23 mV/pH

Offset -3.0 mV

ORP

ORP Solution ORP Standard

Offset 11.7 mV

Temperature 29.12 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728638
Created 8/26/2020

Sensor

Sensor RDO
Serial Number 728789
Last Calibrated 8/26/2020

Calibration Details

Slope 1.103059
Offset 0.00 mg/L

Calibration point 100%

Concentration 7.17 mg/L
Temperature 27.68 °C
Barometric Pressure 1,018.4 mbar

Sensor

Sensor Conductivity
Serial Number 728638
Last Calibrated 8/26/2020

Calibration Details

Cell Constant 0.981
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	726660
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20790
Last Calibrated	8/26/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.01 pH
pH mV	175.0 mV
Temperature	28.28 °C

Calibration Point 2

pH of Buffer	6.99 pH
pH mV	-0.9 mV
Temperature	28.40 °C

Calibration Point 3

pH of Buffer	9.96 pH
pH mV	-174.4 mV
Temperature	28.52 °C

Slope and Offset 1

Slope	-59.03 mV/pH
Offset	-1.5 mV

Slope and Offset 2

Slope -58.42 mV/pH

Offset -1.5 mV

ORP

ORP Solution ZoBell's

Offset 6.0 mV

Temperature 28.51 °C

Low-Flow Test Report:

Test Date / Time: 8/26/2020 9:49:13 AM

Project: CCR AP Scan August 2020

Operator Name: Joe Booth

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: 8.51 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 18.75 ft Estimated Total Volume Pumped: 12320 ml Flow Cell Volume: 90 ml Final Flow Rate: 140 ml/min Final Draw Down: 0.54 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728566
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Test Notes:

Prepurged 2 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
8/26/2020 9:49 AM	00:00	6.30 pH	26.34 °C	1,222.4 µS/cm	0.21 mg/L	9.44 NTU	-134.7 mV	8.51 ft	0.62 PSU	140.00 ml/min
8/26/2020 9:53 AM	04:00	6.32 pH	26.25 °C	42,898 µS/cm	0.14 mg/L	11.05 NTU	-145.9 mV	9.05 ft	28.05 PSU	140.00 ml/min
8/26/2020 9:57 AM	08:00	6.32 pH	26.22 °C	43,247 µS/cm	0.10 mg/L	12.05 NTU	-153.3 mV	9.05 ft	28.30 PSU	140.00 ml/min
8/26/2020 10:01 AM	12:00	6.32 pH	26.72 °C	43,817 µS/cm	0.08 mg/L	11.31 NTU	-159.2 mV	8.88 ft	28.73 PSU	140.00 ml/min
8/26/2020 10:05 AM	16:00	6.32 pH	27.28 °C	44,244 µS/cm	0.08 mg/L	10.88 NTU	-161.7 mV	8.88 ft	29.05 PSU	140.00 ml/min
8/26/2020 10:09 AM	20:00	6.32 pH	27.49 °C	44,375 µS/cm	0.08 mg/L	11.21 NTU	-161.6 mV	8.88 ft	29.15 PSU	140.00 ml/min
8/26/2020 10:13 AM	24:00	6.32 pH	27.43 °C	44,065 µS/cm	0.08 mg/L	9.99 NTU	-159.8 mV	9.01 ft	28.92 PSU	140.00 ml/min
8/26/2020 10:17 AM	28:00	6.33 pH	26.33 °C	43,470 µS/cm	0.08 mg/L	12.60 NTU	-159.0 mV	9.05 ft	28.47 PSU	140.00 ml/min
8/26/2020 10:21 AM	32:00	6.33 pH	26.15 °C	43,728 µS/cm	0.07 mg/L	15.60 NTU	-161.9 mV	9.05 ft	28.65 PSU	140.00 ml/min
8/26/2020 10:25 AM	36:00	6.32 pH	27.06 °C	44,730 µS/cm	0.06 mg/L	8.95 NTU	-164.0 mV	9.05 ft	29.40 PSU	140.00 ml/min
8/26/2020 10:29 AM	40:00	6.32 pH	27.16 °C	45,514 µS/cm	0.08 mg/L	7.20 NTU	-161.4 mV	9.05 ft	29.98 PSU	140.00 ml/min
8/26/2020 10:33 AM	44:00	6.32 pH	27.39 °C	45,611 µS/cm	0.09 mg/L	6.50 NTU	-159.8 mV	9.05 ft	30.06 PSU	140.00 ml/min
8/26/2020 10:37 AM	48:00	6.32 pH	27.11 °C	45,811 µS/cm	0.08 mg/L	7.28 NTU	-159.9 mV	9.05 ft	30.20 PSU	140.00 ml/min
8/26/2020 10:41 AM	52:00	6.32 pH	26.67 °C	45,700 µS/cm	0.09 mg/L	7.43 NTU	-159.2 mV	9.05 ft	30.11 PSU	140.00 ml/min
8/26/2020 10:45 AM	56:00	6.32 pH	26.53 °C	45,678 µS/cm	0.08 mg/L	8.92 NTU	-159.8 mV	9.05 ft	30.09 PSU	140.00 ml/min

8/26/2020 10:49 AM	01:00:00	6.32 pH	26.51 °C	45,608 µS/cm	0.08 mg/L	10.28 NTU	-160.5 mV	9.05 ft	30.04 PSU	140.00 ml/min
8/26/2020 10:53 AM	01:04:00	6.32 pH	26.69 °C	45,482 µS/cm	0.07 mg/L	10.50 NTU	-161.5 mV	9.05 ft	29.95 PSU	140.00 ml/min
8/26/2020 10:57 AM	01:08:00	6.32 pH	26.47 °C	45,512 µS/cm	0.07 mg/L	6.21 NTU	-161.5 mV	9.05 ft	29.97 PSU	140.00 ml/min
8/26/2020 11:01 AM	01:12:00	6.32 pH	26.93 °C	45,512 µS/cm	0.06 mg/L	5.72 NTU	-163.3 mV	9.05 ft	29.98 PSU	140.00 ml/min
8/26/2020 11:05 AM	01:16:00	6.32 pH	27.04 °C	45,530 µS/cm	0.06 mg/L	5.72 NTU	-164.3 mV	9.05 ft	29.99 PSU	140.00 ml/min
8/26/2020 11:09 AM	01:20:00	6.32 pH	27.14 °C	45,543 µS/cm	0.06 mg/L	3.07 NTU	-164.6 mV	9.05 ft	30.00 PSU	140.00 ml/min
8/26/2020 11:13 AM	01:24:00	6.32 pH	27.25 °C	45,635 µS/cm	0.06 mg/L	3.06 NTU	-165.0 mV	9.05 ft	30.07 PSU	140.00 ml/min
8/26/2020 11:17 AM	01:28:00	6.32 pH	27.33 °C	45,584 µS/cm	0.06 mg/L	2.66 NTU	-165.5 mV	9.05 ft	30.04 PSU	140.00 ml/min

Samples

Sample ID:	Description:
MCM-07	Metals TDS Inorganics Radium

Low-Flow Test Report:

Test Date / Time: 8/26/2020 3:42:57 PM

Project: CCR AP Scan August 2020

Operator Name: Joe Booth

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: 8.26 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.2 ft Estimated Total Volume Pumped: 3400 ml Flow Cell Volume: 90 ml Final Flow Rate: 170 ml/min Final Draw Down: 0.07 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728566
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Test Notes:

Prepurged 2 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
8/26/2020 3:42 PM	00:00	6.86 pH	26.09 °C	42,423 µS/cm	0.10 mg/L	8.91 NTU	-270.6 mV	8.26 ft	27.70 PSU	170.00 ml/min
8/26/2020 3:46 PM	04:00	6.86 pH	25.84 °C	41,939 µS/cm	0.08 mg/L	7.88 NTU	-274.4 mV	8.32 ft	27.35 PSU	170.00 ml/min
8/26/2020 3:50 PM	08:00	6.87 pH	25.70 °C	41,748 µS/cm	0.07 mg/L	6.28 NTU	-275.3 mV	8.33 ft	27.20 PSU	170.00 ml/min
8/26/2020 3:54 PM	12:00	6.88 pH	25.55 °C	41,545 µS/cm	0.07 mg/L	4.36 NTU	-277.6 mV	8.33 ft	27.05 PSU	170.00 ml/min
8/26/2020 3:58 PM	16:00	6.88 pH	25.42 °C	41,462 µS/cm	0.06 mg/L	4.22 NTU	-282.1 mV	8.33 ft	26.99 PSU	170.00 ml/min
8/26/2020 4:02 PM	20:00	6.89 pH	25.37 °C	41,614 µS/cm	0.06 mg/L	4.41 NTU	-285.5 mV	8.33 ft	27.10 PSU	170.00 ml/min

Samples

Sample ID:	Description:
MCM-06	Metals TDS Inorganics Radium

Low-Flow Test Report:

Test Date / Time: 8/26/2020 3:22:47 PM

Project: CCR AP Scan August 2020

Operator Name: Kevin Stephenson

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: 7.56 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 18.05 ft Estimated Total Volume Pumped: 5200 ml Flow Cell Volume: 90 ml Final Flow Rate: 260 ml/min Final Draw Down: 0.53 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728550
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Test Notes:

Pre-purged 2 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 %	+/- 0.2 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/26/2020 3:22 PM	00:00	3.78 pH	29.66 °C	18,224 µS/cm	1.02 mg/L	1.36 NTU	187.8 mV	8.12 ft	10.95 PSU	260.00 ml/min
8/26/2020 3:26 PM	04:00	3.73 pH	25.51 °C	19,097 µS/cm	0.61 mg/L	1.18 NTU	201.7 mV	8.12 ft	11.51 PSU	260.00 ml/min
8/26/2020 3:30 PM	08:00	3.72 pH	25.33 °C	19,169 µS/cm	0.51 mg/L	1.23 NTU	220.2 mV	8.12 ft	11.56 PSU	260.00 ml/min
8/26/2020 3:34 PM	12:00	3.67 pH	25.11 °C	18,726 µS/cm	0.45 mg/L	0.85 NTU	257.2 mV	8.11 ft	11.27 PSU	260.00 ml/min
8/26/2020 3:38 PM	16:00	3.66 pH	25.15 °C	18,371 µS/cm	0.43 mg/L	0.98 NTU	265.9 mV	8.10 ft	11.03 PSU	260.00 ml/min
8/26/2020 3:42 PM	20:00	3.67 pH	25.02 °C	18,393 µS/cm	0.40 mg/L	0.88 NTU	254.2 mV	8.09 ft	11.05 PSU	260.00 ml/min

Samples

Sample ID:	Description:
MCM-20	Metals TDS Inorganics Radium
DUP-2	Metals TDS Inorganics Radium

Low-Flow Test Report:

Test Date / Time: 8/26/2020 2:06:06 PM

Project: CCR AP Scan August 2020

Operator Name: Kevin Stephenson

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: 7.11 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23.32 ft Estimated Total Volume Pumped: 5600 ml Flow Cell Volume: 90 ml Final Flow Rate: 280 ml/min Final Draw Down: -0.05 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728550
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Test Notes:

Pre-purged 2 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 %	+/- 0.2 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/26/2020 2:06 PM	00:00	5.24 pH	29.90 °C	17,542 µS/cm	0.27 mg/L	0.67 NTU	117.2 mV	7.22 ft	10.50 PSU	280.00 ml/min
8/26/2020 2:10 PM	04:00	5.23 pH	25.45 °C	18,548 µS/cm	0.13 mg/L	0.40 NTU	107.0 mV	7.20 ft	11.15 PSU	280.00 ml/min
8/26/2020 2:14 PM	08:00	5.24 pH	25.12 °C	18,509 µS/cm	0.12 mg/L	0.58 NTU	103.7 mV	7.20 ft	11.12 PSU	280.00 ml/min
8/26/2020 2:18 PM	12:00	5.24 pH	24.99 °C	18,560 µS/cm	0.14 mg/L	0.80 NTU	102.3 mV	7.19 ft	11.16 PSU	280.00 ml/min
8/26/2020 2:22 PM	16:00	5.25 pH	25.00 °C	18,401 µS/cm	0.13 mg/L	0.74 NTU	99.9 mV	7.09 ft	11.05 PSU	280.00 ml/min
8/26/2020 2:26 PM	20:00	5.25 pH	24.82 °C	18,459 µS/cm	0.13 mg/L	0.68 NTU	98.0 mV	7.06 ft	11.09 PSU	280.00 ml/min

Samples

Sample ID:	Description:
MCM-19	Metals TDS Inorganics Radium

Low-Flow Test Report:

Test Date / Time: 8/26/2020 11:30:27 AM

Project: CCR AP Scan August 2020

Operator Name: Kevin Stephenson

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: 6.22 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 22.86 ft Estimated Total Volume Pumped: 4160 ml Flow Cell Volume: 90 ml Final Flow Rate: 260 ml/min Final Draw Down: 0.29 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728550
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Test Notes:

Pre-purged 2 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 %	+/- 0.2 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/26/2020 11:30 AM	00:00	4.27 pH	26.93 °C	5,209.0 µS/cm	0.12 mg/L	0.63 NTU	48.4 mV	6.44 ft	2.84 PSU	260.00 ml/min
8/26/2020 11:34 AM	04:00	4.27 pH	25.33 °C	5,339.2 µS/cm	0.10 mg/L	0.66 NTU	52.8 mV	6.50 ft	2.92 PSU	260.00 ml/min
8/26/2020 11:38 AM	08:00	4.27 pH	24.92 °C	5,345.0 µS/cm	0.09 mg/L	0.68 NTU	58.9 mV	6.51 ft	2.92 PSU	260.00 ml/min
8/26/2020 11:42 AM	12:00	4.27 pH	25.23 °C	5,324.1 µS/cm	0.08 mg/L	0.53 NTU	67.6 mV	6.51 ft	2.91 PSU	260.00 ml/min
8/26/2020 11:46 AM	16:00	4.27 pH	24.79 °C	5,309.8 µS/cm	0.08 mg/L	0.40 NTU	64.3 mV	6.51 ft	2.90 PSU	260.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 2:33:43 PM

Project: CCR AP Scan August 2020

Operator Name: William Laaker

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: 9.91 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.44 ft Estimated Total Volume Pumped: 11200 ml Flow Cell Volume: 90 ml Final Flow Rate: 140 ml/min Final Draw Down: -0.32 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 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 %	
8/26/2020 2:33 PM	00:00	6.29 pH	27.06 °C	12,272 µS/cm	0.35 mg/L	2.07 NTU	-118.0 mV	9.91 ft	7.13 PSU	140.00 ml/min
8/26/2020 2:37 PM	04:00	6.27 pH	26.37 °C	12,490 µS/cm	0.21 mg/L	2.00 NTU	-114.7 mV	9.92 ft	7.26 PSU	140.00 ml/min
8/26/2020 2:41 PM	08:00	6.26 pH	26.15 °C	12,528 µS/cm	0.13 mg/L	3.76 NTU	-121.0 mV	9.92 ft	7.29 PSU	140.00 ml/min
8/26/2020 2:45 PM	12:00	6.25 pH	25.94 °C	12,538 µS/cm	0.09 mg/L	9.67 NTU	-122.0 mV	9.91 ft	7.29 PSU	140.00 ml/min
8/26/2020 2:49 PM	16:00	6.25 pH	26.01 °C	12,547 µS/cm	0.07 mg/L	14.80 NTU	-121.1 mV	9.89 ft	7.30 PSU	140.00 ml/min
8/26/2020 2:53 PM	20:00	6.26 pH	25.84 °C	12,554 µS/cm	0.06 mg/L	16.20 NTU	-119.8 mV	9.85 ft	7.30 PSU	140.00 ml/min
8/26/2020 2:57 PM	24:00	6.26 pH	25.99 °C	12,568 µS/cm	0.05 mg/L	15.90 NTU	-118.7 mV	9.83 ft	7.31 PSU	140.00 ml/min
8/26/2020 3:01 PM	28:00	6.27 pH	25.83 °C	12,562 µS/cm	0.05 mg/L	14.20 NTU	-117.8 mV	9.81 ft	7.31 PSU	140.00 ml/min
8/26/2020 3:05 PM	32:00	6.29 pH	25.76 °C	12,563 µS/cm	0.05 mg/L	14.60 NTU	-121.3 mV	9.80 ft	7.31 PSU	140.00 ml/min
8/26/2020 3:09 PM	36:00	6.32 pH	25.83 °C	12,589 µS/cm	0.05 mg/L	13.00 NTU	-119.9 mV	9.80 ft	7.33 PSU	140.00 ml/min
8/26/2020 3:13 PM	40:00	6.35 pH	25.51 °C	12,627 µS/cm	0.06 mg/L	11.90 NTU	-119.7 mV	9.78 ft	7.35 PSU	140.00 ml/min
8/26/2020 3:17 PM	44:00	6.40 pH	25.52 °C	12,658 µS/cm	0.05 mg/L	10.29 NTU	-128.6 mV	9.75 ft	7.37 PSU	140.00 ml/min
8/26/2020 3:21 PM	48:00	6.45 pH	25.42 °C	12,680 µS/cm	0.06 mg/L	9.42 NTU	-124.4 mV	9.73 ft	7.38 PSU	140.00 ml/min
8/26/2020 3:25 PM	52:00	6.48 pH	25.28 °C	12,727 µS/cm	0.06 mg/L	7.52 NTU	-125.4 mV	9.70 ft	7.41 PSU	140.00 ml/min
8/26/2020 3:29 PM	56:00	6.52 pH	25.38 °C	12,747 µS/cm	0.06 mg/L	6.90 NTU	-126.0 mV	9.68 ft	7.42 PSU	140.00 ml/min

8/26/2020 3:33 PM	01:00:00	6.55 pH	25.33 °C	12,805 µS/cm	0.06 mg/L	6.27 NTU	-127.2 mV	9.67 ft	7.46 PSU	140.00 ml/min
8/26/2020 3:37 PM	01:04:00	6.58 pH	25.30 °C	12,814 µS/cm	0.06 mg/L	5.43 NTU	-126.8 mV	9.65 ft	7.47 PSU	140.00 ml/min
8/26/2020 3:41 PM	01:08:00	6.60 pH	25.33 °C	12,862 µS/cm	0.07 mg/L	5.17 NTU	-128.1 mV	9.64 ft	7.50 PSU	140.00 ml/min
8/26/2020 3:45 PM	01:12:00	6.62 pH	25.79 °C	12,851 µS/cm	0.05 mg/L	4.70 NTU	-129.5 mV	9.64 ft	7.49 PSU	140.00 ml/min
8/26/2020 3:49 PM	01:16:00	6.63 pH	25.88 °C	12,901 µS/cm	0.04 mg/L	4.21 NTU	-131.0 mV	9.61 ft	7.52 PSU	140.00 ml/min
8/26/2020 3:53 PM	01:20:00	6.65 pH	25.69 °C	12,953 µS/cm	0.04 mg/L	3.90 NTU	-131.1 mV	9.59 ft	7.55 PSU	140.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 4:18:35 PM

Project: CCR AP Scan August 2020

Operator Name: Veronica Fay

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: 9.72 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23.39 ft Estimated Total Volume Pumped: 5400 ml Flow Cell Volume: 90 ml Final Flow Rate: 210 ml/min Final Draw Down: 0.08 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Prepurged 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	+/- 10	
8/26/2020 4:18 PM	00:00	4.91 pH	23.75 °C	157.99 µS/cm	1.30 mg/L	5.30 NTU	55.3 mV	9.80 ft	0.07 PSU	210.00 ml/min
8/26/2020 4:21 PM	03:00	4.91 pH	23.41 °C	158.78 µS/cm	0.84 mg/L	5.09 NTU	55.4 mV	9.80 ft	0.08 PSU	210.00 ml/min
8/26/2020 4:24 PM	06:00	4.92 pH	23.24 °C	158.24 µS/cm	0.49 mg/L	5.40 NTU	54.9 mV	9.80 ft	0.08 PSU	210.00 ml/min
8/26/2020 4:27 PM	09:00	4.92 pH	23.15 °C	157.98 µS/cm	0.36 mg/L	7.11 NTU	54.3 mV	9.80 ft	0.07 PSU	210.00 ml/min
8/26/2020 4:30 PM	12:00	4.93 pH	23.09 °C	158.24 µS/cm	0.30 mg/L	6.32 NTU	53.4 mV	9.80 ft	0.08 PSU	210.00 ml/min
8/26/2020 4:33 PM	15:00	4.93 pH	23.02 °C	158.20 µS/cm	0.26 mg/L	6.27 NTU	52.5 mV	9.80 ft	0.08 PSU	210.00 ml/min
8/26/2020 4:36 PM	18:00	4.93 pH	23.19 °C	159.04 µS/cm	0.24 mg/L	7.02 NTU	51.6 mV	9.80 ft	0.08 PSU	210.00 ml/min
8/26/2020 4:39 PM	21:00	4.93 pH	23.42 °C	158.30 µS/cm	0.21 mg/L	5.42 NTU	50.7 mV	9.80 ft	0.08 PSU	210.00 ml/min
8/26/2020 4:42 PM	24:00	4.93 pH	23.42 °C	157.98 µS/cm	0.20 mg/L	4.48 NTU	50.7 mV	9.80 ft	0.07 PSU	210.00 ml/min
8/26/2020 4:45 PM	27:00	4.92 pH	23.42 °C	157.37 µS/cm	0.20 mg/L	4.19 NTU	50.3 mV	9.80 ft	0.07 PSU	210.00 ml/min
8/26/2020 4:48 PM	30:00	4.92 pH	23.47 °C	157.45 µS/cm	0.20 mg/L	4.06 NTU	49.7 mV	9.80 ft	0.07 PSU	210.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 2:01:40 PM

Project: CCR AP Scan August 2020 (3)

Operator Name: Joe Booth

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: 9.78 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 21.6 ft Estimated Total Volume Pumped: 6800 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: 728566
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Test Notes:

Prepurged 2 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
8/26/2020 2:01 PM	00:00	5.18 pH	26.25 °C	112.03 µS/cm	1.38 mg/L	2.94 NTU	56.4 mV	9.78 ft	0.05 PSU	170.00 ml/min
8/26/2020 2:05 PM	04:00	5.11 pH	25.65 °C	104.44 µS/cm	0.81 mg/L	2.77 NTU	54.4 mV	9.88 ft	0.05 PSU	170.00 ml/min
8/26/2020 2:09 PM	08:00	5.06 pH	25.42 °C	100.00 µS/cm	0.42 mg/L	2.65 NTU	52.7 mV	9.88 ft	0.05 PSU	170.00 ml/min
8/26/2020 2:13 PM	12:00	5.05 pH	25.37 °C	100.52 µS/cm	0.30 mg/L	4.02 NTU	50.7 mV	9.88 ft	0.05 PSU	170.00 ml/min
8/26/2020 2:17 PM	16:00	5.24 pH	25.15 °C	170.10 µS/cm	0.25 mg/L	2.15 NTU	37.0 mV	9.88 ft	0.08 PSU	170.00 ml/min
8/26/2020 2:21 PM	20:00	5.30 pH	24.51 °C	194.39 µS/cm	0.24 mg/L	0.93 NTU	30.6 mV	9.88 ft	0.09 PSU	170.00 ml/min
8/26/2020 2:25 PM	24:00	5.32 pH	24.34 °C	206.27 µS/cm	0.16 mg/L	1.33 NTU	27.0 mV	9.88 ft	0.10 PSU	170.00 ml/min
8/26/2020 2:29 PM	28:00	5.33 pH	24.32 °C	207.53 µS/cm	0.14 mg/L	1.02 NTU	25.6 mV	9.88 ft	0.10 PSU	170.00 ml/min
8/26/2020 2:33 PM	32:00	5.33 pH	24.18 °C	205.45 µS/cm	0.13 mg/L	0.88 NTU	25.1 mV	9.88 ft	0.10 PSU	170.00 ml/min
8/26/2020 2:37 PM	36:00	5.33 pH	24.16 °C	210.42 µS/cm	0.12 mg/L	0.63 NTU	24.4 mV	9.88 ft	0.10 PSU	170.00 ml/min
8/26/2020 2:41 PM	40:00	5.33 pH	24.08 °C	209.67 µS/cm	0.12 mg/L	0.97 NTU	23.9 mV	9.88 ft	0.10 PSU	170.00 ml/min

Samples

Sample ID:	Description:
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MCM-15	Metals TDS Inorganics Radium
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Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 8/26/2020 11:16:58 AM

Project: CCR AP Scan August 2020

Operator Name: William Laaker

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: 11.02 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.11 ft Estimated Total Volume Pumped: 3920 ml Flow Cell Volume: 90 ml Final Flow Rate: 140 ml/min Final Draw Down: 0.06 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 L

Water had odor and dark coloration.

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 %	
8/26/2020 11:16 AM	00:00	6.57 pH	28.64 °C	20,051 µS/cm	0.86 mg/L	28.10 NTU	-159.6 mV	11.02 ft	12.15 PSU	140.00 ml/min
8/26/2020 11:20 AM	04:00	6.60 pH	26.52 °C	20,711 µS/cm	0.41 mg/L	9.48 NTU	-177.7 mV	11.07 ft	12.58 PSU	140.00 ml/min
8/26/2020 11:24 AM	08:00	6.60 pH	26.38 °C	20,859 µS/cm	0.31 mg/L	8.30 NTU	-190.9 mV	11.08 ft	12.68 PSU	140.00 ml/min
8/26/2020 11:28 AM	12:00	6.61 pH	26.30 °C	20,859 µS/cm	0.23 mg/L	6.73 NTU	-193.7 mV	11.08 ft	12.68 PSU	140.00 ml/min
8/26/2020 11:32 AM	16:00	6.61 pH	25.97 °C	20,856 µS/cm	0.19 mg/L	5.64 NTU	-194.6 mV	11.08 ft	12.67 PSU	140.00 ml/min
8/26/2020 11:36 AM	20:00	6.62 pH	25.97 °C	20,806 µS/cm	0.17 mg/L	4.44 NTU	-194.4 mV	11.08 ft	12.64 PSU	140.00 ml/min
8/26/2020 11:40 AM	24:00	6.62 pH	25.58 °C	20,847 µS/cm	0.16 mg/L	3.98 NTU	-194.5 mV	11.08 ft	12.67 PSU	140.00 ml/min
8/26/2020 11:44 AM	28:00	6.62 pH	25.69 °C	20,911 µS/cm	0.15 mg/L	3.75 NTU	-194.4 mV	11.08 ft	12.71 PSU	140.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 9:18:20 AM

Project: CCR AP Scan August 2020

Operator Name: William Laaker

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: 9.29 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 24 ft Estimated Total Volume Pumped: 11560 ml Flow Cell Volume: 90 ml Final Flow Rate: 170 ml/min Final Draw Down: 1.64 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 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 %	
8/26/2020 9:18 AM	00:00	6.31 pH	27.62 °C	2,571.1 µS/cm	0.13 mg/L	2.75 NTU	-13.7 mV	9.29 ft	1.34 PSU	170.00 ml/min
8/26/2020 9:22 AM	04:00	6.31 pH	25.98 °C	2,582.4 µS/cm	0.05 mg/L	3.83 NTU	-18.8 mV	10.35 ft	1.35 PSU	170.00 ml/min
8/26/2020 9:26 AM	08:00	6.31 pH	25.22 °C	2,591.4 µS/cm	0.04 mg/L	6.30 NTU	-22.8 mV	10.54 ft	1.36 PSU	170.00 ml/min
8/26/2020 9:30 AM	12:00	6.31 pH	24.96 °C	2,582.3 µS/cm	0.03 mg/L	15.10 NTU	-26.1 mV	10.64 ft	1.35 PSU	170.00 ml/min
8/26/2020 9:34 AM	16:00	6.31 pH	24.97 °C	2,570.6 µS/cm	0.02 mg/L	19.00 NTU	-28.7 mV	10.72 ft	1.34 PSU	170.00 ml/min
8/26/2020 9:38 AM	20:00	6.31 pH	25.33 °C	2,552.2 µS/cm	0.01 mg/L	22.30 NTU	-28.8 mV	10.78 ft	1.33 PSU	170.00 ml/min
8/26/2020 9:42 AM	24:00	6.31 pH	25.44 °C	2,539.1 µS/cm	0.01 mg/L	20.30 NTU	-30.4 mV	10.81 ft	1.33 PSU	170.00 ml/min
8/26/2020 9:46 AM	28:00	6.31 pH	25.33 °C	2,602.7 µS/cm	0.01 mg/L	17.50 NTU	-30.6 mV	10.82 ft	1.36 PSU	170.00 ml/min
8/26/2020 9:50 AM	32:00	6.31 pH	25.11 °C	2,608.4 µS/cm	0.02 mg/L	14.70 NTU	-31.0 mV	10.84 ft	1.36 PSU	170.00 ml/min
8/26/2020 9:54 AM	36:00	6.31 pH	24.92 °C	2,605.8 µS/cm	0.02 mg/L	12.20 NTU	-29.9 mV	10.86 ft	1.36 PSU	170.00 ml/min
8/26/2020 9:58 AM	40:00	6.32 pH	24.87 °C	2,601.6 µS/cm	0.02 mg/L	10.68 NTU	-29.8 mV	10.88 ft	1.36 PSU	170.00 ml/min
8/26/2020 10:02 AM	44:00	6.32 pH	24.81 °C	2,594.2 µS/cm	0.03 mg/L	9.02 NTU	-30.2 mV	10.90 ft	1.36 PSU	170.00 ml/min
8/26/2020 10:06 AM	48:00	6.32 pH	24.78 °C	2,596.7 µS/cm	0.03 mg/L	7.42 NTU	-29.6 mV	10.91 ft	1.36 PSU	170.00 ml/min
8/26/2020 10:10 AM	52:00	6.32 pH	25.16 °C	2,585.8 µS/cm	0.02 mg/L	6.28 NTU	-29.4 mV	10.92 ft	1.35 PSU	170.00 ml/min
8/26/2020 10:14 AM	56:00	6.32 pH	25.19 °C	2,579.5 µS/cm	0.02 mg/L	5.35 NTU	-28.9 mV	10.93 ft	1.35 PSU	170.00 ml/min

8/26/2020 10:18 AM	01:00:00	6.32 pH	25.28 °C	2,573.3 µS/cm	0.02 mg/L	4.79 NTU	-29.0 mV	10.93 ft	1.35 PSU	170.00 ml/min
8/26/2020 10:22 AM	01:04:00	6.32 pH	25.18 °C	2,564.6 µS/cm	0.02 mg/L	4.53 NTU	-28.6 mV	10.93 ft	1.34 PSU	170.00 ml/min
8/26/2020 10:26 AM	01:08:00	6.32 pH	25.23 °C	2,564.4 µS/cm	0.02 mg/L	4.22 NTU	-28.6 mV	10.93 ft	1.34 PSU	170.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 10:03:57 AM

Project: CCR AP Scan August 2020

Operator Name: Veronica Fay

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: 4.95 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 19 ft Estimated Total Volume Pumped: 3300 ml Flow Cell Volume: 90 ml Final Flow Rate: 220 ml/min Final Draw Down: 1.46 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Prepurged 4.5L

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	
8/26/2020 10:03 AM	00:00	4.97 pH	26.97 °C	124.64 µS/cm	0.13 mg/L	1.83 NTU	53.6 mV	6.27 ft	0.06 PSU	220.00 ml/min
8/26/2020 10:06 AM	03:00	4.97 pH	26.87 °C	124.33 µS/cm	0.12 mg/L	2.01 NTU	53.2 mV	6.31 ft	0.06 PSU	220.00 ml/min
8/26/2020 10:09 AM	06:00	4.96 pH	26.83 °C	125.04 µS/cm	0.11 mg/L	2.12 NTU	54.2 mV	6.36 ft	0.06 PSU	220.00 ml/min
8/26/2020 10:12 AM	09:00	4.96 pH	26.88 °C	125.32 µS/cm	0.11 mg/L	2.12 NTU	56.3 mV	6.39 ft	0.06 PSU	220.00 ml/min
8/26/2020 10:15 AM	12:00	4.96 pH	27.20 °C	125.56 µS/cm	0.10 mg/L	0.95 NTU	58.5 mV	6.41 ft	0.06 PSU	220.00 ml/min
8/26/2020 10:18 AM	15:00	4.96 pH	27.33 °C	124.76 µS/cm	0.09 mg/L	1.40 NTU	59.7 mV	6.41 ft	0.06 PSU	220.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 12:24:21 PM

Project: CCR AP Scan August 2020 (2)

Operator Name: Joe Booth

<p>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: 9.16 ft</p>	<p>Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.05 ft Estimated Total Volume Pumped: 2800 ml Flow Cell Volume: 90 ml Final Flow Rate: 175 ml/min Final Draw Down: 0.06 ft</p>	<p>Instrument Used: Aqua TROLL 400 Serial Number: 728566</p>
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Test Notes:

Prepurged 2 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
8/26/2020 12:24 PM	00:00	6.62 pH	26.74 °C	4,292.7 µS/cm	0.67 mg/L	1.21 NTU	-164.5 mV	9.16 ft	2.31 PSU	175.00 ml/min
8/26/2020 12:28 PM	04:00	6.61 pH	26.05 °C	4,344.3 µS/cm	0.49 mg/L	1.63 NTU	-155.4 mV	9.22 ft	2.34 PSU	175.00 ml/min
8/26/2020 12:32 PM	08:00	6.60 pH	25.81 °C	4,435.7 µS/cm	0.44 mg/L	2.03 NTU	-151.7 mV	9.22 ft	2.40 PSU	175.00 ml/min
8/26/2020 12:36 PM	12:00	6.59 pH	25.61 °C	4,481.0 µS/cm	0.39 mg/L	1.35 NTU	-149.3 mV	9.22 ft	2.42 PSU	175.00 ml/min
8/26/2020 12:40 PM	16:00	6.59 pH	25.72 °C	4,504.9 µS/cm	0.32 mg/L	1.46 NTU	-147.5 mV	9.22 ft	2.43 PSU	175.00 ml/min

Samples

Sample ID:	Description:
MCM-05	Metals TDS Inorganics Radium

Low-Flow Test Report:

Test Date / Time: 8/26/2020 11:41:44 AM

Project: CCR AP Scan August 2020

Operator Name: Veronica Fay

Location Name: MCM- 04 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.57 ft Total Depth: 28.57 ft Initial Depth to Water: 10.32 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23.57 ft Estimated Total Volume Pumped: 2900 ml Flow Cell Volume: 90 ml Final Flow Rate: 240 ml/min Final Draw Down: 0.29 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Prepurged 3L

Geotech Peristaltic Pump experiencing some erratic behavior due to weak battery. Will switch to a different peristaltic pump after completion of sample collection.

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	
8/26/2020 11:41 AM	00:00	4.96 pH	23.69 °C	472.79 µS/cm	0.18 mg/L	4.01 NTU	78.4 mV	10.60 ft	0.23 PSU	240.00 ml/min
8/26/2020 11:44 AM	03:00	4.94 pH	23.42 °C	469.30 µS/cm	0.14 mg/L	3.68 NTU	74.0 mV	10.61 ft	0.23 PSU	240.00 ml/min
8/26/2020 11:47 AM	06:00	4.94 pH	23.24 °C	474.15 µS/cm	0.13 mg/L	3.63 NTU	70.8 mV	10.61 ft	0.23 PSU	240.00 ml/min
8/26/2020 11:50 AM	09:00	4.95 pH	23.15 °C	468.62 µS/cm	0.12 mg/L	2.12 NTU	67.5 mV	10.61 ft	0.23 PSU	240.00 ml/min
8/26/2020 11:53 AM	12:00	4.95 pH	23.32 °C	471.10 µS/cm	0.12 mg/L	2.49 NTU	63.9 mV	10.61 ft	0.23 PSU	240.00 ml/min

Samples

Sample ID:	Description:
MCM-04	Metals, TDS, Inorganics, Radium
DUP-1	Metals, TDS, Inorganics, Radium

Low-Flow Test Report:

Test Date / Time: 8/26/2020 1:56:45 PM

Project: CCR AP Scan August 2020

Operator Name: Veronica Fay

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: 5.12 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 22.35 ft Estimated Total Volume Pumped: 4800 ml Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.11 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Prepurged 3L

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	
8/26/2020 1:56 PM	00:00	5.03 pH	24.44 °C	184.22 µS/cm	0.32 mg/L	5.14 NTU	37.4 mV	5.23 ft	0.09 PSU	200.00 ml/min
8/26/2020 1:59 PM	03:00	5.03 pH	24.35 °C	188.95 µS/cm	0.33 mg/L	3.26 NTU	34.6 mV	5.23 ft	0.09 PSU	200.00 ml/min
8/26/2020 2:02 PM	06:00	5.03 pH	24.37 °C	190.46 µS/cm	0.32 mg/L	3.86 NTU	32.1 mV	5.24 ft	0.09 PSU	200.00 ml/min
8/26/2020 2:05 PM	09:00	5.03 pH	24.22 °C	186.22 µS/cm	0.26 mg/L	3.46 NTU	30.2 mV	5.23 ft	0.09 PSU	200.00 ml/min
8/26/2020 2:08 PM	12:00	5.03 pH	24.14 °C	179.80 µS/cm	0.30 mg/L	3.46 NTU	28.9 mV	5.23 ft	0.09 PSU	200.00 ml/min
8/26/2020 2:11 PM	15:00	5.03 pH	24.20 °C	177.11 µS/cm	0.28 mg/L	3.72 NTU	27.0 mV	5.23 ft	0.08 PSU	200.00 ml/min
8/26/2020 2:14 PM	18:00	5.03 pH	24.24 °C	171.56 µS/cm	0.29 mg/L	3.11 NTU	25.9 mV	5.23 ft	0.08 PSU	200.00 ml/min
8/26/2020 2:17 PM	21:00	5.03 pH	24.04 °C	171.99 µS/cm	0.29 mg/L	3.42 NTU	25.2 mV	5.23 ft	0.08 PSU	200.00 ml/min
8/26/2020 2:20 PM	24:00	5.03 pH	24.05 °C	174.30 µS/cm	0.35 mg/L	3.50 NTU	24.6 mV	5.23 ft	0.08 PSU	200.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 8/26/2020 12:51:15 PM

Project: CCR AP Scan August 2020

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: 4.99 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.32 ft Estimated Total Volume Pumped: 5280 ml Flow Cell Volume: 90 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.01 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 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 %	
8/26/2020 12:51 PM	00:00	5.86 pH	29.42 °C	189.81 µS/cm	1.94 mg/L	37.90 NTU	27.7 mV	4.99 ft	0.09 PSU	120.00 ml/min
8/26/2020 12:55 PM	04:00	5.75 pH	27.53 °C	166.82 µS/cm	0.80 mg/L	16.30 NTU	27.4 mV	5.00 ft	0.08 PSU	120.00 ml/min
8/26/2020 12:59 PM	08:00	5.73 pH	27.51 °C	157.26 µS/cm	0.72 mg/L	13.20 NTU	25.2 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:03 PM	12:00	5.73 pH	27.24 °C	156.50 µS/cm	0.65 mg/L	12.60 NTU	23.6 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:07 PM	16:00	5.73 pH	27.06 °C	151.39 µS/cm	0.56 mg/L	11.80 NTU	22.8 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:11 PM	20:00	5.75 pH	26.83 °C	152.57 µS/cm	0.43 mg/L	8.94 NTU	21.2 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:15 PM	24:00	5.77 pH	26.65 °C	153.00 µS/cm	0.34 mg/L	7.26 NTU	19.9 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:19 PM	28:00	5.78 pH	26.69 °C	153.61 µS/cm	0.28 mg/L	6.28 NTU	19.0 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:23 PM	32:00	5.78 pH	26.79 °C	152.98 µS/cm	0.26 mg/L	5.12 NTU	18.4 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:27 PM	36:00	5.79 pH	26.67 °C	152.50 µS/cm	0.23 mg/L	4.20 NTU	18.5 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:31 PM	40:00	5.79 pH	26.55 °C	152.21 µS/cm	0.22 mg/L	3.70 NTU	17.9 mV	5.00 ft	0.07 PSU	120.00 ml/min
8/26/2020 1:35 PM	44:00	5.79 pH	26.74 °C	153.31 µS/cm	0.21 mg/L	3.21 NTU	17.5 mV	5.00 ft	0.07 PSU	120.00 ml/min

Samples

Sample ID:	Description:
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MCM-01	Metals TDS Inorganics Radium
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Created using VuSitu from In-Situ, Inc.

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728638
Created 10/15/2020

Sensor

Sensor RDO
Serial Number 728789
Last Calibrated 10/15/2020

Calibration Details

Slope 1.095903
Offset 0.00 mg/L

Calibration point 100%

Concentration 7.82 mg/L
Temperature 23.34 °C
Barometric Pressure 1,018.4 mbar

Sensor

Sensor Conductivity
Serial Number 728638
Last Calibrated 10/15/2020

Calibration Details

Cell Constant 0.991
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	726660
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20790
Last Calibrated	10/15/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	159.8 mV
Temperature	23.96 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-13.3 mV
Temperature	24.06 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-188.7 mV
Temperature	24.23 °C

Slope and Offset 1

Slope	-57.71 mV/pH
Offset	-13.3 mV

Slope and Offset 2

Slope -58.44 mV/pH

Offset -13.3 mV

ORP

ORP Solution ORP Standard

Offset 13.2 mV

Temperature 24.19 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728638
Created 10/14/2020

Sensor

Sensor RDO
Serial Number 728789
Last Calibrated 10/14/2020

Calibration Details

Slope 1.103364
Offset 0.00 mg/L

Calibration point 100%

Concentration 7.94 mg/L
Temperature 22.17 °C
Barometric Pressure 1,018.0 mbar

Sensor

Sensor Conductivity
Serial Number 728638
Last Calibrated 10/14/2020

Calibration Details

Cell Constant 1.003
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	726660
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20790
Last Calibrated	10/14/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	161.4 mV
Temperature	21.65 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-13.1 mV
Temperature	22.66 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-185.9 mV
Temperature	23.08 °C

Slope and Offset 1

Slope	-58.17 mV/pH
Offset	-13.1 mV

Slope and Offset 2

Slope -57.6 mV/pH

Offset -13.1 mV

ORP

ORP Solution	ORP Standard
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Offset	10.9 mV
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Temperature	23.13 °C
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Calibration Report

Instrument Aqua TROLL 400
Serial Number 728638
Created 10/13/2020

Sensor

Sensor RDO
Serial Number 728789
Last Calibrated 10/13/2020

Calibration Details

Slope 1.121803
Offset 0.00 mg/L

Calibration point 100%

Concentration 7.85 mg/L
Temperature 21.77 °C
Barometric Pressure 1,016.5 mbar

Sensor

Sensor Conductivity
Serial Number 728638
Last Calibrated 10/13/2020

Calibration Details

Cell Constant 0.989
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	726660
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20790
Last Calibrated	10/13/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	160.9 mV
Temperature	22.16 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-12.3 mV
Temperature	22.35 °C

Calibration Point 3

pH of Buffer	10.04 pH
pH mV	-185.6 mV
Temperature	22.48 °C

Slope and Offset 1

Slope	-57.36 mV/pH
Offset	-11.2 mV

Slope and Offset 2

Slope -57.36 mV/pH

Offset -11.2 mV

ORP

ORP Solution ORP Standard

Offset 9.5 mV

Temperature 22.42 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728638
Created 10/12/2020

Sensor

Sensor RDO
Serial Number 728789
Last Calibrated 10/12/2020

Calibration Details

Slope 1.158638
Offset 0.00 mg/L

Calibration point 100%

Concentration 6.38 mg/L
Temperature 31.40 °C
Barometric Pressure 1,014.5 mbar

Sensor

Sensor Conductivity
Serial Number 728638
Last Calibrated 10/12/2020

Calibration Details

Cell Constant 1.002
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	726660
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20790
Last Calibrated	10/12/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.01 pH
pH mV	163.1 mV
Temperature	28.03 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-12.9 mV
Temperature	27.10 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-184.3 mV
Temperature	26.74 °C

Slope and Offset 1

Slope	-58.87 mV/pH
Offset	-12.9 mV

Slope and Offset 2

Slope -57.13 mV/pH

Offset -12.9 mV

ORP

ORP Solution ORP Standard

Offset 15.0 mV

Temperature 26.59 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728563

Created 10/15/2020

Sensor

Sensor RDO

Serial Number 728772

Last Calibrated 10/15/2020

Calibration Details

Slope 1.113469

Offset 0.00 mg/L

Calibration point 100%

Concentration 7.75 mg/L

Temperature 22.94 °C

Barometric Pressure 1,017.6 mbar

Sensor

Sensor Conductivity

Serial Number 728563

Last Calibrated 10/15/2020

Calibration Details

Cell Constant 0.992

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	728332
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20788
Last Calibrated	10/15/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	169.5 mV
Temperature	23.16 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-3.3 mV
Temperature	23.49 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-178.2 mV
Temperature	23.63 °C

Slope and Offset 1

Slope	-57.59 mV/pH
Offset	-3.3 mV

Slope and Offset 2

Slope -58.3 mV/pH

Offset -3.3 mV

ORP

ORP Solution ORP Standard

Offset 3.1 mV

Temperature 23.70 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728563

Created 10/14/2020

Sensor

Sensor RDO

Serial Number 728772

Last Calibrated 10/14/2020

Calibration Details

Slope 1.110014

Offset 0.00 mg/L

Calibration point 100%

Concentration 7.71 mg/L

Temperature 23.02 °C

Barometric Pressure 1,017.2 mbar

Sensor

Sensor Conductivity

Serial Number 728563

Last Calibrated 10/14/2020

Calibration Details

Cell Constant 0.987

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	728332
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20788
Last Calibrated	10/14/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	171.6 mV
Temperature	23.42 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-1.4 mV
Temperature	23.70 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-173.1 mV
Temperature	23.78 °C

Slope and Offset 1

Slope	-57.67 mV/pH
Offset	-1.4 mV

Slope and Offset 2

Slope -57.21 mV/pH

Offset -1.4 mV

ORP

ORP Solution ORP Standard

Offset 0.8 mV

Temperature 23.72 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728563
Created 10/13/2020

Sensor

Sensor RDO
Serial Number 728772
Last Calibrated 10/13/2020

Calibration Details

Slope 1.136797
Offset 0.00 mg/L

Calibration point 100%

Concentration 7.75 mg/L
Temperature 21.70 °C
Barometric Pressure 1,015.7 mbar

Sensor

Sensor Conductivity
Serial Number 728563
Last Calibrated 10/13/2020

Calibration Details

Cell Constant 0.989
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	728332
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20788
Last Calibrated	10/13/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	169.7 mV
Temperature	22.04 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-2.4 mV
Temperature	22.48 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-176.1 mV
Temperature	22.73 °C

Slope and Offset 1

Slope	-56.97 mV/pH
Offset	-1.2 mV

Slope and Offset 2

Slope -58.28 mV/pH

Offset -1.2 mV

ORP

ORP Solution ORP Standard

Offset 0.5 mV

Temperature 22.74 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728563

Created 10/12/2020

Sensor

Sensor RDO

Serial Number 728772

Last Calibrated 10/12/2020

Calibration Details

Slope 1.095372

Offset 0.00 mg/L

Calibration point 100%

Concentration 7.41 mg/L

Temperature 26.06 °C

Barometric Pressure 1,014.5 mbar

Sensor

Sensor Conductivity

Serial Number 728563

Last Calibrated 10/12/2020

Calibration Details

Cell Constant 1.01

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	728332
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20788
Last Calibrated	10/12/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	171.3 mV
Temperature	25.06 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-2.4 mV
Temperature	24.92 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-177.0 mV
Temperature	24.87 °C

Slope and Offset 1

Slope	-57.87 mV/pH
Offset	-2.4 mV

Slope and Offset 2

Slope -58.2 mV/pH

Offset -2.4 mV

ORP

ORP Solution ORP Standard

Offset 1.9 mV

Temperature 24.78 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728541

Created 10/13/2020

Sensor

Sensor RDO

Serial Number 728741

Last Calibrated 10/13/2020

Calibration Details

Slope 1.102095

Offset 0.00 mg/L

Calibration point 100%

Concentration 8.16 mg/L

Temperature 20.70 °C

Barometric Pressure 1,015.7 mbar

Sensor

Sensor Conductivity

Serial Number 728541

Last Calibrated 10/13/2020

Calibration Details

Cell Constant 0.966

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724053
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20773
Last Calibrated	10/13/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	154.4 mV
Temperature	21.22 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-11.1 mV
Temperature	22.23 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-185.2 mV
Temperature	22.73 °C

Slope and Offset 1

Slope	-54.83 mV/pH
Offset	-10.1 mV

Slope and Offset 2

Slope -58.41 mV/pH

Offset -10.0 mV

ORP

ORP Solution ORP Standard

Offset 16.9 mV

Temperature 22.80 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728541
Created 10/12/2020

Sensor

Sensor RDO
Serial Number 728741
Last Calibrated 10/12/2020

Calibration Details

Slope 1.195382
Offset 0.00 mg/L

Calibration point 100%

Concentration 7.13 mg/L
Temperature 23.41 °C
Barometric Pressure 1,014.4 mbar

Sensor

Sensor Conductivity
Serial Number 728541
Last Calibrated 10/12/2020

Calibration Details

Cell Constant 0.98
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724053
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20773
Last Calibrated	10/12/2020

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	154.6 mV
Temperature	23.61 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-15.3 mV
Temperature	23.50 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-191.4 mV
Temperature	23.52 °C

Slope and Offset 1

Slope	-56.63 mV/pH
Offset	-15.3 mV

Slope and Offset 2

Slope -58.68 mV/pH

Offset -15.3 mV

ORP

ORP Solution	ORP Standard
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Offset	17.9 mV
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Temperature	23.54 °C
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Low-Flow Test Report:

Test Date / Time: 10/15/2020 1:28:29 PM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

Location Name: MCM-05 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.25 ft Total Depth: 28.25 ft Initial Depth to Water: 7.7 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.1 ft Estimated Total Volume Pumped: 3840 ml Flow Cell Volume: 90 ml Final Flow Rate: 240 ml/min Final Draw Down: 0.25 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 2.5 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 %	
10/15/2020 1:28 PM	00:00	6.52 pH	26.05 °C	6,296.4 µS/cm	0.13 mg/L	0.87 NTU	-140.9 mV	7.94 ft	3.48 PSU	240.00 ml/min
10/15/2020 1:32 PM	04:00	6.52 pH	25.73 °C	6,308.6 µS/cm	0.10 mg/L	0.99 NTU	-138.6 mV	7.93 ft	3.49 PSU	240.00 ml/min
10/15/2020 1:36 PM	08:00	6.52 pH	25.69 °C	6,347.5 µS/cm	0.10 mg/L	0.75 NTU	-137.1 mV	7.93 ft	3.51 PSU	240.00 ml/min
10/15/2020 1:40 PM	12:00	6.52 pH	25.63 °C	6,372.8 µS/cm	0.10 mg/L	0.57 NTU	-137.0 mV	7.95 ft	3.52 PSU	240.00 ml/min
10/15/2020 1:44 PM	16:00	6.52 pH	25.55 °C	6,398.1 µS/cm	0.10 mg/L	0.60 NTU	-135.2 mV	7.95 ft	3.54 PSU	240.00 ml/min

Samples

Sample ID:	Description:
MCM-05	Metals, TDS, Inorganics, Radium

Low-Flow Test Report:

Test Date / Time: 10/15/2020 3:35:57 PM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

Location Name: DPZ-02 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 38.38 ft Total Depth: 43.38 ft Initial Depth to Water: 8.26 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 38.38 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: 0.26 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 2 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 %	
10/15/2020 3:35 PM	00:00	7.09 pH	28.20 °C	24,244 µS/cm	0.37 mg/L	0.44 NTU	-159.6 mV	8.48 ft	14.95 PSU	180.00 ml/min
10/15/2020 3:39 PM	04:00	7.10 pH	26.05 °C	25,257 µS/cm	0.16 mg/L	0.33 NTU	-176.5 mV	8.50 ft	15.62 PSU	180.00 ml/min
10/15/2020 3:43 PM	08:00	7.08 pH	25.67 °C	25,933 µS/cm	0.13 mg/L	0.27 NTU	-177.2 mV	8.51 ft	16.08 PSU	180.00 ml/min
10/15/2020 3:47 PM	12:00	7.08 pH	25.56 °C	25,940 µS/cm	0.13 mg/L	0.36 NTU	-176.9 mV	8.52 ft	16.09 PSU	180.00 ml/min
10/15/2020 3:51 PM	16:00	7.08 pH	25.59 °C	26,090 µS/cm	0.11 mg/L	0.29 NTU	-177.6 mV	8.52 ft	16.19 PSU	180.00 ml/min
10/15/2020 3:55 PM	20:00	7.08 pH	25.74 °C	26,033 µS/cm	0.11 mg/L	0.35 NTU	-178.1 mV	8.52 ft	16.15 PSU	180.00 ml/min

Samples

Sample ID:	Description:
DPZ-2	Metals, TDS, Inorganics, Radium

Low-Flow Test Report:

Test Date / Time: 10/14/2020 11:54:43 AM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

<p>Location Name: MCM-07 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 13.8 ft Total Depth: 23.8 ft Initial Depth to Water: 7.71 ft</p>	<p>Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 18.8 ft Estimated Total Volume Pumped: 29520 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: 0.6 ft</p>	<p>Instrument Used: Aqua TROLL 400 Serial Number: 728638</p>
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Test Notes:

Pre-purged 2 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 %	
10/14/2020 11:54 AM	00:00	6.32 pH	26.76 °C	24,210 µS/cm	0.37 mg/L	3.53 NTU	-131.6 mV	8.06 ft	14.92 PSU	180.00 ml/min
10/14/2020 11:58 AM	04:00	6.33 pH	26.52 °C	24,594 µS/cm	0.22 mg/L	3.80 NTU	-153.6 mV	8.08 ft	15.18 PSU	180.00 ml/min
10/14/2020 12:02 PM	08:00	6.33 pH	26.64 °C	24,693 µS/cm	0.17 mg/L	4.47 NTU	-161.1 mV	8.09 ft	15.25 PSU	180.00 ml/min
10/14/2020 12:06 PM	12:00	6.33 pH	26.41 °C	24,803 µS/cm	0.12 mg/L	4.92 NTU	-163.4 mV	8.09 ft	15.32 PSU	180.00 ml/min
10/14/2020 12:10 PM	16:00	6.33 pH	26.25 °C	24,916 µS/cm	0.10 mg/L	5.60 NTU	-167.0 mV	8.09 ft	15.39 PSU	180.00 ml/min
10/14/2020 12:14 PM	20:00	6.33 pH	26.37 °C	25,077 µS/cm	0.08 mg/L	6.16 NTU	-170.1 mV	8.09 ft	15.50 PSU	180.00 ml/min
10/14/2020 12:18 PM	24:00	6.33 pH	26.35 °C	25,058 µS/cm	0.08 mg/L	5.78 NTU	-168.9 mV	8.09 ft	15.49 PSU	180.00 ml/min
10/14/2020 12:22 PM	28:00	6.33 pH	26.25 °C	25,191 µS/cm	0.08 mg/L	5.63 NTU	-169.5 mV	8.10 ft	15.58 PSU	180.00 ml/min
10/14/2020 12:26 PM	32:00	6.33 pH	26.25 °C	25,229 µS/cm	0.08 mg/L	6.27 NTU	-169.7 mV	8.11 ft	15.61 PSU	180.00 ml/min
10/14/2020 12:30 PM	36:00	6.33 pH	26.23 °C	25,761 µS/cm	0.08 mg/L	6.78 NTU	-170.3 mV	8.12 ft	15.97 PSU	180.00 ml/min
10/14/2020 12:34 PM	40:00	6.33 pH	26.09 °C	25,346 µS/cm	0.08 mg/L	6.76 NTU	-167.6 mV	8.12 ft	15.69 PSU	180.00 ml/min
10/14/2020 12:38 PM	44:00	6.32 pH	26.08 °C	25,372 µS/cm	0.07 mg/L	7.02 NTU	-168.1 mV	8.12 ft	15.70 PSU	180.00 ml/min
10/14/2020 12:42 PM	48:00	6.32 pH	26.08 °C	25,349 µS/cm	0.07 mg/L	7.20 NTU	-166.7 mV	8.11 ft	15.69 PSU	180.00 ml/min
10/14/2020 12:46 PM	52:00	6.32 pH	26.05 °C	25,431 µS/cm	0.07 mg/L	7.37 NTU	-166.5 mV	8.14 ft	15.74 PSU	180.00 ml/min
10/14/2020 12:50 PM	56:00	6.32 pH	26.10 °C	25,500 µS/cm	0.07 mg/L	7.16 NTU	-165.8 mV	8.15 ft	15.79 PSU	180.00 ml/min

10/14/2020 12:54 PM	01:00:00	6.32 pH	26.14 °C	25,473 µS/cm	0.07 mg/L	7.04 NTU	-164.3 mV	8.16 ft	15.77 PSU	180.00 ml/min
10/14/2020 12:58 PM	01:04:00	6.32 pH	26.69 °C	25,537 µS/cm	0.05 mg/L	7.13 NTU	-165.4 mV	8.15 ft	15.82 PSU	180.00 ml/min
10/14/2020 1:02 PM	01:08:00	6.32 pH	27.01 °C	25,509 µS/cm	0.05 mg/L	7.16 NTU	-165.7 mV	8.15 ft	15.80 PSU	180.00 ml/min
10/14/2020 1:06 PM	01:12:00	6.32 pH	26.60 °C	25,517 µS/cm	0.06 mg/L	6.84 NTU	-163.6 mV	8.16 ft	15.80 PSU	180.00 ml/min
10/14/2020 1:10 PM	01:16:00	6.32 pH	26.42 °C	25,601 µS/cm	0.06 mg/L	6.97 NTU	-164.1 mV	8.16 ft	15.86 PSU	180.00 ml/min
10/14/2020 1:14 PM	01:20:00	6.32 pH	26.50 °C	25,579 µS/cm	0.07 mg/L	7.09 NTU	-163.4 mV	8.17 ft	15.85 PSU	180.00 ml/min
10/14/2020 1:18 PM	01:24:00	6.32 pH	26.81 °C	25,517 µS/cm	0.05 mg/L	7.64 NTU	-162.7 mV	8.16 ft	15.81 PSU	180.00 ml/min
10/14/2020 1:22 PM	01:28:00	6.32 pH	26.83 °C	25,542 µS/cm	0.05 mg/L	7.21 NTU	-162.7 mV	8.17 ft	15.82 PSU	180.00 ml/min
10/14/2020 1:26 PM	01:32:00	6.32 pH	27.15 °C	25,594 µS/cm	0.04 mg/L	7.08 NTU	-163.5 mV	8.18 ft	15.86 PSU	180.00 ml/min
10/14/2020 1:30 PM	01:36:00	6.32 pH	27.21 °C	25,524 µS/cm	0.05 mg/L	6.82 NTU	-163.3 mV	8.18 ft	15.81 PSU	180.00 ml/min
10/14/2020 1:34 PM	01:40:00	6.32 pH	27.19 °C	25,588 µS/cm	0.05 mg/L	6.65 NTU	-163.2 mV	8.18 ft	15.86 PSU	180.00 ml/min
10/14/2020 1:38 PM	01:44:00	6.32 pH	27.45 °C	25,603 µS/cm	0.04 mg/L	6.76 NTU	-162.5 mV	8.19 ft	15.87 PSU	180.00 ml/min
10/14/2020 1:42 PM	01:48:00	6.32 pH	27.24 °C	25,535 µS/cm	0.04 mg/L	6.62 NTU	-162.6 mV	0.19 ft	15.82 PSU	180.00 ml/min
10/14/2020 1:46 PM	01:52:00	6.32 pH	27.24 °C	25,590 µS/cm	0.07 mg/L	6.58 NTU	-161.3 mV	8.20 ft	15.86 PSU	180.00 ml/min
10/14/2020 1:50 PM	01:56:00	6.32 pH	27.15 °C	25,491 µS/cm	0.05 mg/L	6.61 NTU	-161.3 mV	8.20 ft	15.79 PSU	180.00 ml/min
10/14/2020 1:54 PM	02:00:00	6.32 pH	27.24 °C	25,522 µS/cm	0.04 mg/L	6.42 NTU	-161.6 mV	8.22 ft	15.81 PSU	180.00 ml/min
10/14/2020 1:58 PM	02:04:00	6.32 pH	27.38 °C	25,554 µS/cm	0.04 mg/L	5.89 NTU	-162.4 mV	8.23 ft	15.83 PSU	180.00 ml/min
10/14/2020 2:02 PM	02:08:00	6.32 pH	27.44 °C	25,575 µS/cm	0.04 mg/L	5.70 NTU	-162.3 mV	8.25 ft	15.85 PSU	180.00 ml/min
10/14/2020 2:06 PM	02:12:00	6.32 pH	27.47 °C	25,536 µS/cm	0.04 mg/L	5.39 NTU	-161.2 mV	8.26 ft	15.82 PSU	180.00 ml/min
10/14/2020 2:10 PM	02:16:00	6.32 pH	27.53 °C	25,580 µS/cm	0.04 mg/L	5.19 NTU	-160.2 mV	8.26 ft	15.85 PSU	180.00 ml/min
10/14/2020 2:14 PM	02:20:00	6.32 pH	27.25 °C	25,554 µS/cm	0.04 mg/L	5.41 NTU	-160.6 mV	8.27 ft	15.83 PSU	180.00 ml/min
10/14/2020 2:18 PM	02:24:00	6.32 pH	26.98 °C	25,478 µS/cm	0.05 mg/L	5.51 NTU	-159.6 mV	8.28 ft	15.78 PSU	180.00 ml/min
10/14/2020 2:22 PM	02:28:00	6.32 pH	27.33 °C	25,494 µS/cm	0.04 mg/L	5.47 NTU	-160.4 mV	8.29 ft	15.79 PSU	180.00 ml/min
10/14/2020 2:26 PM	02:32:00	6.32 pH	27.43 °C	25,532 µS/cm	0.04 mg/L	5.15 NTU	-160.1 mV	8.30 ft	15.82 PSU	180.00 ml/min
10/14/2020 2:30 PM	02:36:00	6.32 pH	27.47 °C	25,470 µS/cm	0.05 mg/L	4.97 NTU	-157.9 mV	8.30 ft	15.78 PSU	180.00 ml/min
10/14/2020 2:34 PM	02:40:00	6.32 pH	27.28 °C	25,589 µS/cm	0.05 mg/L	4.92 NTU	-158.8 mV	8.31 ft	15.86 PSU	180.00 ml/min
10/14/2020 2:38 PM	02:44:00	6.32 pH	27.30 °C	25,574 µS/cm	0.05 mg/L	4.87 NTU	-158.6 mV	8.31 ft	15.85 PSU	180.00 ml/min

Samples

Sample ID:	Description:
MCM-07	Metals, TDS, Inorganics, Radium

Low-Flow Test Report:

Test Date / Time: 10/14/2020 4:30:09 PM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

Location Name: MCM-06 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17.23 ft Total Depth: 27.23 ft Initial Depth to Water: 8.69 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.23 ft Estimated Total Volume Pumped: 3600 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: -0.18 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 1 liter.

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 %	
10/14/2020 4:30 PM	00:00	6.86 pH	32.79 °C	19,375 µS/cm	1.18 mg/L	6.06 NTU	-262.1 mV	8.73 ft	11.70 PSU	180.00 ml/min
10/14/2020 4:34 PM	04:00	6.91 pH	26.55 °C	21,724 µS/cm	0.06 mg/L	5.65 NTU	-267.7 mV	8.69 ft	13.25 PSU	180.00 ml/min
10/14/2020 4:38 PM	08:00	6.91 pH	25.82 °C	21,889 µS/cm	0.05 mg/L	4.86 NTU	-272.4 mV	8.67 ft	13.36 PSU	180.00 ml/min
10/14/2020 4:42 PM	12:00	6.92 pH	25.34 °C	21,983 µS/cm	0.05 mg/L	4.16 NTU	-275.9 mV	8.61 ft	13.42 PSU	180.00 ml/min
10/14/2020 4:46 PM	16:00	6.93 pH	25.38 °C	21,920 µS/cm	0.04 mg/L	3.21 NTU	-278.6 mV	8.55 ft	13.38 PSU	180.00 ml/min
10/14/2020 4:50 PM	20:00	6.93 pH	25.32 °C	21,942 µS/cm	0.04 mg/L	2.85 NTU	-279.5 mV	8.51 ft	13.39 PSU	180.00 ml/min

Samples

Sample ID:	Description:
MCM-06	Metals, TDS, Inorganics, Radium

Low-Flow Test Report:

Test Date / Time: 10/13/2020 10:56:44 AM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

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: 7.7 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 18.05 ft Estimated Total Volume Pumped: 3520 ml Flow Cell Volume: 90 ml Final Flow Rate: 220 ml/min Final Draw Down: 0.65 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 2 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 %	
10/13/2020 10:56 AM	00:00	3.75 pH	27.16 °C	18,921 µS/cm	0.35 mg/L	0.50 NTU	164.0 mV	8.27 ft	11.40 PSU	220.00 ml/min
10/13/2020 11:00 AM	04:00	3.73 pH	25.99 °C	19,083 µS/cm	0.13 mg/L	0.79 NTU	168.5 mV	8.29 ft	11.50 PSU	220.00 ml/min
10/13/2020 11:04 AM	08:00	3.73 pH	26.04 °C	19,068 µS/cm	0.11 mg/L	0.53 NTU	172.2 mV	8.31 ft	11.49 PSU	220.00 ml/min
10/13/2020 11:08 AM	12:00	3.73 pH	26.00 °C	19,071 µS/cm	0.10 mg/L	0.74 NTU	174.5 mV	8.32 ft	11.50 PSU	220.00 ml/min
10/13/2020 11:12 AM	16:00	3.72 pH	25.66 °C	19,161 µS/cm	0.09 mg/L	0.75 NTU	175.7 mV	8.35 ft	11.55 PSU	220.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 9:34:44 AM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

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: 6.15 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23.32 ft Estimated Total Volume Pumped: 4320 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: 0.4 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 2 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 %	
10/13/2020 9:34 AM	00:00	5.03 pH	24.03 °C	17,294 µS/cm	1.54 mg/L	1.51 NTU	87.2 mV	6.40 ft	10.33 PSU	180.00 ml/min
10/13/2020 9:38 AM	04:00	5.03 pH	23.33 °C	17,076 µS/cm	0.61 mg/L	0.64 NTU	82.4 mV	6.42 ft	10.18 PSU	180.00 ml/min
10/13/2020 9:42 AM	08:00	5.03 pH	23.24 °C	16,935 µS/cm	0.80 mg/L	0.44 NTU	82.2 mV	6.46 ft	10.09 PSU	180.00 ml/min
10/13/2020 9:46 AM	12:00	5.04 pH	23.19 °C	17,190 µS/cm	0.59 mg/L	0.38 NTU	82.4 mV	6.48 ft	10.26 PSU	180.00 ml/min
10/13/2020 9:50 AM	16:00	5.04 pH	23.18 °C	17,108 µS/cm	0.16 mg/L	0.68 NTU	80.9 mV	6.51 ft	10.20 PSU	180.00 ml/min
10/13/2020 9:54 AM	20:00	5.04 pH	23.16 °C	16,733 µS/cm	0.11 mg/L	0.59 NTU	79.8 mV	6.53 ft	9.96 PSU	180.00 ml/min
10/13/2020 9:58 AM	24:00	5.04 pH	23.02 °C	17,047 µS/cm	0.10 mg/L	0.31 NTU	79.2 mV	6.55 ft	10.16 PSU	180.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 11:48:46 AM

Project: October 2020 CCR Sampling

Operator Name: William Laaker

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: 9.18 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.44 ft Estimated Total Volume Pumped: 5200 ml Flow Cell Volume: 90 ml Final Flow Rate: 130 ml/min Final Draw Down: 0.13 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 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 %	
10/13/2020 11:48 AM	00:00	6.41 pH	26.44 °C	11,344 µS/cm	0.70 mg/L	1.04 NTU	-92.5 mV	9.18 ft	6.55 PSU	130.00 ml/min
10/13/2020 11:52 AM	04:00	6.35 pH	25.92 °C	11,927 µS/cm	0.34 mg/L	1.13 NTU	-95.5 mV	9.23 ft	6.91 PSU	130.00 ml/min
10/13/2020 11:56 AM	08:00	6.33 pH	25.79 °C	12,170 µS/cm	0.19 mg/L	1.72 NTU	-99.2 mV	9.24 ft	7.06 PSU	130.00 ml/min
10/13/2020 12:00 PM	12:00	6.32 pH	25.78 °C	12,320 µS/cm	0.12 mg/L	2.24 NTU	-101.7 mV	9.24 ft	7.16 PSU	130.00 ml/min
10/13/2020 12:04 PM	16:00	6.31 pH	25.65 °C	12,450 µS/cm	0.09 mg/L	2.75 NTU	-104.6 mV	9.25 ft	7.24 PSU	130.00 ml/min
10/13/2020 12:08 PM	20:00	6.31 pH	25.69 °C	12,544 µS/cm	0.08 mg/L	3.12 NTU	-107.3 mV	9.26 ft	7.30 PSU	130.00 ml/min
10/13/2020 12:12 PM	24:00	6.32 pH	25.70 °C	12,572 µS/cm	0.08 mg/L	3.75 NTU	-107.9 mV	9.27 ft	7.31 PSU	130.00 ml/min
10/13/2020 12:16 PM	28:00	6.32 pH	25.68 °C	12,633 µS/cm	0.07 mg/L	4.00 NTU	-111.4 mV	9.28 ft	7.35 PSU	130.00 ml/min
10/13/2020 12:20 PM	32:00	6.32 pH	25.72 °C	12,674 µS/cm	0.07 mg/L	4.48 NTU	-112.3 mV	9.29 ft	7.38 PSU	130.00 ml/min
10/13/2020 12:24 PM	36:00	6.33 pH	25.62 °C	12,678 µS/cm	0.07 mg/L	4.36 NTU	-111.1 mV	9.30 ft	7.38 PSU	130.00 ml/min
10/13/2020 12:28 PM	40:00	6.34 pH	25.70 °C	12,694 µS/cm	0.07 mg/L	4.23 NTU	-113.5 mV	9.31 ft	7.39 PSU	130.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 1:44:11 PM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

Location Name: MCM-16 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.21 ft Total Depth: 28.21 ft Initial Depth to Water: 8.32 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.21 ft Estimated Total Volume Pumped: 2880 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: 0.04 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 2 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 %	
10/13/2020 1:44 PM	00:00	5.15 pH	23.51 °C	171.93 µS/cm	0.37 mg/L	1.49 NTU	104.4 mV	8.34 ft	0.08 PSU	180.00 ml/min
10/13/2020 1:48 PM	04:00	5.16 pH	23.29 °C	171.37 µS/cm	0.30 mg/L	2.10 NTU	98.1 mV	8.36 ft	0.08 PSU	180.00 ml/min
10/13/2020 1:52 PM	08:00	5.16 pH	23.16 °C	169.24 µS/cm	0.26 mg/L	2.17 NTU	96.1 mV	8.36 ft	0.08 PSU	180.00 ml/min
10/13/2020 1:56 PM	12:00	5.17 pH	23.06 °C	167.30 µS/cm	0.25 mg/L	2.31 NTU	93.1 mV	8.36 ft	0.08 PSU	180.00 ml/min
10/13/2020 2:00 PM	16:00	5.17 pH	23.01 °C	168.35 µS/cm	0.23 mg/L	2.49 NTU	91.0 mV	8.36 ft	0.08 PSU	180.00 ml/min

Samples

Sample ID:	Description:
MCM-16	Metals, TDS, Inorganics, Radium
DUP-2	Metals, TDS, Inorganics, Radium

Low-Flow Test Report:

Test Date / Time: 10/13/2020 1:22:18 PM

Project: October 2020 CCR Sampling

Operator Name: Veronica Fay

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: 8.43 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 21.6 ft Estimated Total Volume Pumped: 3920 ml Flow Cell Volume: 90 ml Final Flow Rate: 140 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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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	
10/13/2020 1:22 PM	00:00	5.06 pH	27.25 °C	55.38 µS/cm	0.44 mg/L	1.33 NTU	101.1 mV	8.43 ft	0.03 PSU	140.00 ml/min
10/13/2020 1:26 PM	04:00	5.04 pH	27.27 °C	54.54 µS/cm	0.34 mg/L	1.31 NTU	101.3 mV	8.45 ft	0.02 PSU	140.00 ml/min
10/13/2020 1:30 PM	08:00	5.03 pH	27.62 °C	54.08 µS/cm	0.27 mg/L	1.22 NTU	101.5 mV	8.45 ft	0.02 PSU	140.00 ml/min
10/13/2020 1:34 PM	12:00	5.03 pH	27.79 °C	54.37 µS/cm	0.29 mg/L	1.41 NTU	101.7 mV	8.45 ft	0.02 PSU	140.00 ml/min
10/13/2020 1:38 PM	16:00	5.04 pH	27.94 °C	55.25 µS/cm	0.38 mg/L	1.47 NTU	102.0 mV	8.45 ft	0.02 PSU	140.00 ml/min
10/13/2020 1:42 PM	20:00	5.03 pH	28.12 °C	55.68 µS/cm	0.44 mg/L	1.79 NTU	102.1 mV	8.45 ft	0.03 PSU	140.00 ml/min
10/13/2020 1:46 PM	24:00	5.03 pH	27.99 °C	55.37 µS/cm	0.44 mg/L	1.70 NTU	102.0 mV	8.45 ft	0.03 PSU	140.00 ml/min
10/13/2020 1:50 PM	28:00	5.02 pH	27.71 °C	53.85 µS/cm	0.31 mg/L	1.60 NTU	102.8 mV	8.45 ft	0.02 PSU	140.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 8:47:03 AM

Project: October 2020 CCR Sampling

Operator Name: William Laaker

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: 9.13 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.11 ft Estimated Total Volume Pumped: 3000 ml Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.41 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 L

Water has odor.

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 %	
10/13/2020 8:47 AM	00:00	6.53 pH	24.72 °C	19,544 µS/cm	1.10 mg/L	0.35 NTU	-120.3 mV	9.13 ft	11.80 PSU	150.00 ml/min
10/13/2020 8:51 AM	04:00	6.54 pH	24.65 °C	19,414 µS/cm	0.68 mg/L	0.62 NTU	-127.4 mV	9.36 ft	11.72 PSU	150.00 ml/min
10/13/2020 8:55 AM	08:00	6.55 pH	24.64 °C	19,378 µS/cm	0.44 mg/L	0.73 NTU	-136.2 mV	9.40 ft	11.69 PSU	150.00 ml/min
10/13/2020 8:59 AM	12:00	6.56 pH	24.65 °C	19,369 µS/cm	0.33 mg/L	0.59 NTU	-143.7 mV	9.45 ft	11.69 PSU	150.00 ml/min
10/13/2020 9:03 AM	16:00	6.56 pH	24.62 °C	19,358 µS/cm	0.24 mg/L	0.59 NTU	-149.6 mV	9.50 ft	11.68 PSU	150.00 ml/min
10/13/2020 9:07 AM	20:00	6.56 pH	24.66 °C	19,332 µS/cm	0.18 mg/L	0.42 NTU	-154.9 mV	9.54 ft	11.66 PSU	150.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 8:52:13 AM

Project: October 2020 CCR Sampling

Operator Name: Veronica Fay

Location Name: MCM-04 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.57 ft Total Depth: 28.57 ft Initial Depth to Water: 8.27 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23.57 ft Estimated Total Volume Pumped: 2800 ml Flow Cell Volume: 90 ml Final Flow Rate: 140 ml/min Final Draw Down: 0.23 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 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	+/- 10	
10/13/2020 8:52 AM	00:00	5.23 pH	22.11 °C	426.67 µS/cm	0.43 mg/L	0.91 NTU	97.0 mV	8.27 ft	0.21 PSU	140.00 ml/min
10/13/2020 8:56 AM	04:00	5.23 pH	22.09 °C	425.03 µS/cm	0.33 mg/L	1.00 NTU	96.3 mV	8.45 ft	0.21 PSU	140.00 ml/min
10/13/2020 9:00 AM	08:00	5.24 pH	22.09 °C	426.08 µS/cm	0.28 mg/L	1.29 NTU	95.5 mV	8.47 ft	0.21 PSU	140.00 ml/min
10/13/2020 9:04 AM	12:00	5.24 pH	22.05 °C	426.18 µS/cm	0.24 mg/L	1.76 NTU	95.3 mV	8.47 ft	0.21 PSU	140.00 ml/min
10/13/2020 9:08 AM	16:00	5.25 pH	22.05 °C	424.66 µS/cm	0.21 mg/L	1.53 NTU	95.0 mV	8.50 ft	0.21 PSU	140.00 ml/min
10/13/2020 9:12 AM	20:00	5.25 pH	22.05 °C	424.98 µS/cm	0.19 mg/L	1.16 NTU	94.7 mV	8.50 ft	0.21 PSU	140.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 10:35:35 AM

Project: October 2020 CCR Sampling

Operator Name: Veronica Fay

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: 3.86 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 22.35 ft Estimated Total Volume Pumped: 7800 ml Flow Cell Volume: 90 ml Final Flow Rate: 150 ml/min Final Draw Down: 0.09 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 1L

Ants nesting in well casing. Killed as many as possible.

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	
10/13/2020 10:35 AM	00:00	5.03 pH	23.93 °C	175.25 µS/cm	0.43 mg/L	1.29 NTU	63.5 mV	3.86 ft	0.08 PSU	150.00 ml/min
10/13/2020 10:39 AM	04:00	5.03 pH	23.97 °C	179.21 µS/cm	0.33 mg/L	1.30 NTU	60.5 mV	3.95 ft	0.09 PSU	150.00 ml/min
10/13/2020 10:43 AM	08:00	5.03 pH	24.00 °C	181.54 µS/cm	0.27 mg/L	0.85 NTU	58.9 mV	3.95 ft	0.09 PSU	150.00 ml/min
10/13/2020 10:47 AM	12:00	5.03 pH	24.14 °C	178.70 µS/cm	0.23 mg/L	0.85 NTU	57.2 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 10:51 AM	16:00	5.03 pH	24.11 °C	175.58 µS/cm	0.22 mg/L	0.71 NTU	56.5 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 10:55 AM	20:00	5.03 pH	23.96 °C	171.39 µS/cm	0.20 mg/L	0.76 NTU	55.2 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 10:59 AM	24:00	5.03 pH	23.80 °C	168.61 µS/cm	0.19 mg/L	0.92 NTU	54.6 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:03 AM	28:00	5.03 pH	23.66 °C	163.71 µS/cm	0.17 mg/L	0.97 NTU	53.6 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:07 AM	32:00	5.03 pH	23.55 °C	162.60 µS/cm	0.16 mg/L	1.06 NTU	53.1 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:11 AM	36:00	5.03 pH	23.53 °C	161.14 µS/cm	0.15 mg/L	1.36 NTU	52.6 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:15 AM	40:00	5.03 pH	23.52 °C	162.03 µS/cm	0.15 mg/L	0.47 NTU	52.4 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:19 AM	44:00	5.03 pH	23.48 °C	164.42 µS/cm	0.14 mg/L	0.84 NTU	52.0 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:23 AM	48:00	5.03 pH	23.84 °C	165.81 µS/cm	0.14 mg/L	0.41 NTU	51.0 mV	3.95 ft	0.08 PSU	150.00 ml/min
10/13/2020 11:27 AM	52:00	5.03 pH	24.09 °C	163.82 µS/cm	0.13 mg/L	0.43 NTU	50.3 mV	3.95 ft	0.08 PSU	150.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/13/2020 10:11:23 AM

Project: October 2020 CCR Sampling

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: 3.88 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.32 ft Estimated Total Volume Pumped: 2880 ml Flow Cell Volume: 90 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 L

Well performed well

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 %	
10/13/2020 10:11 AM	00:00	5.67 pH	25.44 °C	146.30 µS/cm	0.95 mg/L	0.99 NTU	-9.0 mV	3.88 ft	0.07 PSU	120.00 ml/min
10/13/2020 10:15 AM	04:00	5.63 pH	25.35 °C	145.42 µS/cm	0.58 mg/L	1.38 NTU	-1.7 mV	3.90 ft	0.07 PSU	120.00 ml/min
10/13/2020 10:19 AM	08:00	5.68 pH	25.33 °C	148.74 µS/cm	0.88 mg/L	1.45 NTU	3.4 mV	3.90 ft	0.07 PSU	120.00 ml/min
10/13/2020 10:23 AM	12:00	5.68 pH	25.29 °C	148.89 µS/cm	0.67 mg/L	1.29 NTU	5.8 mV	3.90 ft	0.07 PSU	120.00 ml/min
10/13/2020 10:27 AM	16:00	5.67 pH	25.15 °C	149.27 µS/cm	0.45 mg/L	1.27 NTU	7.1 mV	3.90 ft	0.07 PSU	120.00 ml/min
10/13/2020 10:31 AM	20:00	5.68 pH	25.06 °C	150.17 µS/cm	0.39 mg/L	1.29 NTU	8.4 mV	3.90 ft	0.07 PSU	120.00 ml/min
10/13/2020 10:35 AM	24:00	5.69 pH	25.01 °C	150.95 µS/cm	0.34 mg/L	0.93 NTU	8.8 mV	3.90 ft	0.07 PSU	120.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/12/2020 3:16:39 PM

Project: October 2020 CCR Sampling

Operator Name: Kevin Stephenson

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: 5.86 ft	Pump Type: GeoTech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 22.86 ft Estimated Total Volume Pumped: 2880 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728638
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Test Notes:

Pre-purged 2 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 %	
10/12/2020 3:16 PM	00:00	4.28 pH	26.01 °C	4,821.4 µS/cm	0.61 mg/L	0.40 NTU	105.5 mV	5.86 ft	2.62 PSU	180.00 ml/min
10/12/2020 3:20 PM	04:00	4.28 pH	24.74 °C	4,846.1 µS/cm	0.41 mg/L	0.30 NTU	103.2 mV	5.86 ft	2.63 PSU	180.00 ml/min
10/12/2020 3:24 PM	08:00	4.29 pH	24.53 °C	4,880.4 µS/cm	0.26 mg/L	0.44 NTU	103.7 mV	5.86 ft	2.65 PSU	180.00 ml/min
10/12/2020 3:28 PM	12:00	4.29 pH	24.34 °C	4,841.8 µS/cm	0.30 mg/L	0.37 NTU	103.7 mV	5.86 ft	2.63 PSU	180.00 ml/min
10/12/2020 3:32 PM	16:00	4.29 pH	24.28 °C	4,853.8 µS/cm	0.23 mg/L	0.33 NTU	103.6 mV	5.86 ft	2.64 PSU	180.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/12/2020 2:21:39 PM

Project: October 2020 CCR Sampling

Operator Name: William Laaker

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: 8.67 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 24 ft Estimated Total Volume Pumped: 9600 ml Flow Cell Volume: 90 ml Final Flow Rate: 120 ml/min Final Draw Down: 0.94 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728541
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Test Notes:

Prepurged 0.5 L

Water has orange coloration

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 %	
10/12/2020 2:21 PM	00:00	6.34 pH	26.11 °C	2,540.9 µS/cm	0.18 mg/L	2.05 NTU	34.8 mV	8.67 ft	1.33 PSU	120.00 ml/min
10/12/2020 2:25 PM	04:00	6.33 pH	25.73 °C	2,554.3 µS/cm	0.08 mg/L	2.87 NTU	12.3 mV	9.41 ft	1.33 PSU	120.00 ml/min
10/12/2020 2:29 PM	08:00	6.33 pH	25.63 °C	2,552.8 µS/cm	0.05 mg/L	3.35 NTU	-1.1 mV	9.50 ft	1.33 PSU	120.00 ml/min
10/12/2020 2:33 PM	12:00	6.33 pH	25.65 °C	2,550.8 µS/cm	0.03 mg/L	3.41 NTU	-9.2 mV	9.53 ft	1.33 PSU	120.00 ml/min
10/12/2020 2:37 PM	16:00	6.33 pH	25.71 °C	2,564.3 µS/cm	0.02 mg/L	5.64 NTU	-14.6 mV	9.58 ft	1.34 PSU	120.00 ml/min
10/12/2020 2:41 PM	20:00	6.33 pH	26.20 °C	2,582.8 µS/cm	0.01 mg/L	7.79 NTU	-18.6 mV	9.60 ft	1.35 PSU	120.00 ml/min
10/12/2020 2:45 PM	24:00	6.33 pH	26.42 °C	2,577.9 µS/cm	0.01 mg/L	9.16 NTU	-21.5 mV	9.60 ft	1.35 PSU	120.00 ml/min
10/12/2020 2:49 PM	28:00	6.34 pH	26.18 °C	2,583.8 µS/cm	0.01 mg/L	10.72 NTU	-23.7 mV	9.60 ft	1.35 PSU	120.00 ml/min
10/12/2020 2:53 PM	32:00	6.34 pH	25.69 °C	2,593.8 µS/cm	0.01 mg/L	9.86 NTU	-25.3 mV	9.60 ft	1.36 PSU	120.00 ml/min
10/12/2020 2:57 PM	36:00	6.34 pH	25.56 °C	2,611.5 µS/cm	0.01 mg/L	9.09 NTU	-26.7 mV	9.60 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:01 PM	40:00	6.34 pH	25.48 °C	2,618.9 µS/cm	0.01 mg/L	8.70 NTU	-27.7 mV	9.60 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:05 PM	44:00	6.34 pH	25.44 °C	2,618.5 µS/cm	0.01 mg/L	7.52 NTU	-28.6 mV	9.60 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:09 PM	48:00	6.34 pH	25.37 °C	2,618.0 µS/cm	0.01 mg/L	7.27 NTU	-29.4 mV	9.60 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:13 PM	52:00	6.35 pH	25.29 °C	2,616.6 µS/cm	0.01 mg/L	6.74 NTU	-30.1 mV	9.60 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:17 PM	56:00	6.35 pH	25.24 °C	2,619.4 µS/cm	0.01 mg/L	6.05 NTU	-30.6 mV	9.61 ft	1.37 PSU	120.00 ml/min

10/12/2020 3:21 PM	01:00:00	6.35 pH	25.18 °C	2,618.0 µS/cm	0.01 mg/L	5.78 NTU	-30.8 mV	9.61 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:25 PM	01:04:00	6.35 pH	25.23 °C	2,616.8 µS/cm	0.01 mg/L	5.30 NTU	-31.3 mV	9.61 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:29 PM	01:08:00	6.35 pH	25.20 °C	2,616.8 µS/cm	0.01 mg/L	5.16 NTU	-31.2 mV	9.61 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:33 PM	01:12:00	6.35 pH	25.19 °C	2,616.1 µS/cm	0.01 mg/L	4.91 NTU	-31.4 mV	9.61 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:37 PM	01:16:00	6.35 pH	25.18 °C	2,614.8 µS/cm	0.01 mg/L	4.73 NTU	-31.4 mV	9.61 ft	1.37 PSU	120.00 ml/min
10/12/2020 3:41 PM	01:20:00	6.35 pH	25.23 °C	2,605.7 µS/cm	0.01 mg/L	4.69 NTU	-31.5 mV	9.61 ft	1.36 PSU	120.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 10/12/2020 2:34:39 PM

Project: October 2020 CCR Sampling

Operator Name: Veronica Fay

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: 4.1 ft	Pump Type: Geotech Peristaltic Tubing Type: LDPE Pump Intake From TOC: 19 ft Estimated Total Volume Pumped: 5600 ml Flow Cell Volume: 90 ml Final Flow Rate: 175 ml/min Final Draw Down: 1.36 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 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	+/- 10	
10/12/2020 2:34 PM	00:00	4.97 pH	26.90 °C	112.72 µS/cm	0.22 mg/L	1.57 NTU	37.3 mV	4.10 ft	0.05 PSU	175.00 ml/min
10/12/2020 2:38 PM	04:00	4.97 pH	26.97 °C	112.65 µS/cm	0.18 mg/L	1.44 NTU	36.6 mV	5.27 ft	0.05 PSU	175.00 ml/min
10/12/2020 2:42 PM	08:00	4.97 pH	27.30 °C	113.20 µS/cm	0.16 mg/L	1.31 NTU	37.5 mV	5.32 ft	0.05 PSU	175.00 ml/min
10/12/2020 2:46 PM	12:00	4.97 pH	27.75 °C	113.29 µS/cm	0.16 mg/L	2.03 NTU	38.9 mV	5.36 ft	0.05 PSU	175.00 ml/min
10/12/2020 2:50 PM	16:00	4.98 pH	27.60 °C	113.93 µS/cm	0.22 mg/L	2.78 NTU	42.2 mV	5.39 ft	0.05 PSU	175.00 ml/min
10/12/2020 2:54 PM	20:00	4.99 pH	27.06 °C	116.95 µS/cm	0.31 mg/L	2.30 NTU	44.4 mV	5.41 ft	0.05 PSU	175.00 ml/min
10/12/2020 2:58 PM	24:00	5.00 pH	26.90 °C	119.16 µS/cm	0.39 mg/L	1.42 NTU	46.4 mV	5.43 ft	0.06 PSU	175.00 ml/min
10/12/2020 3:02 PM	28:00	5.00 pH	26.81 °C	121.73 µS/cm	0.40 mg/L	1.29 NTU	47.0 mV	5.45 ft	0.06 PSU	175.00 ml/min
10/12/2020 3:06 PM	32:00	5.00 pH	26.74 °C	123.41 µS/cm	0.41 mg/L	0.87 NTU	48.1 mV	5.46 ft	0.06 PSU	175.00 ml/min

Samples

Sample ID:	Description:
MCM-11	Metals, TDS, Inorganics, Radium
DUP-1	Metals, TDS, Inorganics, Radium

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728563

Created 1/4/2021

Sensor

Sensor RDO

Serial Number 728772

Last Calibrated 1/4/2021

Calibration Details

Slope 1.151102

Offset 0.00 mg/L

Calibration point 100%

Concentration 8.16 mg/L

Temperature 18.61 °C

Barometric Pressure 1,018.1 mbar

Sensor

Sensor Conductivity

Serial Number 728563

Last Calibrated 1/4/2021

Calibration Details

Cell Constant 0.991

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	728332
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20788
Last Calibrated	1/4/2021

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	168.8 mV
Temperature	17.23 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	3.1 mV
Temperature	16.92 °C

Calibration Point 3

pH of Buffer	10.08 pH
pH mV	-164.6 mV
Temperature	16.60 °C

Slope and Offset 1

Slope	-54.86 mV/pH
Offset	4.2 mV

Slope and Offset 2

Slope -54.8 mV/pH

Offset 4.2 mV

ORP

ORP Solution ORP Standard

Offset -12.8 mV

Temperature 16.38 °C

Low-Flow Test Report:

Test Date / Time: 1/4/2021 2:39:24 PM

Project: McManus Dike Re-Sample

Operator Name: William Laaker

Location Name: MCM-05 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.25 ft Total Depth: 28.25 ft Initial Depth to Water: 7.81 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.25 ft Estimated Total Volume Pumped: 3800 ml Flow Cell Volume: 90 ml Final Flow Rate: 190 ml/min Final Draw Down: 0.2 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 1 L

Water has odor.

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 %	
1/4/2021 2:39 PM	00:00	6.57 pH	22.68 °C	10,690 µS/cm	1.21 mg/L	0.55 NTU	-130.4 mV	7.81 ft	6.13 PSU	190.00 ml/min
1/4/2021 2:43 PM	04:00	6.61 pH	22.67 °C	11,790 µS/cm	0.29 mg/L	0.47 NTU	-146.6 mV	7.93 ft	6.82 PSU	190.00 ml/min
1/4/2021 2:47 PM	08:00	6.64 pH	22.62 °C	12,182 µS/cm	0.15 mg/L	0.44 NTU	-154.2 mV	7.93 ft	7.06 PSU	190.00 ml/min
1/4/2021 2:51 PM	12:00	6.65 pH	22.63 °C	12,258 µS/cm	0.14 mg/L	0.43 NTU	-158.1 mV	7.96 ft	7.11 PSU	190.00 ml/min
1/4/2021 2:55 PM	16:00	6.65 pH	22.84 °C	12,308 µS/cm	0.13 mg/L	0.42 NTU	-161.6 mV	7.99 ft	7.14 PSU	190.00 ml/min
1/4/2021 2:59 PM	20:00	6.66 pH	22.96 °C	12,319 µS/cm	0.13 mg/L	0.42 NTU	-161.8 mV	8.01 ft	7.15 PSU	190.00 ml/min

Samples

Sample ID:	Description:
MCM-05	Metals, TDS, Inorganics, Radium

Calibration Report

Instrument Aqua TROLL 400
Serial Number 789317
Created 3/4/2021

Sensor

Sensor RDO
Serial Number 789977
Last Calibrated 3/4/2021

Calibration Details

Slope 0.9450918
Offset 0.00 mg/L

Calibration point 100%

Concentration 11.62 mg/L
Temperature 11.43 °C
Barometric Pressure 1,019.0 mbar

Sensor

Sensor Conductivity
Serial Number 789317
Last Calibrated 3/4/2021

Calibration Details

Cell Constant 1.019
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787062
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21172
Last Calibrated	3/4/2021

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	139.7 mV
Temperature	11.28 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-30.2 mV
Temperature	10.92 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-193.6 mV
Temperature	10.77 °C

Slope and Offset 1

Slope	-55.53 mV/pH
Offset	-26.9 mV

Slope and Offset 2

Slope -53.4 mV/pH

Offset -27.0 mV

ORP

ORP Solution ORP Standard

Offset -0.9 mV

Temperature 10.81 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 789317

Created 3/3/2021

Sensor

Sensor RDO

Serial Number 789977

Last Calibrated 3/3/2021

Calibration Details

Slope 0.945432

Offset 0.00 mg/L

Calibration point 100%

Concentration 11.68 mg/L

Temperature 11.00 °C

Barometric Pressure 1,014.9 mbar

Sensor

Sensor Conductivity

Serial Number 789317

Last Calibrated 3/3/2021

Calibration Details

Cell Constant 1.003

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787062
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21172
Last Calibrated	3/3/2021

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	143.2 mV
Temperature	11.09 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-26.2 mV
Temperature	11.07 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-194.4 mV
Temperature	11.15 °C

Slope and Offset 1

Slope	-55.39 mV/pH
Offset	-22.9 mV

Slope and Offset 2

Slope -54.95 mV/pH

Offset -22.9 mV

ORP

ORP Solution ORP Standard

Offset -1.9 mV

Temperature 10.86 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 789310
Created 3/4/2021

Sensor

Sensor RDO
Serial Number 789994
Last Calibrated 3/4/2021

Calibration Details

Slope 0.8985193
Offset 0.00 mg/L

Calibration point 100%

Concentration 12.02 mg/L
Temperature 11.56 °C
Barometric Pressure 1,019.8 mbar

Sensor

Sensor Conductivity
Serial Number 789310
Last Calibrated 3/4/2021

Calibration Details

Cell Constant 0.967
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787063
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21174
Last Calibrated	3/4/2021

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	145.6 mV
Temperature	11.70 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-18.6 mV
Temperature	12.10 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-183.1 mV
Temperature	11.68 °C

Slope and Offset 1

Slope	-53.65 mV/pH
Offset	-15.4 mV

Slope and Offset 2

Slope -53.77 mV/pH

Offset -15.4 mV

ORP

ORP Solution ORP Standard

Offset -4.7 mV

Temperature 11.69 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 789310
Created 3/3/2021

Sensor

Sensor RDO
Serial Number 789994
Last Calibrated 3/3/2021

Calibration Details

Slope 0.9379796
Offset 0.00 mg/L

Calibration point 100%

Concentration 11.70 mg/L
Temperature 11.31 °C
Barometric Pressure 1,015.9 mbar

Sensor

Sensor Conductivity
Serial Number 789310
Last Calibrated 3/3/2021

Calibration Details

Cell Constant 0.949
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787063
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21174
Last Calibrated	3/3/2021

Calibration Details

Total Calibration Points	3
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Calibration Point 1

pH of Buffer	4.00 pH
pH mV	145.6 mV
Temperature	11.38 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-22.1 mV
Temperature	11.42 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-190.3 mV
Temperature	11.59 °C

Slope and Offset 1

Slope	-54.83 mV/pH
Offset	-18.8 mV

Slope and Offset 2

Slope -54.95 mV/pH

Offset -18.8 mV

ORP

ORP Solution ZoBell's

Offset 16.5 mV

Temperature 11.55 °C

Low-Flow Test Report:

Test Date / Time: 3/4/2021 2:00:04 PM
Project: CCR March SemiAnnual Event
Operator Name: Joe Booth

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: 6.88 ft	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 38 ft Estimated Total Volume Pumped: 3360 ml Flow Cell Volume: 90 ml Final Flow Rate: 210 ml/min Final Draw Down: 0.19 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:

Prepurge 1.5 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/4/2021 2:00 PM	00:00	7.24 pH	24.95 °C	24,426 µS/cm	0.50 mg/L	2.43 NTU	-315.1 mV	6.88 ft	15.06 PSU	210.00 ml/min
3/4/2021 2:04 PM	04:00	7.20 pH	23.06 °C	25,437 µS/cm	0.29 mg/L	0.84 NTU	-328.8 mV	7.07 ft	15.72 PSU	210.00 ml/min
3/4/2021 2:08 PM	08:00	7.20 pH	22.79 °C	25,545 µS/cm	0.21 mg/L	0.98 NTU	-336.5 mV	7.07 ft	15.79 PSU	210.00 ml/min
3/4/2021 2:12 PM	12:00	7.22 pH	22.81 °C	25,570 µS/cm	0.17 mg/L	0.45 NTU	-338.7 mV	7.07 ft	15.81 PSU	210.00 ml/min
3/4/2021 2:16 PM	16:00	7.21 pH	22.82 °C	25,607 µS/cm	0.15 mg/L	0.40 NTU	-339.2 mV	7.07 ft	15.83 PSU	210.00 ml/min

Samples

Sample ID:	Description:
DPZ-02	Metals, TDS, inorganic

Low-Flow Test Report:

Test Date / Time: 3/4/2021 11:00:24 AM

Project: CCR March SemiAnnual Event (2)

Operator Name: Joe Booth

Location Name: RW-09 Well Diameter: 6 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 27.71 ft Total Depth: 37.71 ft Initial Depth to Water: 8.66 ft	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 33 ft Estimated Total Volume Pumped: 3200 ml Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.02 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:

Prepurge 1.5 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/4/2021 11:00 AM	00:00	6.71 pH	22.30 °C	19,489 µS/cm	0.30 mg/L	0.96 NTU	-289.8 mV	8.66 ft	11.75 PSU	200.00 ml/min
3/4/2021 11:04 AM	04:00	6.68 pH	22.18 °C	19,458 µS/cm	0.19 mg/L	1.27 NTU	-303.3 mV	8.68 ft	11.73 PSU	200.00 ml/min
3/4/2021 11:08 AM	08:00	6.69 pH	22.11 °C	19,455 µS/cm	0.16 mg/L	0.67 NTU	-308.8 mV	8.68 ft	11.73 PSU	200.00 ml/min
3/4/2021 11:12 AM	12:00	6.69 pH	22.16 °C	19,463 µS/cm	0.14 mg/L	0.72 NTU	-311.7 mV	8.68 ft	11.73 PSU	200.00 ml/min
3/4/2021 11:16 AM	16:00	6.69 pH	22.21 °C	19,488 µS/cm	0.12 mg/L	0.69 NTU	-313.7 mV	8.68 ft	11.75 PSU	200.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 3/4/2021 9:20:54 AM
Project: CCR March SemiAnnual Event
Operator Name: Joe Booth

Location Name: MCM-04 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.57 ft Total Depth: 28.57 ft Initial Depth to Water: 9.39 ft	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23 ft Estimated Total Volume Pumped: 8800 ml Flow Cell Volume: 90 ml Final Flow Rate: 220 ml/min Final Draw Down: 0.28 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:
 Prepurge 1.5 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/4/2021 9:20 AM	00:00	5.31 pH	19.30 °C	453.74 µS/cm	0.91 mg/L	21.90 NTU	92.0 mV	9.39 ft	0.22 PSU	220.00 ml/min
3/4/2021 9:24 AM	04:00	5.32 pH	19.25 °C	479.51 µS/cm	0.15 mg/L	18.90 NTU	84.4 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:28 AM	08:00	5.32 pH	19.31 °C	480.95 µS/cm	0.13 mg/L	14.30 NTU	82.2 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:32 AM	12:00	5.32 pH	19.36 °C	482.13 µS/cm	0.12 mg/L	10.06 NTU	80.7 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:36 AM	16:00	5.32 pH	19.35 °C	481.19 µS/cm	0.11 mg/L	8.58 NTU	79.3 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:40 AM	20:00	5.31 pH	19.33 °C	482.07 µS/cm	0.12 mg/L	6.32 NTU	77.9 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:44 AM	24:00	5.32 pH	19.36 °C	479.05 µS/cm	0.16 mg/L	7.13 NTU	76.6 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:48 AM	28:00	5.32 pH	19.52 °C	478.58 µS/cm	0.11 mg/L	5.19 NTU	75.3 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:52 AM	32:00	5.32 pH	19.53 °C	479.82 µS/cm	0.10 mg/L	5.02 NTU	74.5 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 9:56 AM	36:00	5.31 pH	19.58 °C	479.68 µS/cm	0.10 mg/L	4.35 NTU	73.5 mV	9.67 ft	0.23 PSU	220.00 ml/min
3/4/2021 10:00 AM	40:00	5.31 pH	19.65 °C	477.65 µS/cm	0.09 mg/L	4.30 NTU	72.9 mV	9.67 ft	0.23 PSU	220.00 ml/min

Samples

Sample ID:	Description:
MCM-04	Metals, TDS, inorganic

DUP-2

Metals, TDS, inorganic

Created using VuSitu from In-Situ, Inc.

Low-Flow Test Report:

Test Date / Time: 3/3/2021 3:33:37 PM
Project: CCR March SemiAnnual Event
Operator Name: Joe Booth

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: 3.95 ft	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 22 ft Estimated Total Volume Pumped: 5440 ml Flow Cell Volume: 90 ml Final Flow Rate: 170 ml/min Final Draw Down: 0.14 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:
 Prepurge 1.5

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/3/2021 3:33 PM	00:00	5.12 pH	18.02 °C	174.11 µS/cm	0.67 mg/L	1.80 NTU	152.6 mV	3.95 ft	0.08 PSU	170.00 ml/min
3/3/2021 3:37 PM	04:00	5.11 pH	19.48 °C	154.04 µS/cm	0.28 mg/L	1.77 NTU	129.2 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 3:41 PM	08:00	5.09 pH	19.48 °C	154.57 µS/cm	0.20 mg/L	2.11 NTU	120.3 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 3:45 PM	12:00	5.09 pH	19.57 °C	151.83 µS/cm	0.15 mg/L	1.83 NTU	115.1 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 3:49 PM	16:00	5.08 pH	19.65 °C	148.20 µS/cm	0.13 mg/L	1.54 NTU	112.3 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 3:53 PM	20:00	5.08 pH	19.62 °C	144.04 µS/cm	0.12 mg/L	1.90 NTU	109.6 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 3:57 PM	24:00	5.07 pH	19.68 °C	145.98 µS/cm	0.11 mg/L	0.86 NTU	108.7 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 4:01 PM	28:00	5.07 pH	19.78 °C	144.57 µS/cm	0.10 mg/L	1.32 NTU	106.4 mV	4.09 ft	0.07 PSU	170.00 ml/min
3/3/2021 4:05 PM	32:00	5.06 pH	19.76 °C	146.01 µS/cm	0.10 mg/L	0.99 NTU	106.8 mV	4.09 ft	0.07 PSU	170.00 ml/min

Samples

Sample ID:	Description:
MCM-02	Metals, TDS, inorganic

Low-Flow Test Report:

Test Date / Time: 3/3/2021 2:35:24 PM
Project: CCR March SemiAnnual Event
Operator Name: Joe Booth

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: 4.93 ft	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 23 ft Estimated Total Volume Pumped: 2880 ml Flow Cell Volume: 90 ml Final Flow Rate: 180 ml/min Final Draw Down: 0.3 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:
Prepurge 1.5 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/3/2021 2:35 PM	00:00	4.34 pH	17.35 °C	4,937.3 µS/cm	0.60 mg/L	0.93 NTU	135.3 mV	4.93 ft	2.67 PSU	180.00 ml/min
3/3/2021 2:39 PM	04:00	4.35 pH	17.92 °C	4,836.8 µS/cm	0.21 mg/L	1.26 NTU	122.5 mV	5.23 ft	2.62 PSU	180.00 ml/min
3/3/2021 2:43 PM	08:00	4.36 pH	18.11 °C	4,736.2 µS/cm	0.16 mg/L	1.38 NTU	115.3 mV	5.23 ft	2.56 PSU	180.00 ml/min
3/3/2021 2:47 PM	12:00	4.36 pH	18.17 °C	4,617.7 µS/cm	0.14 mg/L	1.12 NTU	111.3 mV	5.23 ft	2.49 PSU	180.00 ml/min
3/3/2021 2:51 PM	16:00	4.37 pH	18.24 °C	4,561.9 µS/cm	0.12 mg/L	1.74 NTU	108.0 mV	5.23 ft	2.46 PSU	180.00 ml/min

Samples

Sample ID:	Description:
MCM-18	Metals, TDS, inorganic

Low-Flow Test Report:

Test Date / Time: 3/3/2021 11:54:58 AM

Project: CCR March SemiAnnual Event

Operator Name: Joe Booth

<p>Location Name: MCM-11</p> <p>Well Diameter: 2 in</p> <p>Casing Type: PVC</p> <p>Screen Length: 10 ft</p> <p>Top of Screen: 14 ft</p> <p>Total Depth: 24 ft</p> <p>Initial Depth to Water: 3.17 ft</p>	<p>Pump Type: Geopump Peristaltic</p> <p>Tubing Type: LDPE</p> <p>Pump Intake From TOC: 19 ft</p> <p>Estimated Total Volume Pumped: 12356 ml</p> <p>Flow Cell Volume: 90 ml</p> <p>Final Flow Rate: 130 ml/min</p> <p>Final Draw Down: 1.71 ft</p>	<p>Instrument Used: Aqua TROLL 400</p> <p>Serial Number: 789310</p>
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Test Notes:

Prepurge 1.5 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/3/2021 11:54 AM	00:00	5.22 pH	18.55 °C	111.94 µS/cm	0.23 mg/L	39.90 NTU	106.1 mV	3.17 ft	0.05 PSU	160.00 ml/min
3/3/2021 11:58 AM	04:00	5.17 pH	18.82 °C	102.28 µS/cm	0.16 mg/L	56.00 NTU	131.1 mV	4.96 ft	0.05 PSU	160.00 ml/min
3/3/2021 12:02 PM	08:00	5.15 pH	18.86 °C	98.52 µS/cm	0.13 mg/L	75.30 NTU	141.5 mV	5.14 ft	0.05 PSU	160.00 ml/min
3/3/2021 12:06 PM	12:00	5.14 pH	18.88 °C	97.52 µS/cm	0.12 mg/L	63.10 NTU	154.7 mV	5.26 ft	0.05 PSU	139.00 ml/min
3/3/2021 12:10 PM	16:00	5.13 pH	18.42 °C	97.64 µS/cm	0.13 mg/L	49.80 NTU	162.6 mV	5.08 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:14 PM	20:00	5.12 pH	18.07 °C	97.58 µS/cm	0.12 mg/L	37.20 NTU	168.0 mV	4.91 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:18 PM	24:00	5.11 pH	17.97 °C	98.08 µS/cm	0.12 mg/L	32.00 NTU	173.1 mV	4.91 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:22 PM	28:00	5.11 pH	18.09 °C	98.42 µS/cm	0.11 mg/L	27.10 NTU	176.3 mV	4.91 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:26 PM	32:00	5.11 pH	18.11 °C	98.60 µS/cm	0.10 mg/L	20.20 NTU	178.3 mV	4.89 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:30 PM	36:00	5.10 pH	18.13 °C	98.91 µS/cm	0.10 mg/L	16.50 NTU	180.7 mV	4.89 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:34 PM	40:00	5.10 pH	18.16 °C	99.21 µS/cm	0.10 mg/L	14.40 NTU	181.3 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:38 PM	44:00	5.10 pH	18.28 °C	99.15 µS/cm	0.09 mg/L	12.20 NTU	181.6 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:42 PM	48:00	5.09 pH	18.33 °C	99.16 µS/cm	0.09 mg/L	9.71 NTU	181.5 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:46 PM	52:00	5.09 pH	18.42 °C	99.86 µS/cm	0.08 mg/L	8.78 NTU	181.1 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:50 PM	56:00	5.09 pH	18.35 °C	100.08 µS/cm	0.08 mg/L	9.30 NTU	180.1 mV	4.88 ft	0.05 PSU	130.00 ml/min

3/3/2021 12:54 PM	01:00:00	5.09 pH	18.42 °C	100.39 µS/cm	0.08 mg/L	7.09 NTU	179.1 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 12:58 PM	01:04:00	5.08 pH	18.46 °C	100.25 µS/cm	0.08 mg/L	6.72 NTU	179.7 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:02 PM	01:08:00	5.08 pH	18.51 °C	100.40 µS/cm	0.07 mg/L	7.44 NTU	179.0 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:06 PM	01:12:00	5.07 pH	18.41 °C	101.42 µS/cm	0.07 mg/L	6.51 NTU	178.9 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:10 PM	01:16:00	5.07 pH	18.49 °C	101.82 µS/cm	0.07 mg/L	5.31 NTU	178.9 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:14 PM	01:20:00	5.07 pH	18.64 °C	101.75 µS/cm	0.07 mg/L	4.83 NTU	178.2 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:18 PM	01:24:00	5.06 pH	18.64 °C	102.41 µS/cm	0.07 mg/L	4.03 NTU	176.2 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:22 PM	01:28:00	5.07 pH	18.71 °C	102.75 µS/cm	0.07 mg/L	4.22 NTU	173.5 mV	4.88 ft	0.05 PSU	130.00 ml/min
3/3/2021 1:26 PM	01:32:00	5.37 pH	18.72 °C	0.00 µS/cm	8.69 mg/L	4.88 NTU	57.7 mV	4.88 ft	0.00 PSU	130.00 ml/min

Samples

Sample ID:	Description:
MCM-11	Metals, TDS, inorganic

Low-Flow Test Report:

Test Date / Time: 3/3/2021 11:06:45 AM

Project: CCR March SemiAnnual Event (2)

Operator Name: Joe Booth

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	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 18 ft Estimated Total Volume Pumped: 2240 ml Flow Cell Volume: 90 ml Final Flow Rate: 140 ml/min	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:

Prepurge 1.5 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 %	+/- 0.2	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000 %	
3/3/2021 11:06 AM	00:00	3.75 pH	17.08 °C	18,095 µS/cm	0.53 mg/L	1.30 NTU	137.0 mV	6.04 ft	10.78 PSU	140.00 ml/min
3/3/2021 11:10 AM	04:00	3.76 pH	18.08 °C	17,756 µS/cm	0.25 mg/L	1.14 NTU	136.4 mV	6.51 ft	10.58 PSU	140.00 ml/min
3/3/2021 11:14 AM	08:00	3.76 pH	18.27 °C	17,711 µS/cm	0.19 mg/L	1.39 NTU	138.7 mV	6.54 ft	10.55 PSU	140.00 ml/min
3/3/2021 11:18 AM	12:00	3.77 pH	18.37 °C	17,688 µS/cm	0.16 mg/L	1.29 NTU	137.2 mV	6.54 ft	10.54 PSU	140.00 ml/min
3/3/2021 11:22 AM	16:00	3.76 pH	18.41 °C	17,650 µS/cm	0.14 mg/L	1.06 NTU	131.5 mV	6.55 ft	10.51 PSU	140.00 ml/min

Samples

Sample ID:	Description:
MCM-20	Metals, TDS, inorganic

Low-Flow Test Report:

Test Date / Time: 3/3/2021 10:16:54 AM

Project: CCR March SemiAnnual Event

Operator Name: Joe Booth

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: 6.17 ft	Pump Type: Geopump Peristaltic Tubing Type: LDPE Pump Intake From TOC: 24 ft Estimated Total Volume Pumped: 3.4 ml Flow Cell Volume: 90 ml Final Flow Rate: 170 ml/min Final Draw Down: 0.21 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789310
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Test Notes:

Prepurge 1.5 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 %	
3/3/2021 10:16 AM	00:00	5.09 pH	17.71 °C	18,176 µS/cm	0.41 mg/L	2.19 NTU	102.5 mV	6.17 ft	10.84 PSU	140.00 ml/min
3/3/2021 10:20 AM	04:00	5.11 pH	18.54 °C	17,732 µS/cm	0.21 mg/L	0.21 NTU	95.2 mV	6.38 ft	10.57 PSU	140.00 ml/min
3/3/2021 10:24 AM	08:00	5.11 pH	18.82 °C	17,485 µS/cm	0.17 mg/L	0.30 NTU	90.9 mV	6.38 ft	10.41 PSU	140.00 ml/min
3/3/2021 10:28 AM	12:00	5.11 pH	19.00 °C	17,165 µS/cm	0.15 mg/L	0.63 NTU	87.6 mV	6.38 ft	10.21 PSU	140.00 ml/min
3/3/2021 10:32 AM	16:00	5.10 pH	19.13 °C	17,014 µS/cm	0.13 mg/L	0.52 NTU	85.0 mV	6.38 ft	10.11 PSU	140.00 ml/min

Samples

Sample ID:	Description:
MCM-19	Metals, TDS, inorganic

Low-Flow Test Report:

Test Date / Time: 3/4/2021 1:46:27 PM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-07 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 13.8 ft Total Depth: 23.8 ft Initial Depth to Water: 7.45 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.23 ft Estimated Total Volume Pumped: 6720 ml Flow Cell Volume: 90 ml Final Flow Rate: 240 ml/min Final Draw Down: 0.69 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 6 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 %	
3/4/2021 1:46 PM	00:00	6.34 pH	24.68 °C	19,430 µS/cm	0.33 mg/L	4.53 NTU	-250.1 mV	8.06 ft	11.73 PSU	240.00 ml/min
3/4/2021 1:50 PM	04:00	6.33 pH	21.93 °C	23,598 µS/cm	0.11 mg/L	5.49 NTU	-249.9 mV	8.06 ft	14.47 PSU	240.00 ml/min
3/4/2021 1:54 PM	08:00	6.33 pH	21.67 °C	23,795 µS/cm	0.10 mg/L	3.84 NTU	-245.3 mV	8.07 ft	14.60 PSU	240.00 ml/min
3/4/2021 1:58 PM	12:00	6.34 pH	21.59 °C	23,853 µS/cm	0.10 mg/L	3.57 NTU	-242.5 mV	8.08 ft	14.64 PSU	240.00 ml/min
3/4/2021 2:02 PM	16:00	6.33 pH	21.54 °C	23,931 µS/cm	0.10 mg/L	3.97 NTU	-241.5 mV	8.11 ft	14.69 PSU	240.00 ml/min
3/4/2021 2:06 PM	20:00	6.33 pH	21.61 °C	23,863 µS/cm	0.09 mg/L	4.20 NTU	-239.6 mV	8.13 ft	14.64 PSU	240.00 ml/min
3/4/2021 2:10 PM	24:00	6.33 pH	21.65 °C	23,928 µS/cm	0.09 mg/L	4.14 NTU	-238.3 mV	8.14 ft	14.69 PSU	240.00 ml/min
3/4/2021 2:14 PM	28:00	6.33 pH	21.65 °C	24,125 µS/cm	0.09 mg/L	3.95 NTU	-236.6 mV	8.14 ft	14.82 PSU	240.00 ml/min

Samples

Sample ID:	Description:
MCM-07	Metals, Inorganics, TDS

Low-Flow Test Report:

Test Date / Time: 3/4/2021 11:04:28 AM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-06 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17.23 ft Total Depth: 27.23 ft Initial Depth to Water: 8.76 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.23 ft Estimated Total Volume Pumped: 3200 ml Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: -0.15 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 1 liter

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 %	
3/4/2021 11:04 AM	00:00	6.90 pH	22.97 °C	20,593 µS/cm	0.09 mg/L	2.34 NTU	-296.6 mV	8.74 ft	12.48 PSU	200.00 ml/min
3/4/2021 11:08 AM	04:00	6.92 pH	22.38 °C	20,794 µS/cm	0.07 mg/L	1.47 NTU	-316.6 mV	8.70 ft	12.61 PSU	200.00 ml/min
3/4/2021 11:12 AM	08:00	6.93 pH	22.35 °C	20,748 µS/cm	0.05 mg/L	1.30 NTU	-323.7 mV	8.67 ft	12.58 PSU	200.00 ml/min
3/4/2021 11:16 AM	12:00	6.94 pH	22.33 °C	20,743 µS/cm	0.05 mg/L	0.82 NTU	-326.3 mV	8.64 ft	12.57 PSU	200.00 ml/min
3/4/2021 11:20 AM	16:00	6.94 pH	22.35 °C	20,768 µS/cm	0.05 mg/L	0.73 NTU	-328.7 mV	8.61 ft	12.59 PSU	200.00 ml/min

Samples

Sample ID:	Description:
MCM-06	Metals, Inorganics, TDS

Low-Flow Test Report:

Test Date / Time: 3/4/2021 9:44:05 AM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-05 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.25 ft Total Depth: 28.25 ft Initial Depth to Water: 8.71 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.25 ft Estimated Total Volume Pumped: 3200 ml Flow Cell Volume: 90 ml Final Flow Rate: 160 ml/min Final Draw Down: -0.13 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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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 %	
3/4/2021 9:44 AM	00:00	6.50 pH	20.83 °C	3,046.6 µS/cm	0.50 mg/L	0.99 NTU	-199.4 mV	8.68 ft	1.61 PSU	160.00 ml/min
3/4/2021 9:48 AM	04:00	6.51 pH	21.32 °C	2,945.4 µS/cm	0.31 mg/L	1.14 NTU	-236.1 mV	8.65 ft	1.55 PSU	160.00 ml/min
3/4/2021 9:52 AM	08:00	6.51 pH	21.40 °C	2,874.8 µS/cm	0.23 mg/L	1.00 NTU	-244.8 mV	8.63 ft	1.51 PSU	160.00 ml/min
3/4/2021 9:56 AM	12:00	6.52 pH	21.46 °C	2,820.2 µS/cm	0.20 mg/L	0.57 NTU	-245.1 mV	8.62 ft	1.48 PSU	160.00 ml/min
3/4/2021 10:00 AM	16:00	6.52 pH	21.50 °C	2,786.5 µS/cm	0.19 mg/L	0.33 NTU	-243.9 mV	8.59 ft	1.46 PSU	160.00 ml/min
3/4/2021 10:04 AM	20:00	6.52 pH	21.58 °C	2,740.1 µS/cm	0.18 mg/L	0.53 NTU	-243.9 mV	8.58 ft	1.44 PSU	160.00 ml/min

Samples

Sample ID:	Description:
MCM-05	Metals, Inorganics, TDS

Low-Flow Test Report:

Test Date / Time: 3/3/2021 1:46:19 PM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

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: 3.98 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.32 ft Estimated Total Volume Pumped: 14400 ml Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.06 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 4.5 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 %	
3/3/2021 1:46 PM	00:00	5.74 pH	19.69 °C	166.37 µS/cm	0.28 mg/L	44.10 NTU	35.8 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 1:50 PM	04:00	5.72 pH	20.01 °C	165.31 µS/cm	0.28 mg/L	29.10 NTU	34.2 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 1:54 PM	08:00	5.72 pH	20.03 °C	164.47 µS/cm	0.27 mg/L	29.40 NTU	34.3 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 1:58 PM	12:00	5.74 pH	20.25 °C	167.33 µS/cm	0.23 mg/L	25.10 NTU	33.5 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:02 PM	16:00	5.79 pH	20.28 °C	169.61 µS/cm	0.19 mg/L	23.90 NTU	31.9 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:06 PM	20:00	5.78 pH	20.31 °C	169.41 µS/cm	0.20 mg/L	20.20 NTU	31.2 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:10 PM	24:00	5.81 pH	20.34 °C	173.35 µS/cm	0.17 mg/L	17.00 NTU	29.6 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:14 PM	28:00	5.78 pH	20.51 °C	169.75 µS/cm	0.16 mg/L	16.10 NTU	30.2 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:18 PM	32:00	5.78 pH	20.51 °C	169.64 µS/cm	0.15 mg/L	13.00 NTU	29.7 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:22 PM	36:00	5.77 pH	20.45 °C	170.61 µS/cm	0.15 mg/L	12.90 NTU	29.3 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:26 PM	40:00	5.83 pH	20.44 °C	175.32 µS/cm	0.17 mg/L	10.29 NTU	27.9 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:30 PM	44:00	5.81 pH	20.52 °C	172.30 µS/cm	0.15 mg/L	9.29 NTU	28.1 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:34 PM	48:00	5.78 pH	20.62 °C	171.17 µS/cm	0.15 mg/L	8.74 NTU	28.5 mV	4.03 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:38 PM	52:00	5.80 pH	20.65 °C	172.36 µS/cm	0.14 mg/L	7.21 NTU	28.0 mV	4.04 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:42 PM	56:00	5.81 pH	20.63 °C	173.93 µS/cm	0.14 mg/L	5.79 NTU	27.1 mV	4.04 ft	0.08 PSU	200.00 ml/min

3/3/2021 2:46 PM	01:00:00	5.81 pH	20.65 °C	174.03 µS/cm	0.15 mg/L	5.90 NTU	26.3 mV	4.04 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:50 PM	01:04:00	5.81 pH	20.56 °C	173.41 µS/cm	0.14 mg/L	4.92 NTU	26.1 mV	4.04 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:54 PM	01:08:00	5.80 pH	20.58 °C	171.34 µS/cm	0.14 mg/L	4.37 NTU	26.3 mV	4.04 ft	0.08 PSU	200.00 ml/min
3/3/2021 2:58 PM	01:12:00	5.81 pH	20.54 °C	174.05 µS/cm	0.14 mg/L	4.12 NTU	26.4 mV	4.04 ft	0.08 PSU	200.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 3/3/2021 12:25:13 PM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-16 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.21 ft Total Depth: 28.21 ft Initial Depth to Water: 8.43 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.21 ft Estimated Total Volume Pumped: 2560 ml Flow Cell Volume: 90 ml Final Flow Rate: 160 ml/min Final Draw Down: -1.95 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 2 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 %	
3/3/2021 12:25 PM	00:00	5.80 pH	18.46 °C	218.40 µS/cm	0.60 mg/L	6.42 NTU	-55.6 mV	6.48 ft	0.10 PSU	160.00 ml/min
3/3/2021 12:29 PM	04:00	5.75 pH	18.87 °C	211.60 µS/cm	0.34 mg/L	4.18 NTU	-26.6 mV	6.48 ft	0.10 PSU	160.00 ml/min
3/3/2021 12:33 PM	08:00	5.73 pH	19.04 °C	210.26 µS/cm	0.26 mg/L	4.78 NTU	-18.5 mV	6.48 ft	0.10 PSU	160.00 ml/min
3/3/2021 12:37 PM	12:00	5.71 pH	19.09 °C	209.55 µS/cm	0.23 mg/L	4.34 NTU	-13.9 mV	6.48 ft	0.10 PSU	160.00 ml/min
3/3/2021 12:41 PM	16:00	5.71 pH	19.18 °C	209.44 µS/cm	0.20 mg/L	4.12 NTU	-11.3 mV	6.48 ft	0.10 PSU	160.00 ml/min

Samples

Sample ID:	Description:
MCM-16	Metals, Inorganics, TDS

Low-Flow Test Report:

Test Date / Time: 3/3/2021 10:06:17 AM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-17 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 10.13 ft Total Depth: 27.44 ft Initial Depth to Water: 9.42 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 22.44 ft Estimated Total Volume Pumped: 10080 ml Flow Cell Volume: 90 ml Final Flow Rate: 280 ml/min Final Draw Down: -0.14 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 5 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 %	
3/3/2021 10:06 AM	00:00	6.21 pH	16.12 °C	14,731 µS/cm	2.19 mg/L	5.17 NTU	-10.2 mV	9.37 ft	8.62 PSU	280.00 ml/min
3/3/2021 10:10 AM	04:00	6.23 pH	19.24 °C	13,957 µS/cm	0.14 mg/L	5.62 NTU	-72.1 mV	9.37 ft	8.16 PSU	280.00 ml/min
3/3/2021 10:14 AM	08:00	6.27 pH	19.76 °C	13,949 µS/cm	0.13 mg/L	4.98 NTU	-83.0 mV	9.36 ft	8.16 PSU	280.00 ml/min
3/3/2021 10:18 AM	12:00	6.32 pH	19.92 °C	13,927 µS/cm	0.12 mg/L	4.66 NTU	-90.7 mV	9.34 ft	8.15 PSU	280.00 ml/min
3/3/2021 10:22 AM	16:00	6.38 pH	19.91 °C	13,975 µS/cm	0.11 mg/L	4.53 NTU	-97.0 mV	9.34 ft	8.18 PSU	280.00 ml/min
3/3/2021 10:26 AM	20:00	6.43 pH	19.82 °C	14,046 µS/cm	0.11 mg/L	4.12 NTU	-101.4 mV	9.33 ft	8.22 PSU	280.00 ml/min
3/3/2021 10:30 AM	24:00	6.48 pH	19.81 °C	14,069 µS/cm	0.11 mg/L	3.60 NTU	-105.9 mV	9.31 ft	8.23 PSU	280.00 ml/min
3/3/2021 10:34 AM	28:00	6.52 pH	19.76 °C	14,093 µS/cm	0.10 mg/L	3.61 NTU	-109.2 mV	9.31 ft	8.25 PSU	280.00 ml/min
3/3/2021 10:38 AM	32:00	6.55 pH	19.97 °C	14,123 µS/cm	0.10 mg/L	3.55 NTU	-112.6 mV	9.29 ft	8.27 PSU	280.00 ml/min
3/3/2021 10:42 AM	36:00	6.58 pH	20.24 °C	14,057 µS/cm	0.09 mg/L	3.62 NTU	-114.6 mV	9.28 ft	8.23 PSU	280.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 3/2/2021 3:56:05 PM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

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: 8.76 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 21.6 ft Estimated Total Volume Pumped: 4000 ml Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.11 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 2 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 %	
3/2/2021 3:56 PM	00:00	5.64 pH	15.96 °C	236.78 µS/cm	1.94 mg/L	4.57 NTU	-2.6 mV	8.86 ft	0.11 PSU	200.00 ml/min
3/2/2021 4:00 PM	04:00	5.28 pH	17.98 °C	66.65 µS/cm	0.48 mg/L	3.57 NTU	12.1 mV	8.86 ft	0.03 PSU	200.00 ml/min
3/2/2021 4:04 PM	08:00	5.22 pH	18.33 °C	63.65 µS/cm	0.35 mg/L	3.33 NTU	25.8 mV	8.86 ft	0.03 PSU	200.00 ml/min
3/2/2021 4:08 PM	12:00	5.20 pH	18.18 °C	58.79 µS/cm	0.31 mg/L	3.12 NTU	34.3 mV	8.86 ft	0.03 PSU	200.00 ml/min
3/2/2021 4:12 PM	16:00	5.18 pH	18.01 °C	58.13 µS/cm	0.30 mg/L	2.51 NTU	40.0 mV	8.87 ft	0.03 PSU	200.00 ml/min
3/2/2021 4:16 PM	20:00	5.16 pH	18.06 °C	56.90 µS/cm	0.25 mg/L	2.97 NTU	43.8 mV	8.87 ft	0.03 PSU	200.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 3/2/2021 2:16:19 PM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-14 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.1 ft Total Depth: 28.1 ft Initial Depth to Water: 9.34 ft	Pump Type: QED Dedicated Tubing Type: LDPE Pump Intake From TOC: 23.1 ft Estimated Total Volume Pumped: 3840 ml Flow Cell Volume: 90 ml Final Flow Rate: 240 ml/min Final Draw Down: 0.42 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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Test Notes:
Pre-purged 2 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 %	
3/2/2021 2:16 PM	00:00	6.49 pH	17.10 °C	21,226 µS/cm	1.07 mg/L	0.99 NTU	-106.6 mV	9.70 ft	12.82 PSU	240.00 ml/min
3/2/2021 2:20 PM	04:00	6.54 pH	19.40 °C	20,440 µS/cm	0.29 mg/L	0.62 NTU	-133.3 mV	9.71 ft	12.34 PSU	240.00 ml/min
3/2/2021 2:24 PM	08:00	6.55 pH	19.66 °C	20,250 µS/cm	0.20 mg/L	0.59 NTU	-138.4 mV	9.73 ft	12.22 PSU	240.00 ml/min
3/2/2021 2:28 PM	12:00	6.55 pH	19.72 °C	20,138 µS/cm	0.18 mg/L	0.54 NTU	-142.2 mV	9.74 ft	12.15 PSU	240.00 ml/min
3/2/2021 2:32 PM	16:00	6.55 pH	19.85 °C	20,121 µS/cm	0.15 mg/L	0.64 NTU	-143.6 mV	9.76 ft	12.14 PSU	240.00 ml/min

Samples

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

Low-Flow Test Report:

Test Date / Time: 3/2/2021 11:34:06 AM
Project: March 2021 McManus CCR Event
Operator Name: Kevin Stephenson

Location Name: MCM-12 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 19.02 ft Total Depth: 29.02 ft Initial Depth to Water: 9.89 ft	Pump Type: QED Bladder Tubing Type: LDPE Pump Intake From TOC: 24.02 ft Estimated Total Volume Pumped: 3200 ml Flow Cell Volume: 90 ml Final Flow Rate: 200 ml/min Final Draw Down: 0.96 ft	Instrument Used: Aqua TROLL 400 Serial Number: 789317
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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 %	
3/2/2021 11:34 AM	00:00	6.33 pH	18.04 °C	2,546.0 µS/cm	1.44 mg/L	1.92 NTU	40.4 mV	10.64 ft	1.33 PSU	200.00 ml/min
3/2/2021 11:38 AM	04:00	6.33 pH	18.33 °C	2,550.3 µS/cm	0.68 mg/L	2.22 NTU	16.1 mV	10.70 ft	1.33 PSU	200.00 ml/min
3/2/2021 11:42 AM	08:00	6.33 pH	18.42 °C	2,541.3 µS/cm	0.30 mg/L	1.59 NTU	2.8 mV	10.75 ft	1.32 PSU	200.00 ml/min
3/2/2021 11:46 AM	12:00	6.34 pH	18.47 °C	2,527.8 µS/cm	0.17 mg/L	1.32 NTU	-4.9 mV	10.82 ft	1.32 PSU	200.00 ml/min
3/2/2021 11:50 AM	16:00	6.34 pH	18.16 °C	2,539.2 µS/cm	0.13 mg/L	1.78 NTU	-10.4 mV	10.85 ft	1.32 PSU	200.00 ml/min

Samples

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

APPENDIX B

Monitoring Well Redevelopment Logs

Low-Flow Test Report:

Test Date / Time: 8/12/2020 4:04:24 PM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-01 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.3 ft Total Depth: 28.3 ft Initial Depth to Water: 5.19 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 27.3 ft Estimated Total Volume Pumped: 60000 ml Flow Cell Volume: 90 ml Final Flow Rate: 3000 ml/min Final Draw Down: 0.52 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
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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 %	+/- 1000 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/12/2020 4:04 PM	00:00	6.07 pH	23.54 °C	170.33 µS/cm	0.04 mg/L	11.90 NTU	48.3 mV	5.75 ft	0.08 PSU	3,000.0 ml/min
8/12/2020 4:08 PM	04:00	5.88 pH	22.89 °C	171.41 µS/cm	0.03 mg/L	3.98 NTU	52.7 mV	5.74 ft	0.08 PSU	3,000.0 ml/min
8/12/2020 4:12 PM	08:00	5.85 pH	22.87 °C	171.52 µS/cm	0.02 mg/L	3.11 NTU	53.1 mV	5.72 ft	0.08 PSU	3,000.0 ml/min
8/12/2020 4:16 PM	12:00	5.84 pH	22.86 °C	172.74 µS/cm	0.02 mg/L	2.76 NTU	53.5 mV	5.71 ft	0.08 PSU	3,000.0 ml/min
8/12/2020 4:20 PM	16:00	5.82 pH	22.84 °C	172.57 µS/cm	0.02 mg/L	2.48 NTU	54.2 mV	5.71 ft	0.08 PSU	3,000.0 ml/min
8/12/2020 4:24 PM	20:00	5.82 pH	22.83 °C	172.89 µS/cm	0.02 mg/L	2.55 NTU	54.0 mV	5.71 ft	0.08 PSU	3,000.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/13/2020 9:55:49 AM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-02 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17.4 ft Total Depth: 27.4 ft Initial Depth to Water: 5.44 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 26.4 ft Estimated Total Volume Pumped: 80866 ml Flow Cell Volume: 90 ml Final Flow Rate: 4000 ml/min Final Draw Down: 2.95 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
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Test Notes:
Pre-purged 170 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 %	+/- 1000 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/13/2020 9:55 AM	00:00	4.91 pH	21.62 °C	177.30 µS/cm	0.04 mg/L	5.46 NTU	74.6 mV	8.40 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 9:56 AM	00:13	4.92 pH	21.61 °C	185.06 µS/cm	0.04 mg/L	3.66 NTU	80.8 mV	8.38 ft	0.09 PSU	4,000.0 ml/min
8/13/2020 10:00 AM	04:13	4.91 pH	21.47 °C	178.28 µS/cm	0.02 mg/L	1.98 NTU	72.6 mV	8.36 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 10:04 AM	08:13	4.91 pH	21.46 °C	175.25 µS/cm	0.02 mg/L	2.00 NTU	68.5 mV	8.34 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 10:08 AM	12:13	4.91 pH	21.45 °C	178.21 µS/cm	0.01 mg/L	2.59 NTU	65.5 mV	8.34 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 10:12 AM	16:13	4.92 pH	21.46 °C	180.36 µS/cm	0.01 mg/L	1.87 NTU	63.7 mV	8.35 ft	0.09 PSU	4,000.0 ml/min
8/13/2020 10:16 AM	20:13	4.92 pH	21.45 °C	176.59 µS/cm	0.01 mg/L	1.19 NTU	62.2 mV	8.39 ft	0.08 PSU	4,000.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/13/2020 11:56:35 AM

Project: CCR Well Redevelopment

Operator Name: Veronica Fay

Location Name: MCM-04 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.6 ft Total Depth: 28.6 ft Initial Depth to Water: 10.59 ft	Pump Type: Proactive Cyclone Tubing Type: LDPE 3/8 Pump Intake From TOC: 23.6 ft Estimated Total Volume Pumped: 36 liter Flow Cell Volume: 90 ml Final Flow Rate: 3000 ml/min Final Draw Down: 3.31 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 125.56 L at 8.5 L/min

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 5	
8/13/2020 11:56 AM	00:00	4.93 pH	21.32 °C	436.43 µS/cm	0.14 mg/L	8.20 NTU	90.8 mV	13.90 ft	3,000.0 ml/min
8/13/2020 11:59 AM	03:00	4.95 pH	21.32 °C	428.17 µS/cm	0.10 mg/L	5.69 NTU	89.1 mV	13.90 ft	3,000.0 ml/min
8/13/2020 12:02 PM	06:00	4.94 pH	21.29 °C	433.92 µS/cm	0.11 mg/L	3.74 NTU	88.8 mV	13.90 ft	3,000.0 ml/min
8/13/2020 12:05 PM	09:00	4.94 pH	21.30 °C	431.21 µS/cm	0.10 mg/L	2.06 NTU	88.1 mV	13.90 ft	3,000.0 ml/min
8/13/2020 12:08 PM	12:00	4.95 pH	21.33 °C	430.30 µS/cm	0.09 mg/L	1.51 NTU	87.6 mV	13.90 ft	3,000.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/13/2020 2:27:20 PM

Project: CCR Well Redevelopment

Operator Name: Veronica Fay

Location Name: MCM-05 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.1 ft Total Depth: 28.1 ft Initial Depth to Water: 9.08 ft	Pump Type: Proactive Cyclone Tubing Type: LDPE 3/8 Pump Intake From TOC: 23.1 ft Estimated Total Volume Pumped: 199.5 liter Flow Cell Volume: 90 ml Final Flow Rate: 9500 ml/min Final Draw Down: 2.42 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 293.9 L at 9.5 L/ min

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 5	
8/13/2020 2:27 PM	00:00	6.51 pH	28.54 °C	3,739.7 µS/cm	1.42 mg/L	6.07 NTU	35.7 mV	11.50 ft	9,500.0 ml/min
8/13/2020 2:30 PM	03:00	6.53 pH	22.91 °C	3,977.2 µS/cm	0.03 mg/L	6.07 NTU	2.1 mV	11.50 ft	9,500.0 ml/min
8/13/2020 2:33 PM	06:00	6.54 pH	22.61 °C	4,127.0 µS/cm	0.02 mg/L	2.20 NTU	-20.1 mV	11.57 ft	9,500.0 ml/min
8/13/2020 2:36 PM	09:00	6.54 pH	22.58 °C	4,320.6 µS/cm	0.02 mg/L	1.06 NTU	-35.8 mV	11.57 ft	9,500.0 ml/min
8/13/2020 2:39 PM	12:00	6.54 pH	22.56 °C	4,349.0 µS/cm	0.02 mg/L	1.22 NTU	-46.5 mV	11.57 ft	9,500.0 ml/min
8/13/2020 2:42 PM	15:00	6.54 pH	22.55 °C	4,287.8 µS/cm	0.02 mg/L	0.86 NTU	-53.4 mV	11.50 ft	9,500.0 ml/min
8/13/2020 2:45 PM	18:00	6.54 pH	22.56 °C	4,394.0 µS/cm	0.02 mg/L	0.68 NTU	-59.2 mV	11.50 ft	9,500.0 ml/min
8/13/2020 2:48 PM	21:00	6.54 pH	22.58 °C	4,365.8 µS/cm	0.01 mg/L	0.64 NTU	-62.4 mV	11.50 ft	9,500.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/14/2020 10:54:30 AM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-06 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 17.23 ft Total Depth: 27.23 ft Initial Depth to Water: 9.51 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 26.23 ft Estimated Total Volume Pumped: 120000 ml Flow Cell Volume: 90 ml Final Flow Rate: 7500 ml/min Final Draw Down: 4 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
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Test Notes:
Pre-purged 135 liter.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Salinity	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 1000 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/14/2020 10:54 AM	00:00	6.88 pH	23.96 °C	23,844 µS/cm	0.09 mg/L	7.52 NTU	-203.2 mV	13.43 ft	14.66 PSU	7,500.0 ml/min
8/14/2020 10:58 AM	04:00	6.87 pH	22.38 °C	24,973 µS/cm	0.07 mg/L	3.96 NTU	-297.0 mV	13.49 ft	15.40 PSU	7,500.0 ml/min
8/14/2020 11:02 AM	08:00	6.87 pH	22.34 °C	25,052 µS/cm	0.07 mg/L	3.75 NTU	-304.8 mV	13.51 ft	15.45 PSU	7,500.0 ml/min
8/14/2020 11:06 AM	12:00	6.87 pH	22.33 °C	25,071 µS/cm	0.06 mg/L	3.32 NTU	-308.6 mV	13.50 ft	15.47 PSU	7,500.0 ml/min
8/14/2020 11:10 AM	16:00	6.87 pH	22.34 °C	25,213 µS/cm	0.06 mg/L	2.61 NTU	-310.6 mV	13.51 ft	15.56 PSU	7,500.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/14/2020 9:24:29 AM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-07 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 13.8 ft Total Depth: 23.8 ft Initial Depth to Water: 8.48 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 22.8 ft Estimated Total Volume Pumped: 48000 ml Flow Cell Volume: 90 ml Final Flow Rate: 3000 ml/min Final Draw Down: 13.73 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
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Test Notes:
Pre-purged 108 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 %	+/- 1000 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/14/2020 9:24 AM	00:00	6.31 pH	24.07 °C	25,429 µS/cm	1.88 mg/L	12.40 NTU	-102.6 mV	22.38 ft	15.73 PSU	3,000.0 ml/min
8/14/2020 9:28 AM	04:00	6.31 pH	24.27 °C	25,312 µS/cm	1.52 mg/L	10.08 NTU	-102.3 mV	22.08 ft	15.65 PSU	3,000.0 ml/min
8/14/2020 9:32 AM	08:00	6.31 pH	24.19 °C	25,883 µS/cm	1.83 mg/L	8.97 NTU	-101.8 mV	22.14 ft	16.03 PSU	3,000.0 ml/min
8/14/2020 9:36 AM	12:00	6.31 pH	24.26 °C	26,042 µS/cm	1.56 mg/L	8.25 NTU	-103.5 mV	22.38 ft	16.14 PSU	3,000.0 ml/min
8/14/2020 9:40 AM	16:00	6.31 pH	24.27 °C	26,092 µS/cm	1.78 mg/L	6.23 NTU	-102.1 mV	22.21 ft	16.18 PSU	3,000.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/12/2020 12:06:19 PM

Project: CCR Well Redevelopment

Operator Name: Veronica Fay

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: 5.35 ft	Pump Type: Proactive Cyclone Tubing Type: 3/8 LDPE Pump Intake From TOC: 19 ft Flow Cell Volume: - 0 ml Final Flow Rate: 2100 ml/min Final Draw Down: 5.3 ft Estimated Total Volume Pumped: 145.2 L	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Prepurged 139.5 L at 5L/min. Well would go dry, had to adjust pump rate several times.

Had to adjust/ decrease flow rate several times to try and get parameters to stabilize.

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 5	
8/12/2020 12:06 PM	00:00	5.11 pH	27.34 °C	387.07 µS/cm	1.96 mg/L	9.14 NTU	67.3 mV	17.85 ft	2100.00 ml/min
8/12/2020 12:10 PM	03:51	5.14 pH	25.39 °C	248.13 µS/cm	7.66 mg/L		73.8 mV	17.85 ft	2100.00 ml/min
8/12/2020 12:11 PM	04:46	5.28 pH	25.78 °C	220.21 µS/cm	8.16 mg/L	1.17 NTU	73.5 mV	17.78 ft	2100.00 ml/min
8/12/2020 12:15 PM	08:46	5.15 pH	24.96 °C	433.57 µS/cm	1.72 mg/L	2.31 NTU	56.1 mV	17.65 ft	2100.00 ml/min
8/12/2020 12:19 PM	12:46	5.17 pH	25.00 °C	448.15 µS/cm	1.58 mg/L	1.10 NTU	56.6 mV	17.65 ft	2100.00 ml/min
8/12/2020 12:23 PM	16:46	5.18 pH	25.00 °C	429.27 µS/cm	1.51 mg/L	0.58 NTU	57.4 mV	17.00 ft	2100.00 ml/min
8/12/2020 12:27 PM	20:46	5.18 pH	25.03 °C	435.85 µS/cm	1.41 mg/L	0.58 NTU	58.1 mV	16.90 ft	2100.00 ml/min
8/12/2020 12:31 PM	24:46	5.18 pH	25.08 °C	434.86 µS/cm	1.32 mg/L	0.23 NTU	59.1 mV	16.90 ft	2100.00 ml/min
8/12/2020 12:35 PM	28:46	5.20 pH	25.06 °C	437.92 µS/cm	1.17 mg/L	0.30 NTU	60.0 mV	16.90 ft	2100.00 ml/min
8/12/2020 12:39 PM	32:46	5.22 pH	25.01 °C	448.65 µS/cm	1.50 mg/L	0.23 NTU	58.6 mV	16.80 ft	2100.00 ml/min
8/12/2020 12:43 PM	36:46	5.18 pH	25.04 °C	431.91 µS/cm	1.10 mg/L	0.14 NTU	58.6 mV	16.80 ft	2100.00 ml/min
8/12/2020 12:47 PM	40:46	5.20 pH	25.07 °C	428.32 µS/cm	1.04 mg/L	0.10 NTU	60.8 mV	16.75 ft	2100.00 ml/min
8/12/2020 12:51 PM	44:46	5.22 pH	25.06 °C	436.30 µS/cm	0.97 mg/L	0.18 NTU	62.3 mV	16.75 ft	2100.00 ml/min
8/12/2020 12:55 PM	48:46	5.20 pH	25.13 °C	434.21 µS/cm	0.97 mg/L	0.50 NTU	62.5 mV	16.00 ft	2100.00 ml/min
8/12/2020 12:59 PM	52:46	5.18 pH	25.24 °C	430.10 µS/cm	1.07 mg/L	0.43 NTU	65.7 mV	15.68 ft	2100.00 ml/min
8/12/2020 1:03 PM	56:46	5.17 pH	25.26 °C	401.12 µS/cm	1.08 mg/L	0.38 NTU	68.5 mV	15.68 ft	2100.00 ml/min

8/12/2020 1:07 PM	01:00:46	5.19 pH	25.24 °C	413.05 µS/cm	0.94 mg/L	0.17 NTU	70.9 mV	15.72 ft	2100.00 ml/min
8/12/2020 1:08 PM	01:02:00	5.20 pH	25.22 °C	421.65 µS/cm	0.89 mg/L	0.17 NTU	76.6 mV	15.72 ft	2100.00 ml/min
8/12/2020 1:11 PM	01:05:00	5.20 pH	25.24 °C	412.52 µS/cm	0.84 mg/L	0.11 NTU	72.1 mV	15.50 ft	2100.00 ml/min
8/12/2020 1:14 PM	01:08:00	5.27 pH	25.43 °C	510.13 µS/cm	0.56 mg/L	0.18 NTU	71.7 mV	13.30 ft	2100.00 ml/min
8/12/2020 1:17 PM	01:11:00	5.27 pH	25.46 °C	474.86 µS/cm	0.54 mg/L	0.26 NTU	69.4 mV	13.30 ft	2100.00 ml/min
8/12/2020 1:20 PM	01:14:00	5.17 pH	25.51 °C	396.18 µS/cm	0.86 mg/L	0.37 NTU	72.8 mV	11.30 ft	2100.00 ml/min
8/12/2020 1:23 PM	01:17:00	5.17 pH	26.10 °C	415.24 µS/cm	0.63 mg/L	0.37 NTU	74.1 mV	11.30 ft	2100.00 ml/min
8/12/2020 1:26 PM	01:20:00	5.26 pH	26.24 °C	520.98 µS/cm	0.42 mg/L	0.45 NTU	73.7 mV	11.27 ft	2100.00 ml/min
8/12/2020 1:29 PM	01:23:00	5.20 pH	25.92 °C	402.65 µS/cm	0.54 mg/L	0.56 NTU	73.0 mV	11.00 ft	2100.00 ml/min
8/12/2020 1:32 PM	01:26:00	5.16 pH	26.06 °C	385.75 µS/cm	0.59 mg/L	0.43 NTU	76.4 mV	10.85 ft	2100.00 ml/min
8/12/2020 1:35 PM	01:29:00	5.16 pH	26.00 °C	381.31 µS/cm	0.50 mg/L	0.54 NTU	79.2 mV	10.85 ft	2100.00 ml/min
8/12/2020 1:38 PM	01:32:00	5.16 pH	25.96 °C	387.00 µS/cm	0.40 mg/L	0.63 NTU	81.2 mV	10.87 ft	2100.00 ml/min
8/12/2020 1:41 PM	01:35:00	5.17 pH	26.01 °C	395.38 µS/cm	0.38 mg/L	0.51 NTU	82.7 mV	10.87 ft	2100.00 ml/min
8/12/2020 1:44 PM	01:38:00	5.17 pH	26.06 °C	386.43 µS/cm	0.36 mg/L	0.58 NTU	83.3 mV	10.65 ft	2100.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/12/2020 11:24:16 AM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-12 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 19.02 ft Total Depth: 29.02 ft Initial Depth to Water: 9.55 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 28.02 ft Estimated Total Volume Pumped: 32000 ml Flow Cell Volume: 90 ml Final Flow Rate: 2000 ml/min Final Draw Down: 18.27 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
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Test Notes:
Pre-purged 105 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 %	+/- 1000 %	+/- 5	+/- 1000	+/- 0.3	+/- 1000	
8/12/2020 11:24 AM	00:00	6.32 pH	23.19 °C	2,794.4 µS/cm	3.72 mg/L	9.40 NTU	33.4 mV	27.51 ft	1.47 PSU	2.00 ml/min
8/12/2020 11:28 AM	04:00	6.32 pH	23.37 °C	2,797.4 µS/cm	3.47 mg/L	9.86 NTU	23.5 mV	27.60 ft	1.47 PSU	2.00 ml/min
8/12/2020 11:32 AM	08:00	6.32 pH	23.25 °C	2,794.8 µS/cm	3.39 mg/L	9.51 NTU	20.0 mV	27.82 ft	1.47 PSU	2.00 ml/min
8/12/2020 11:36 AM	12:00	6.32 pH	23.28 °C	2,795.7 µS/cm	3.30 mg/L	9.67 NTU	18.8 mV	27.82 ft	1.47 PSU	2.00 ml/min
8/12/2020 11:40 AM	16:00	6.32 pH	23.32 °C	2,799.8 µS/cm	3.40 mg/L	7.80 NTU	18.3 mV	27.82 ft	1.47 PSU	2.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/12/2020 3:26:44 PM

Project: CCR Well Redevelopment

Operator Name: Veronica Fay

Location Name: MCM-14 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.1 ft Total Depth: 28.1 ft Initial Depth to Water: 9.65 ft	Pump Type: Proactive Cyclone Tubing Type: 3/8 LDPE Pump Intake From TOC: 23.1 ft Estimated Total Volume Pumped: 14.4 liter Flow Cell Volume: 90 ml Final Flow Rate: 1200 ml/min Final Draw Down: 0.1 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
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Test Notes:

Weather Conditions:

Prepurged 351.69 L

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 5	
8/12/2020 3:26 PM	00:00	6.57 pH	24.01 °C	20,981 µS/cm	0.04 mg/L	2.33 NTU	-149.3 mV	9.85 ft	1200.00 ml/min
8/12/2020 3:29 PM	03:00	6.50 pH	23.79 °C	21,054 µS/cm	0.04 mg/L	2.34 NTU	-156.0 mV	9.78 ft	1200.00 ml/min
8/12/2020 3:32 PM	06:00	6.51 pH	23.66 °C	21,194 µS/cm	0.03 mg/L	2.46 NTU	-161.9 mV	9.76 ft	1200.00 ml/min
8/12/2020 3:35 PM	09:00	6.51 pH	23.64 °C	21,191 µS/cm	0.03 mg/L	3.64 NTU	-168.0 mV	9.88 ft	1200.00 ml/min
8/12/2020 3:38 PM	12:00	6.52 pH	23.27 °C	21,208 µS/cm	0.03 mg/L	3.64 NTU	-166.9 mV	9.75 ft	1200.00 ml/min

Samples

Sample ID:	Description:
------------	--------------

Low-Flow Test Report:

Test Date / Time: 8/13/2020 9:55:56 AM

Project: CCR Well Redevelopment

Operator Name: Veronica Fay

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: 10.03 ft	Pump Type: Proactive Cyclone Tubing Type: LDPE 3/8 Pump Intake From TOC: 21.6 ft Estimated Total Volume Pumped: 47 liter Flow Cell Volume: 90 ml Final Flow Rate: 2750 ml/min Final Draw Down: 1.37 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728563
---	---	--

Test Notes:

Prepurged 188.8 L at 9 L/min

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 1000 %	+/- 5 %	+/- 10 %	+/- 5	+/- 1000 %	+/- 5	
8/13/2020 9:55 AM	00:00	8.30 pH	34.36 °C	5.79 µS/cm	7.02 mg/L	13.10 NTU	299.8 mV	11.49 ft	2,750.0 ml/min
8/13/2020 9:58 AM	02:15	8.32 pH	35.28 °C	5.54 µS/cm	6.93 mg/L	12.30 NTU	303.8 mV	11.51 ft	2,750.0 ml/min
8/13/2020 10:01 AM	05:15	5.24 pH	24.87 °C	122.44 µS/cm	0.06 mg/L	12.00 NTU	91.3 mV	11.45 ft	2,750.0 ml/min
8/13/2020 10:04 AM	08:15	5.20 pH	22.79 °C	125.33 µS/cm	0.03 mg/L	11.80 NTU	78.1 mV	11.43 ft	2,750.0 ml/min
8/13/2020 10:07 AM	11:15	5.21 pH	22.85 °C	122.80 µS/cm	0.03 mg/L	9.50 NTU	74.2 mV	11.41 ft	2,750.0 ml/min
8/13/2020 10:10 AM	14:15	5.22 pH	22.85 °C	124.20 µS/cm	0.02 mg/L	9.70 NTU	72.5 mV	11.40 ft	2,750.0 ml/min
8/13/2020 10:13 AM	17:15	5.22 pH	22.88 °C	125.87 µS/cm	0.02 mg/L	8.26 NTU	71.5 mV	11.40 ft	2,750.0 ml/min

Samples

Sample ID:	Description:
------------	--------------

Low-Flow Test Report:

Test Date / Time: 8/13/2020 11:38:50 AM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-16 Well Diameter: 2 in Casing Type: PVC Screen Length: 10 ft Top of Screen: 18.21 ft Total Depth: 28.21 ft Initial Depth to Water: 10.13 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 27.21 ft Estimated Total Volume Pumped: 64000 ml Flow Cell Volume: 90 ml Final Flow Rate: 4000 ml/min Final Draw Down: 1.62 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
---	--	--

Test Notes:
Pre-purged 150 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 %	+/- 1000 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/13/2020 11:38 AM	00:00	4.88 pH	21.92 °C	160.77 µS/cm	0.04 mg/L	3.67 NTU	97.7 mV	11.65 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 11:42 AM	04:00	4.88 pH	21.70 °C	161.09 µS/cm	0.02 mg/L	2.08 NTU	86.6 mV	11.70 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 11:46 AM	08:00	4.89 pH	21.67 °C	161.33 µS/cm	0.02 mg/L	1.72 NTU	82.0 mV	11.74 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 11:50 AM	12:00	4.89 pH	21.67 °C	161.44 µS/cm	0.01 mg/L	1.45 NTU	78.4 mV	11.75 ft	0.08 PSU	4,000.0 ml/min
8/13/2020 11:54 AM	16:00	4.91 pH	21.66 °C	161.84 µS/cm	0.01 mg/L	1.78 NTU	76.0 mV	11.75 ft	0.08 PSU	4,000.0 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 8/12/2020 2:11:59 PM
Project: Plant McManus Well Development
Operator Name: Kevin Stephenson

Location Name: MCM-17 Well Diameter: 2 in Screen Length: 10 ft Top of Screen: 10.13 ft Total Depth: 27.44 ft Initial Depth to Water: 10.13 ft	Pump Type: Proactive 12V Tubing Type: LDPE Pump Intake From TOC: 26.44 ft Estimated Total Volume Pumped: 128000 ml Flow Cell Volume: 90 ml Final Flow Rate: 4000 ml/min Final Draw Down: 1.21 ft	Instrument Used: Aqua TROLL 400 Serial Number: 728648
--	---	--

Test Notes:
Pre-purged 152 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 %	+/- 1000 %	+/- 5	+/- 1000 %	+/- 0.3	+/- 1000	
8/12/2020 2:11 PM	00:00	6.83 pH	23.37 °C	16,351 µS/cm	0.04 mg/L	20.10 NTU	-27.3 mV	11.42 ft	9.71 PSU	4.00 ml/min
8/12/2020 2:15 PM	04:00	6.82 pH	21.96 °C	16,919 µS/cm	0.02 mg/L	18.50 NTU	-54.4 mV	11.42 ft	10.07 PSU	4.00 ml/min
8/12/2020 2:19 PM	08:00	6.82 pH	21.90 °C	17,051 µS/cm	0.01 mg/L	17.40 NTU	-58.9 mV	11.42 ft	10.16 PSU	4.00 ml/min
8/12/2020 2:23 PM	12:00	6.82 pH	21.89 °C	17,186 µS/cm	0.01 mg/L	15.60 NTU	-61.7 mV	11.41 ft	10.24 PSU	4.00 ml/min
8/12/2020 2:27 PM	16:00	6.82 pH	21.89 °C	17,061 µS/cm	0.01 mg/L	12.10 NTU	-66.3 mV	11.38 ft	10.16 PSU	4.00 ml/min
8/12/2020 2:31 PM	20:00	6.82 pH	21.89 °C	17,258 µS/cm	0.00 mg/L	11.50 NTU	-68.5 mV	11.36 ft	10.29 PSU	4.00 ml/min
8/12/2020 2:35 PM	24:00	6.82 pH	21.89 °C	17,255 µS/cm	0.00 mg/L	11.30 NTU	-71.1 mV	11.35 ft	10.29 PSU	4.00 ml/min
8/12/2020 2:39 PM	28:00	6.82 pH	21.89 °C	17,262 µS/cm	0.00 mg/L	10.61 NTU	-73.3 mV	11.34 ft	10.29 PSU	4.00 ml/min
8/12/2020 2:43 PM	32:00	6.82 pH	21.89 °C	17,341 µS/cm	0.00 mg/L	9.59 NTU	-76.1 mV	11.34 ft	10.35 PSU	4.00 ml/min

Samples

Sample ID:	Description:
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APPENDIX C

Lithium Alternative Source Demonstration Report



Richard E. Dunn, Director

Land Protection Branch

4244 International Parkway
Suite 104
Atlanta, Georgia 30354
404-362-2537

April 22, 2021

Mr. Ben Hodges
Geologist-Georgia
Georgia Power
241 Ralph McGill Boulevard
Atlanta, GA 30308

**SUBJECT: Georgia Power Company–Conditional Concurrence for Alternate Source Demonstration for Lithium at Plant McManus Ash Pond 1 (AP-1)
GEOS Submittal 527116**

Dear Mr. Hodges:

Georgia Environmental Protection Division (EPD) has reviewed the above Alternate Source Demonstration (ASD) originally submitted through GEOS (submittal 527116) on November 17, 2020 and included in the 2020 Semiannual Groundwater Monitoring and Corrective Action Report (GEOS submittal 553079). The ASD attributed lithium detected at statistically significant levels (SSL) above groundwater protection standards at groundwater monitoring well MCM-06 to a natural source.

Per Rule 394-3-4-.10(6)(d), EPD concurs with the referenced ASD based upon the information provided to date and is conditional on the ASD being updated after 2-years with additional monitoring data. If additional monitoring data does not show declining trends, EPD will require additional supporting evidence for continued concurrence. **Please submit an update to the ASD in the 2022 Semi-annual Groundwater Monitoring and Corrective Action Report.** This concurrence applies specifically to lithium at monitoring well MCM-06.

If you have any questions regarding this letter, please contact Mark Wescott at mark.wescott@dnr.ga.gov or (404) 362-2584.

Sincerely,

Mark Wescott Digitally signed
by Mark Wescott
Date: 2021.04.22
09:18:04 -04'00'

Mark M Wescott
Geologist
Environmental Monitoring Unit

cc: Aaron Mitchell, Jalpa Patel, Leslie Miller, Lauren Petty, Tim Earle, Georgia Power Company via e-mail.
William Cook, John Sayer, Keith Stevens, Rima Najif, GA EPD via e-mail.

File: CCR Applications/EPD Correspondence/Groundwater Correspondence



LITHIUM ALTERNATIVE SOURCE DEMONSTRATION

Plant McManus Former Ash Pond 1,
Brunswick, Georgia

November 17, 2020

**LITHIUM
ALTERNATIVE
SOURCE
DEMONSTRATION**

Plant McManus Former Ash Pond 1,
Brunswick, Georgia

Prepared for:

Georgia Power Company

Prepared by:

Arcadis U.S., Inc.
2839 Paces Ferry Road
Suite 900
Atlanta
Georgia 30339
Tel 770 431 8666
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Our Ref:

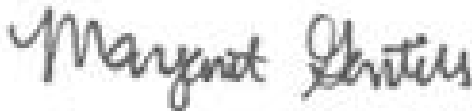
30050105

Date:

November 17, 2020



Geoffrey Gay, PE
Project Manager



Margaret Gentile, PhD
Technical Expert



Kathryn Farris, M. Sc.
Environmental Engineer

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Table 3. Single Well Hydraulic Conductivity Test Results

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- Figure 1. Site Location and Well Location Map
- Figure 2. Dewatering Progression Aerials
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- Figure 4A/4B. Surface Water Sample Collection Locations
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- Figure 6. Lithium Concentrations versus Chloride Concentrations
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- Figure 8. Tidal Influence on Monitoring Wells
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APPENDICES

- A Resolute Potentiometric Maps
- B Resolute Field Sampling Memo, Logs and Analytical Reports – June 2020
- C Resolute Summary of Groundwater Analytical Data – July 2020

**LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
P. ANT MONANUS FORMER ASH POND**

PROFESSIONAL CERTIFICATION

This Lithium Alternative Source Demonstration for the Georgia Power Company P. Ant Monanus Former Ash Pond has been prepared in compliance with applicable United States Environmental Protection Agency (USEPA) coal combustion residuals (CCR) rule and Georgia Environmental Protection Agency's Solid Waste Rules (Chapter 391-3-2) under the direction of a Georgia licensed professional engineer.



J. Geoffrey Day, P.E.
Principal Environmental Engineer
Georgia Registration No. PE 27807

11.17.2020
Date

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this alternate source demonstration (ASD) in accordance with the United States Environmental Protection Agency (USEPA) 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, which was detected 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**. The SSLs for lithium occurred at monitoring well MCM-06 in October 2019 and March 2020 with concentrations ranging from 0.064 to 0.13 milligrams per liter (mg/L) in 2019 and 2020, above the state and federal groundwater protection standards (GWPS) of 0.03 mg/L and 0.04 mg/L.

This ASD presents multiple lines of evidence that indicate that the lithium observed at former AP-1 is due to a natural source – i.e., the influx of brackish surface water during dewatering activities. 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.

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 comparable to the range of lithium concentrations observed at MCM-6.
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. Variation in hydraulic conductivity across the site and variable groundwater level response to tidal fluctuations.
4. Evaluation of groundwater flow conditions and concentration trends during CCR removal. Dewatering associated with CCR removal resulted in a consistent 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-06, 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-06.

2 SITE BACKGROUND

Plant McManus is an electrical power generation plant located on Crispin Island, near Brunswick, Georgia. Crispin 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 Turtle River is a tidally influenced brackish estuary that can vary in height by more than 8 feet during a tidal cycle (Resolute 2020a).

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 2020a). These very fine sands and discontinuous clay layers are interpreted to be the Upper Satilla Formation (ATC Associates, Inc. 1997). The Upper Satilla Formation 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 2020a). 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 Crispin Island to the southwest. The groundwater elevations in the monitoring wells and piezometers on the mainland (MCM-01, -02, -15, and -16) and Crispin 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**.

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 2020 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:

- March 2016 – Began removal of bulk CCR material from Areas A, B, and C.
- February 2017 – Began saturated CCR material removal from Area C.
- March 2018 – Began saturated CCR material removal from Area B.
- April 2018 – Began saturated CCR material removal from Area A.
- October 2019 – Excavation activities were completed.

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. An illustration of the hydrologic impacts of dewatering is provided as **Figure 3**. Dewatering activities began in February 2017 and operated nearly continuously until April 2019, a period of over 2 years. 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-06 is discussed in Section 3.1.4.

2.4 Surface and Groundwater Chemistry

Plant McManus is situated on an island along the Turtle River, which feeds into the Saint Simons sound and the Atlantic Ocean. The Turtle River is a tidally influenced brackish estuary in the vicinity of Brunswick and Plant McManus. The water quality of brackish surface water can differ considerably compared to groundwater and reflects a mixing of saline seawaters with groundwater and freshwater inputs. Seawater has six major (above 100 parts per million [ppm]) dissolved elements: chlorine, sodium, magnesium, sulfur (as sulfate), calcium, and potassium; and six minor constituents (concentrations between 1 and 100 ppm): bromine, carbon, strontium, boron, silicon, and fluorine (Segar 1998). Trace elements, including lithium, are detected at concentrations less than 1 ppm. Lithium is the fourteenth most abundant element in seawater and are documented to range from 0.1 to 0.2 mg/L (Institute of Ocean Energy).

Typical CCR indicators (boron, sulfate, calcium, and chloride) are naturally present at elevated levels in seawater. The similarity between major, minor, and trace elements in seawater and CCR impacted water challenges the standard approaches for evaluating coal-ash sites. Therefore, in these conditions, a lines-of-evidence approach can be used to further understand the source of a constituent.

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-06. Surface water samples were collected in February 2020 and in June 2020. Memos summarizing the field activities and analytical data reports for these events are provided as **Appendix B**.

In February 2020, surface water samples were collected from 4 transects (T1 through T4) adjacent to monitoring wells MCM-04, MCM-05, MCM-07 and MCM-14, as shown on **Figures 4A and 4B**. Four sample locations were collected in each transect. In addition, samples from the surface water in the former ash pond were collected adjacent to MCM-05, MCM-06, MCM-07 and MCM-14. 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, or 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**. Total lithium concentrations in the surface water samples collected from the transects and background locations ranged from 0.035 (estimated) to 0.11 mg/L. This range of concentrations is comparable to the concentrations of the lithium SSLs ranging from 0.064 to 0.13 mg/L at MCM-06 in 2019 and 2020 when SSLs were identified. Total lithium concentrations in the former ash pond water were substantially lower than surface water, ranging from 0.012 (estimated) to 0.022 (estimated) mg/L.

3.1.2 Evaluation of Geochemistry Markers

Comparison of geochemistry markers in surface waters and groundwater 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. The June 2020 sampling event consisted of surface water samples from the two background locations within Turtle River, BG-1 and BG-2, along with groundwater samples from monitoring wells MCM-06 and MCM-07, and DPZ-02 in support of ASD development (**Figure 5**). These samples were analyzed for select cations, anions, metals, alkalinity, and total dissolved solids. Surface water data collected during this mobilization were also compared to data from the October 2019 and March 2020

LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
PLANT MCMANUS FORMER ASH POND 1

Assessment Monitoring events that identified SSL lithium concentrations (Resolute 2020b). Background monitoring wells MCM-18, MCM-19, and MCM-20 were not installed at the time of the October 2019 sampling event. Nine sampling events were conducted at the background wells between November 2019 and March 2020 (Resolute 2020b). The March 2020 results were used for the comparative analysis. Notes regarding field activities completed by Resolute and data tables for the October 2019 and March 2020 sampling events are provided in **Appendices B and C**.

A direct comparison of surface water and monitoring well geochemical data supports the understanding that the source of lithium is brackish surface water. Piper plots were developed from the June data from surface water and groundwater monitoring wells MCM-06, MCM-07, and DPZ-02. Piper plots assess relative abundance of general cations and anions in groundwater and are a useful tool in differentiating water sources (Chu et al. 2017). The water quality is similar in BG-2 and the monitoring wells (**Figure 5**). Lower chloride concentrations were identified in water collected from background location BG-1; however, this is expected due to its upstream location, which is less influenced by the tidal zone.

A comparison of ratios of ions can be used to differentiate groundwater impacted by CCR from different sources. This method 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. Accordingly, the ratio of these conservative CCR ions would not change along the flowpath from a potential CCR source. At Plant McManus, many of the CCR ions (boron, sulfate, calcium, chloride and lithium) are also present in the surface water, as discussed in Section 2.4, and will be present at different characteristic ratios than a potential CCR source. Accordingly, a comparison of ion ratios is a line of evidence for evaluating a surface water versus CCR-derived source of lithium.

Figure 6 shows a correlation plot between Appendix III CCR indicator parameters chloride and lithium. The data shows several different relationships between lithium and chloride:

1. The similarity in ratios of lithium and chloride in the surface and groundwater samples shown by the orange trend line indicate that elevated lithium detections at MCM-06 are from surface water. Upgradient monitoring wells MCM-01, MCM-02, MCM-08, MCM-11, MCM-15, and MCM-16, shown with plus sign symbols, are clustered to the bottom left of the diagram demonstrating non-detect or estimated-below-reporting limit concentrations of lithium and low chloride concentrations. Downgradient monitoring well MCM-04 (grey dash symbol) and MCM-18 (grey asterisk symbol) also exhibit low estimated lithium concentrations below the reporting limit and low chloride concentrations, clustering to the lower left of the diagram. Wells located along the dikes exhibit a positive correlation between lithium and chloride along two trend lines shown in green and orange. Trendline 1, shown in orange, includes surface water samples, BG-1 and BG-2, the elevated lithium samples from MCM-06, and two samples from MCM-07 with elevated lithium. The similarity in ratios of lithium and chloride in the surface and groundwater samples along this trend line indicate the elevated lithium detections at MCM-06 are from surface water, rather than a CCR source that would be expected to have a different ratio of lithium and chloride.
2. The positive correlation of lithium and chloride along the green trend line also indicates a source of lithium from surface water. The green trend line includes samples that exhibited lower lithium concentrations from wells MCM-05, MCM-14, MCM-17, MCM-06, and MCM-07. The green trend line

likely differs from the orange trend line because the ratio of surface water and groundwater samples differs due to variable mixing and flow conditions at those locations.

3. Finally, the samples from two background locations, MCM-19 and MCM-20 form a distinct cluster shown in blue with estimated lithium below the reporting limit consistently detected around 0.02 mg/L over a range of chloride concentrations from 5,010 mg/L to 8,130 mg/L. There is also one sample from MCM-07 that falls near this grouping shown in a blue triangle. The blue cluster of data from MCM-19 and MCM-20 is potentially a different mix of surface water and groundwater in these background locations.

To analyze several CCR indicator ions in conjunction with lithium simultaneously, concentrations for the ions are displayed on a star plot in **Figures 5 and 7**, with data in **Appendix C** for the October 2019 and March and June 2020 events. These 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 June 2020 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 from several monitoring wells along the dikes (MCM-05, -06, -07, and -14) are present at ratios that are similar to surface water and to each other. In contrast, groundwater collected from the island and mainland have ion ratios dissimilar to the surface water samples. Lithium concentrations in these monitoring wells along the dikes (MCM-05, -06, -07, and -14) are similar to the range of surface water, as discussed in Section 3.1.1, and higher than wells located on the mainland and island.

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-06 are in closer hydraulic communication with the tidal marsh than other wells. Site data collected to date, including slug tests and tidal studies, demonstrate heterogeneous 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 8.67×10^{-5} centimeter per second (cm/sec) to 2.90×10^{-3} cm/sec (Resolute 2020a). 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 3**), although wells exhibiting high conductivities are also present within the mainland.

A tidal study was conducted (Resolute 2020a) to evaluate sensitivities of groundwater to changes in tides. Transducers were deployed over a period of several months. The monitoring well locations along the dikes were found to be more sensitive to tidal fluctuations during the study, especially MCM-05, MCM-06, MCM-07 and MCM-14 (**Figure 8**). The magnitude of tidal fluctuation at these monitoring wells was greater than at the other wells. Hydraulic conductivities measured at MCM-05, MCM-06 and MCM-14 are also on the high end of the range for the site. Together, the hydraulic conductivity and tidal data show these locations are in hydraulic communication with the tidal marsh. Locations MCM-05, MCM-06, MCM-07, and MCM-14 which exhibit tidal fluctuations in water levels also exhibit similar geochemistry to surface water, as discussed in Section 3.1.2.

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 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-06, toward the geochemistry 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 gradient towards AP-1 during dewatering activities, favoring lateral movement of surface water and groundwater flow towards AP-1 and the dewatering wells (**Figure 3**).

After excavation and dewatering ceased, the hydraulic gradient and direction along the dikes shifted to the present condition, where the hydraulic gradient changes with the tides, as described in Section 2. The tide cycle is approximately 6 hours between high and low tides. The amount of time for groundwater movement at each tide stage is approximately 3 hours – or less at the higher magnitude gradients that would be present at the peak tides – thus significantly limiting the opportunity for groundwater flow. These characteristics are reflected in minimal changes in concentrations of lithium and other salts after pumping ended. Over time, it is anticipated that concentrations of lithium will return to pre-excavation concentrations as steady-state hydraulic gradients are re-established.

The trend of lithium concentrations over time at monitoring wells MCM-06, MCM-07 and MCM-14 align with dewatering activities. An evaluation of lithium trends at the wells located along the dike show that lithium concentrations at well MCM-14, located along the southern dike, increased in conjunction with the progression of excavation activities and dewatering at Area C (**Figure 9**). As excavation progressed to Areas A and B (March and April 2018), water levels decreased in Areas A and B, and similar trends were then seen in monitoring wells MCM-06 and MCM-07. The increase in lithium and other water quality parameters such as total dissolved solids, sulfate, and boron in these monitoring wells likely reflects the point when the pond has been fully dewatered and the dewatering well system begins to draw in more surface water as compared to pond water. As presented in the previous section, the ion ratios of these markers are like that of surface water; therefore, Arcadis interprets the lithium to be derived from the lateral movement of brackish surface water towards the pond.

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-06 is attributed to naturally occurring lithium in the adjacent brackish estuary and were not due to a release from AP-1. This is demonstrated by:

- Presence of lithium in surface water, with concentrations 0.1 to 0.2 mg/L common in seawater (Institute of Ocean Energy) and concentrations up to 0.11 mg/L measured in the brackish water at surface water sampling locations in comparison to groundwater concentrations ranging from 0.064 to 0.13 mg/L at MCM-06 in 2019 and 2020;

LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
PLANT MCMANUS FORMER ASH POND 1

- Similarity of geochemical markers in surface water and groundwater wells with elevated concentrations of lithium;
- Variation in hydraulic conductivity across the site and variable groundwater level response to tidal fluctuations which demonstrate locations such as MCM-06 are in hydraulic communication with the tidal marsh. The locations which exhibit tidal fluctuations in water levels also exhibit similar geochemistry to surface water; and
- Shifts in groundwater chemistry and an increase in lithium concentrations at MCM-06 that coincided with the establishment of inward gradients during pond dewatering activities.

These multiple lines of evidence are exhibited at MCM-06 as well as other wells along the dike (e.g., MCM-07 and MCM-14). 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.

5 REFERENCES

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TABLES



Table 1
Monitoring Well Network and Piezometers
Assessment of Corrective Measures Report
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)	Dissolved Lithium (mg/L)
Groundwater Protection Standards			
Federal GWPS	April 2020	0.04	N/A
State GWPS	April 2020	0.03	N/A
Groundwater			
MCM-06	8/19/2020	0.13	NS
MCM-06	6/16/2020	0.12	NS
MCM-06	10/17/2019	0.12	NS
MCM-07	6/16/2020	0.047	NS
DPZ-02	6/16/2020	0.096	NS
Background Surface Water			
BG-1LT	2/2/2020	0.09	0.098
BG-1LT-B	6/18/2020	0.055	NS
BG-1LT-S	6/18/2020	0.055	NS
BG-2HT	2/2/2020	0.099	0.099
BG-2-HT-B	6/17/2020	0.091	NS
BG-2-HT-S	6/17/2020	0.069	NS
Surface Water Transects			
T1-1HT	2/1/2020	0.039 J	0.038 J
T1-1LT	2/1/2020	0.024 J	0.022 J
T1-2HT	2/1/2020	0.11	0.088
T1-2HTS	2/1/2020	0.055	0.061
T1-2LT	2/1/2020	0.022 J	0.024 J
T1-3HT	2/1/2020	0.092	0.08
T1-3HTS	2/1/2020	0.067	0.072
T1-3LT	2/1/2020	0.022 J	0.019 J
T1-4HT	2/1/2020	0.08	0.086
T1-4HTS	2/1/2020	0.081	0.083
T1-4LT	2/1/2020	0.09	0.09
T2-1HT	2/1/2020	0.052	0.059
T2-2HT	2/1/2020	0.1	0.084
T2-2HTS	2/1/2020	0.073	0.06
T2-2LT	2/2/2020	0.063	0.057
T2-3HT	2/1/2020	0.099	0.093
T2-3HTS	2/1/2020	0.11	0.094
T2-3LT	2/2/2020	0.049 J	0.041 J
T2-4HT	2/1/2020	0.091	0.092
T2-4HTS	2/1/2020	0.085	0.088
T2-4LT	2/2/2020	0.075	0.077
T3-1HT	2/2/2020	0.076	0.075
T3-2HT	2/2/2020	0.097	0.087
T3-2HTS	2/2/2020	0.075	0.078

Table 2
Lithium in Surface Water
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia



Location	Date	Lithium (mg/L)	Dissolved Lithium (mg/L)
T3-2LT	2/3/2020	0.077	0.079
T3-3HT	2/2/2020	0.081	0.088
T3-3HTS	2/2/2020	0.08	0.081
T3-3LT	2/3/2020	0.084	0.078
T3-4HT	2/2/2020	0.087	0.1
T3-4HTS	2/2/2020	0.085	0.09
T3-4LT	2/3/2020	0.072	0.072
T4-1L	3/18/2020	0.076	0.056
T4-2L	3/18/2020	0.043 J	0.061
T4-3L	3/18/2020	0.053	0.037 J
T4-4L	3/18/2020	0.062	0.036 J
T4-1HS	3/18/2020	0.042 J	0.058
T4-2HS	3/18/2020	0.043 J	0.064
T4-3HS	3/18/2020	0.035 J	0.051
T4-4HS	3/18/2020	0.047 J	0.041 J
T4-1HB	3/18/2020	0.036 J	0.033 J
T4-2HB	3/18/2020	0.048 J	0.042 J
T4-3HB	3/18/2020	0.036 J	0.064
T4-4HB	3/18/2020	0.035 J	0.066
Former Ash Pond Water			
MCM-05HT ASHPOND	2/2/2020	0.018 J	0.020 J
MCM-05LT ASHPOND	2/3/2020	0.012 J	0.021 J
MCM-06HT ASHPOND	2/1/2020	0.020 J	0.021 J
MCM-06LT ASHPOND	2/2/2020	0.012 J	0.022 J
MCM-07HT ASHPOND	2/1/2020	0.020 J	0.020 J
MCM-07LT ASHPOND	2/1/2020	0.019 J	0.019 J
POND 4L	3/18/2020	0.022 J	0.022 J
POND 4H	3/18/2020	0.016 J	0.020 J

Abbreviations

GWPS- groundwater protection standards

HT- high tide

J- estimated concentration greater than the laboratory's method detection limit, but less than the laboratory's reporting limit.

LT- low tide

mg/L- milligrams per liter

N/A- not applicable

NS- not sampled

Table 3
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





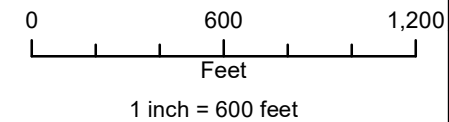
Legend

- CCR PERMITTED BOUNDARY
- + MONITORING WELL
- DEEP PIEZOMETER
- DEWATERING WELL

Note:

Source of island and historical features include 1951, 1953, and 1965 aeriels (EDR and others) and "McManus, Crispin Island Site, L ayout of Access Roadway to Plant Site" Georgia Power Company Engineering. November 10, 1950.
 *Well abandoned 2019

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



GEORGIA POWER
 ALTERNATIVE SOURCE DEMONSTRATION
 PLANT MCMANUS FORMER ASH POND 1
 BRUNSWICK, GEORGIA

**SITE LOCATION AND
 WELL LOCATION MAP**



FIGURE

1



Photo source: Aerial Innovations Southeast, Nov. 2017



Photo source: Aerial Innovations Southeast, Jan. 2018



Photo source: Aerial Innovations Southeast, March. 2018



GEORGIA POWER
 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
 PLANT MCMANUS FORMER ASH POND 1
 BRUNSWICK, GEORGIA

DEWATERING PROGRESSION AERIALS



FIGURE
 2

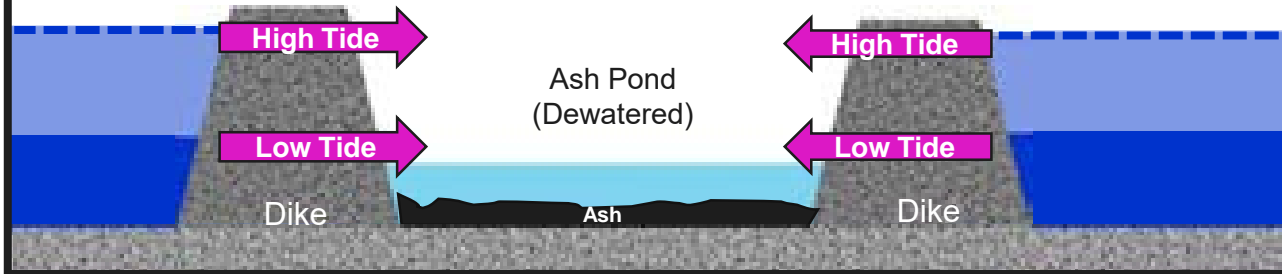
Note:

Aerial photos taken during coal ash removal activities by Aerial Innovations Southeast

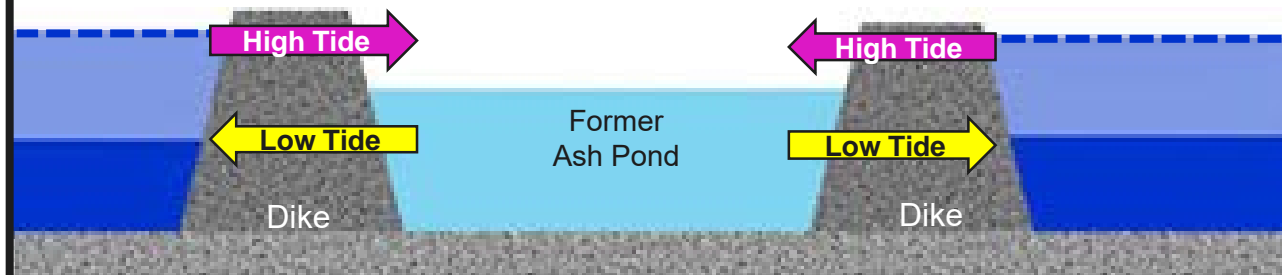
Photo Dates:

I - November 2017; II - January 2018, III - March 2018, IV - May 2018.

I. During-Excavation Activities



II. Post-Excavation Activities



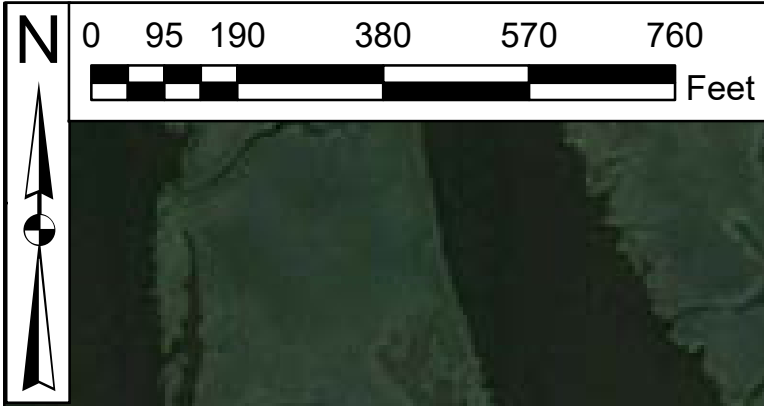
Notes: not to scale, provided for illustrative purposes

GEORGIA POWER
 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
 PLANT MCMANUS FORMER ASH POND 1
 BRUNSWICK, GEORGIA

SCHEMATIC: DEWATERING
 HYDROLOGIC INFLUENCE

ARCADIS

FIGURE
 3



X:\ArcGIS\McManus\ASD2020\AlternateSourceDemonstration\SamplingLocations



Legend

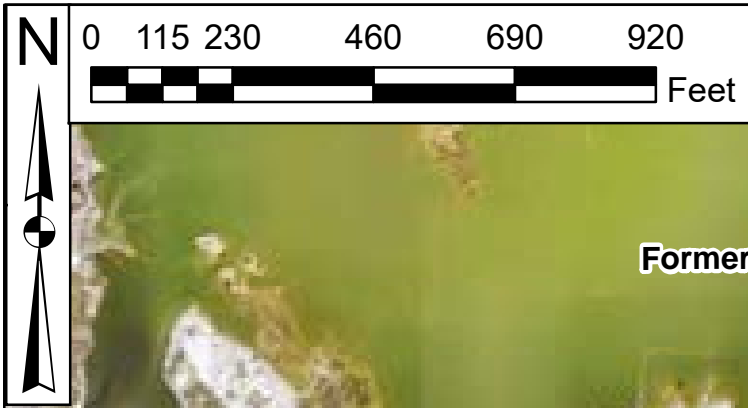
- Surface Water Sample
- Pond Sample
- CCR Permitted Boundary

Resolute
Environmental & Water Resources Consulting

Woodstock, GA	April 2020
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**Plant McManus
Surface Water
Sample Collection Locations**
Brunswick, GA

**Figure
4a**



Former AP-1

POND 4L
POND 4H

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

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

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

Transect 4

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

Gibson Creek

- Legend**
- Surface Water Sample
 - Pond Sample
 - CCR Permitted Boundary



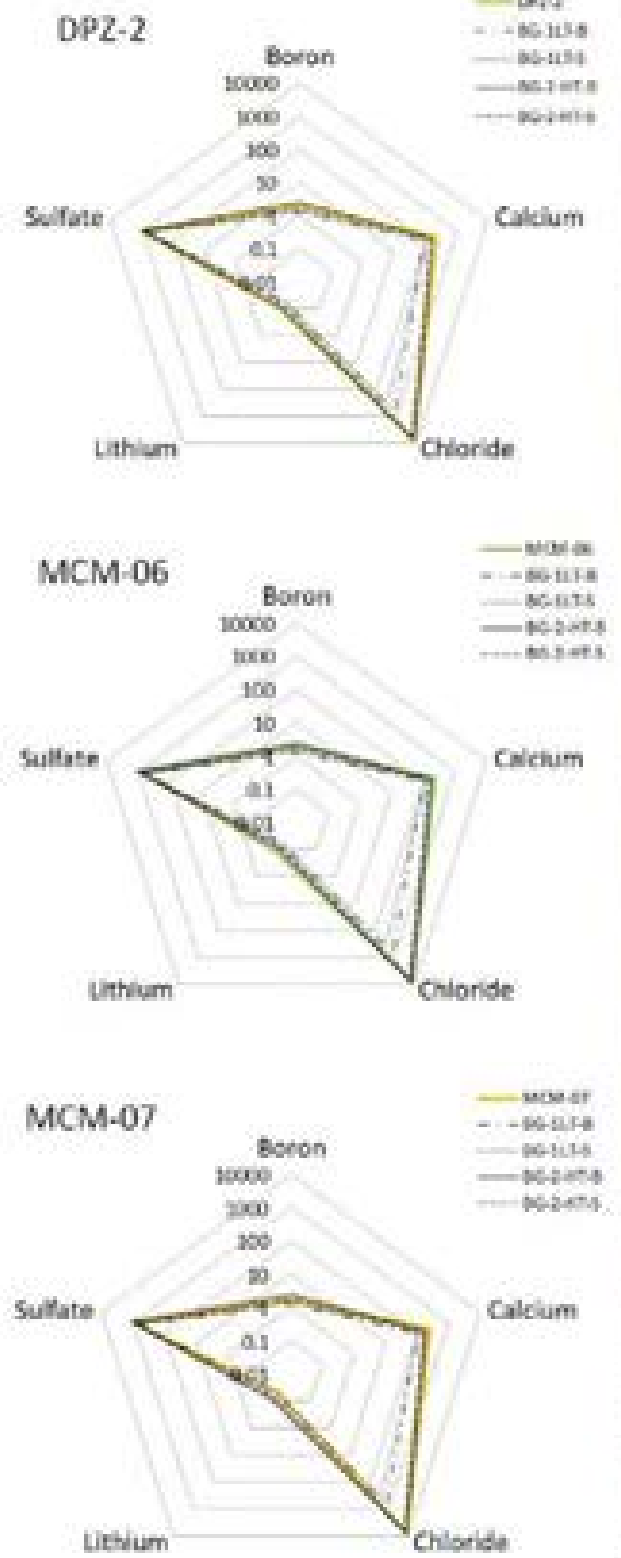
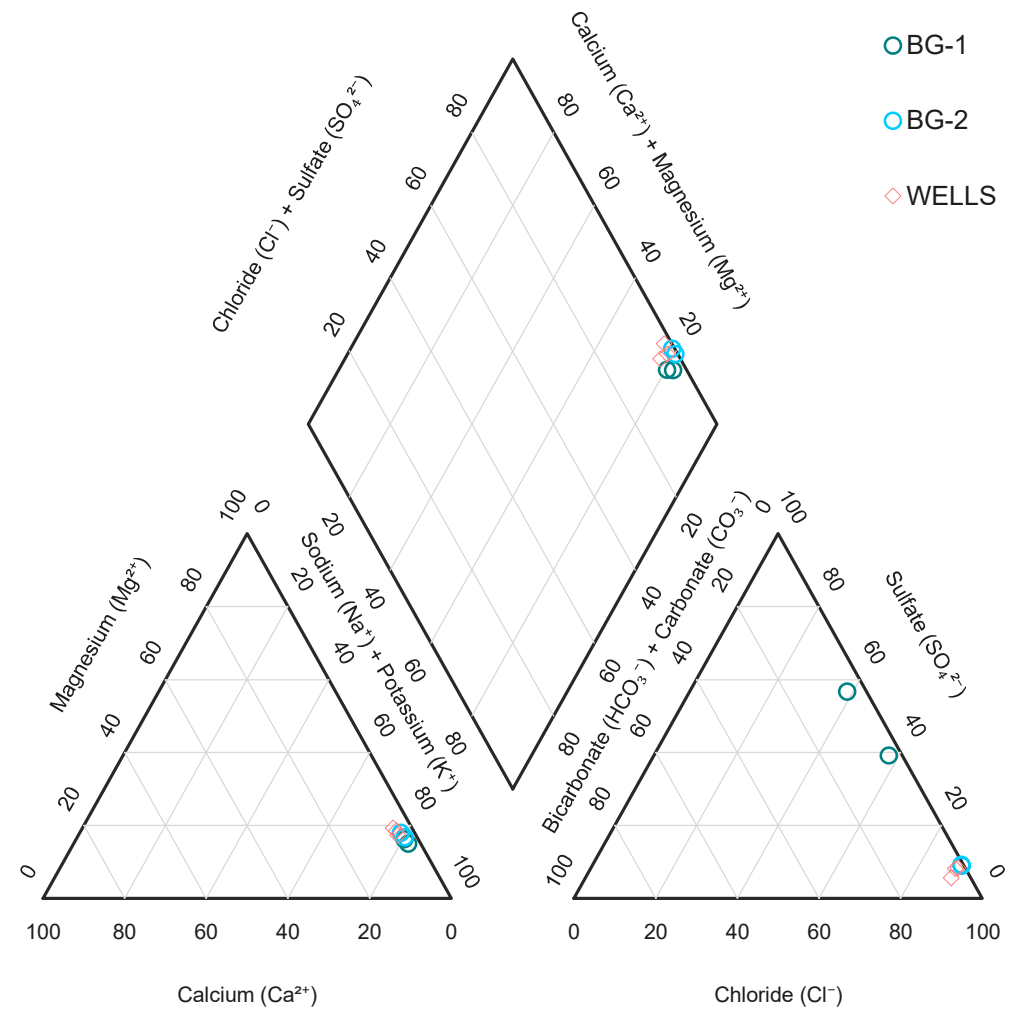
**Plant McManus
Surface Water
Sample Collection Locations**
Brunswick, GA

**Figure
4B**

Woodstock, GA

April 2020

X:\ArcGIS\McManus\ASD2020\AlternateSourceDemonstration\SamplingLocations



Legend

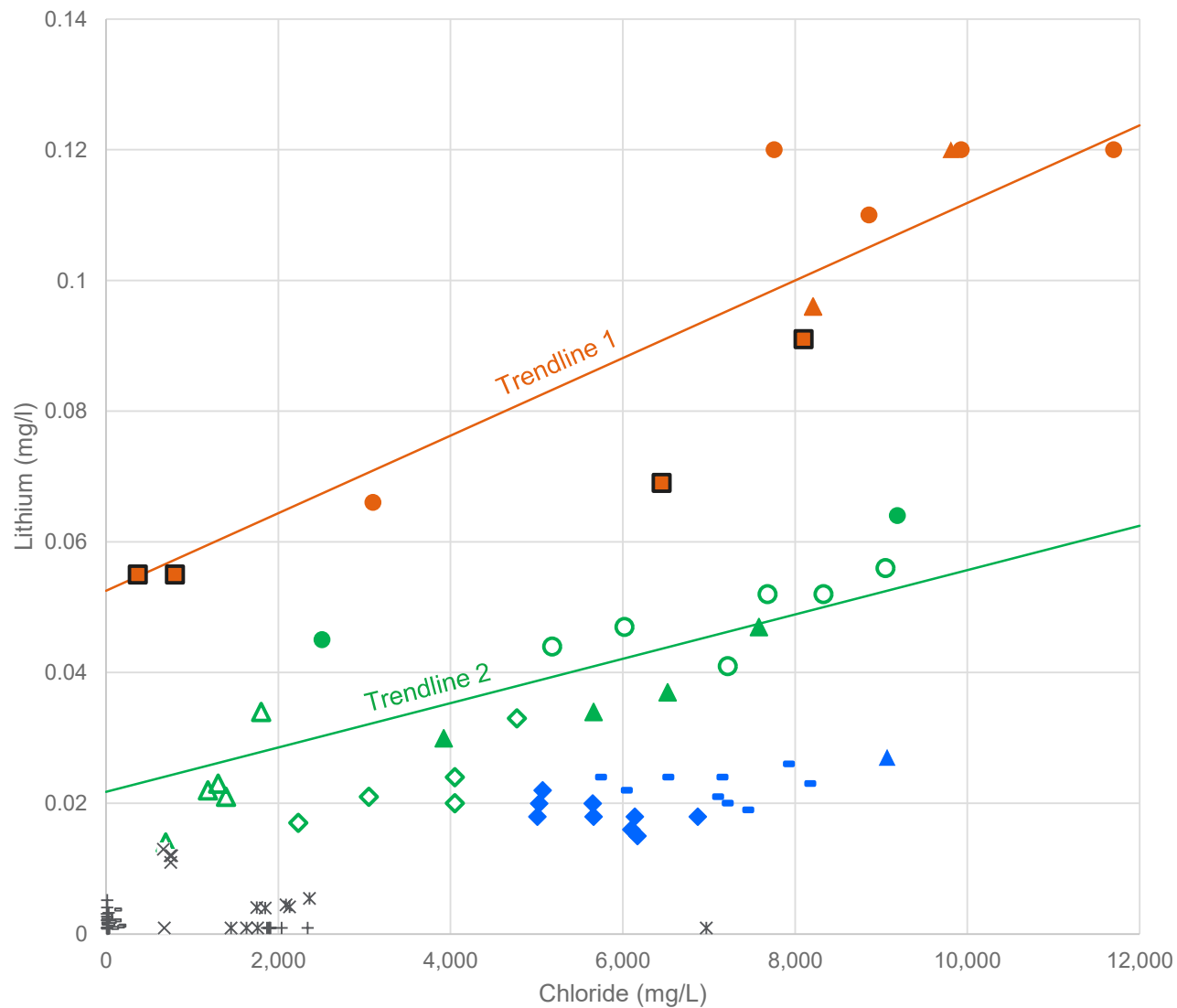
- OCR PERMITTED BOUNDARY
- SURFACE WATER SAMPLE LOCATIONS (JUNE 2020)
- MONITORING WELLS
- DEEP PIEZOMETER WELLS

Notes:
 Units in mg/l
 Wells presented in Piper plot include those locations sampled during the June 2020 Supplemental Sampling Event (MCM06, MCM07 and DPZ2).
 Two samples (shallow [S] and bottom [B]) were collected from each background location (BG1LTS, BG1LTB, BG2HTS, BG2HTB).
 Service Layer Credit: Source Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
 *Well abandoned in 2019



GEORGIA POWER
 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
 PLANT MCMANUS FORMER ASH POND 1
 BRUNSWICK, GEORGIA

**JUNE 2020 SURFACE WATER SAMPLE
 LOCATIONS AND RESULTS**



- Surface Water (BG-1, BG-2)
- + Upgradient Monitoring Wells (MCM-01, MCM-02, MCM-08, MCM-11, MCM-15, MCM-16)
- MCM-04
- ▲ MCM-05
- MCM-06
- ▲ MCM-07
- × MCM-12
- MCM-14
- ⊕ MCM-17
- × MCM-18
- ⊕ MCM-19
- MCM-20
- Trendline 1 generated by orange data points
- Trendline 2 generated by green data points

Notes:

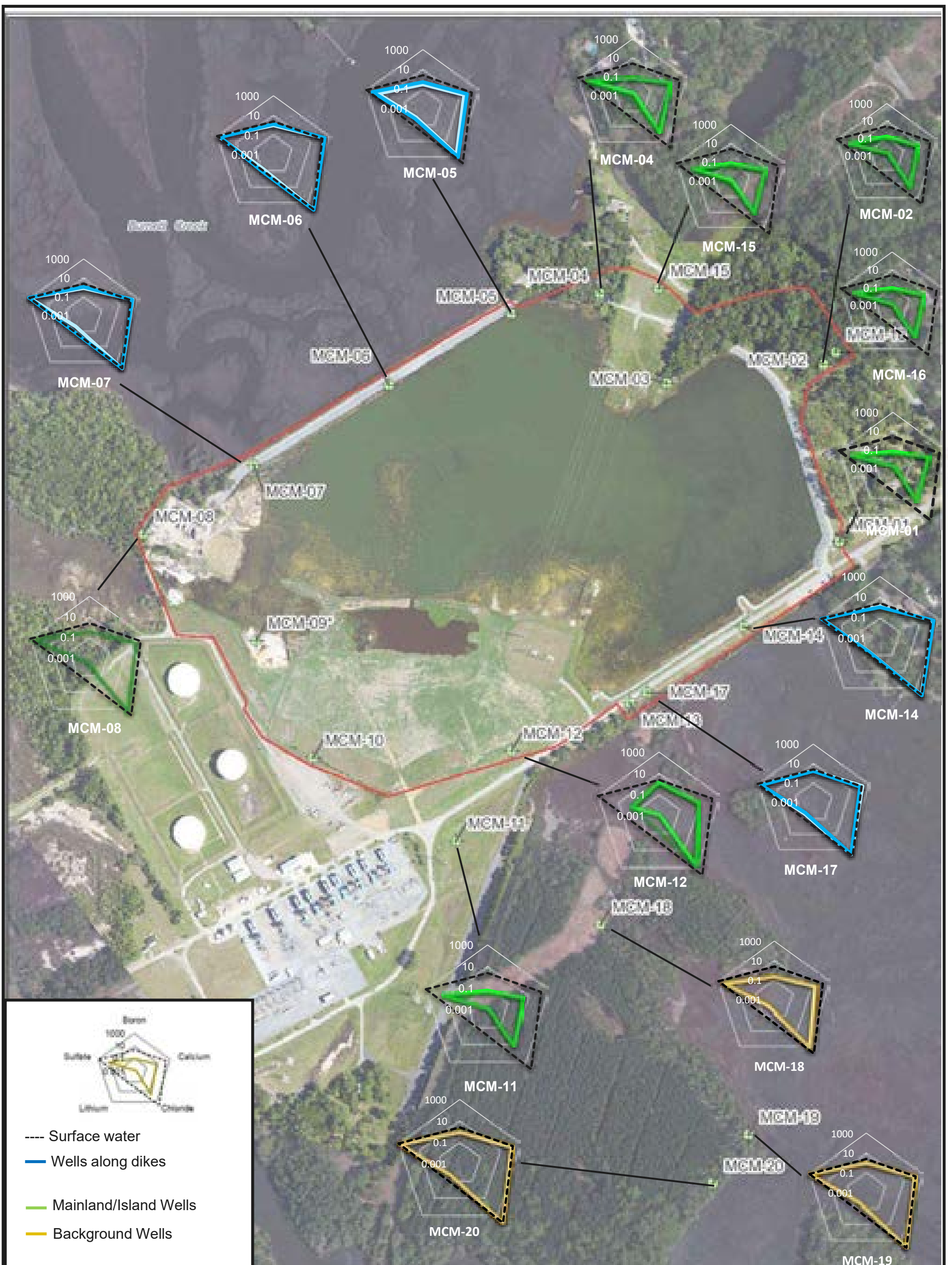
Data posted from samples collected in 2019 and 2020 and analyzed for both lithium and chloride presented in Table 4 and Appendix C.

Surface water sample results outlined in black.

Blue and grey data points are colored to illustrate points discussed in the text in Section 3.1.2

GEORGIA POWER
 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
 PLANT MCMANUS FORMER ASH POND 1
 BRUNSWICK, GEORGIA

**LITHIUM CONCENTRATIONS VERSUS
 CHLORIDE CONCENTRATIONS**



Note: Surface water sample BG-2HT-B collected June 2020 used for comparison.

Monitoring well data collected during October 2019 (dark shaded) and March 2020 (light shaded) sampling events (Resolute, 2020b)

Source of Island and Tidal Channel footprints include 1951, 1953, & 1956 aerials (EDR and others) and "McManus, Crispin Island Site, Layout of Access Roadway to Plant Site" Georgia Power Company Engineering. November 10, 1950.

Legend

- CCR PERMITTED BOUNDARY
- + MONITORING WELL



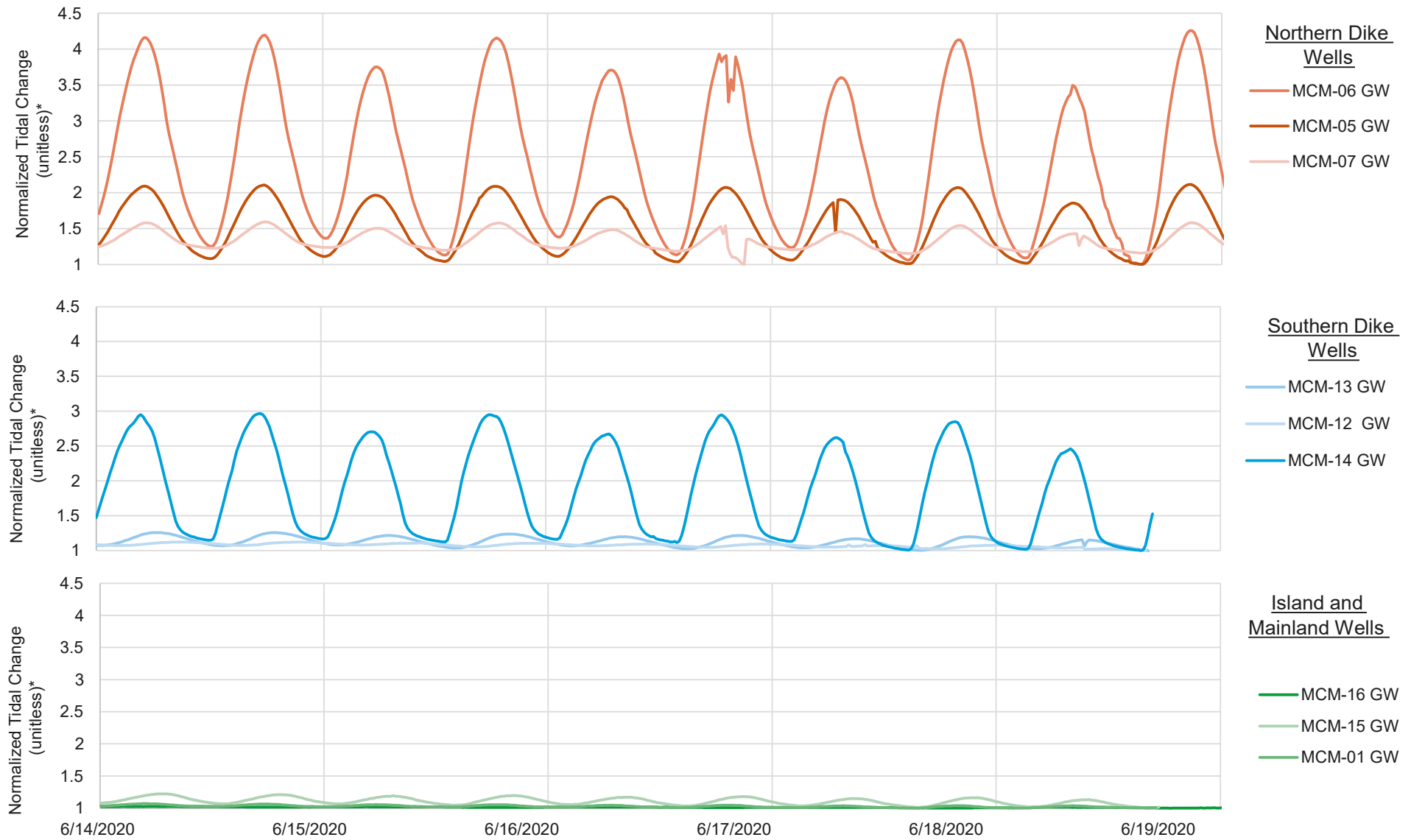
GEORGIA POWER
ALTERNATIVE SOURCE DEMONSTRATION
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

ION RATIO COMPARISON



FIGURE

7



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
LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

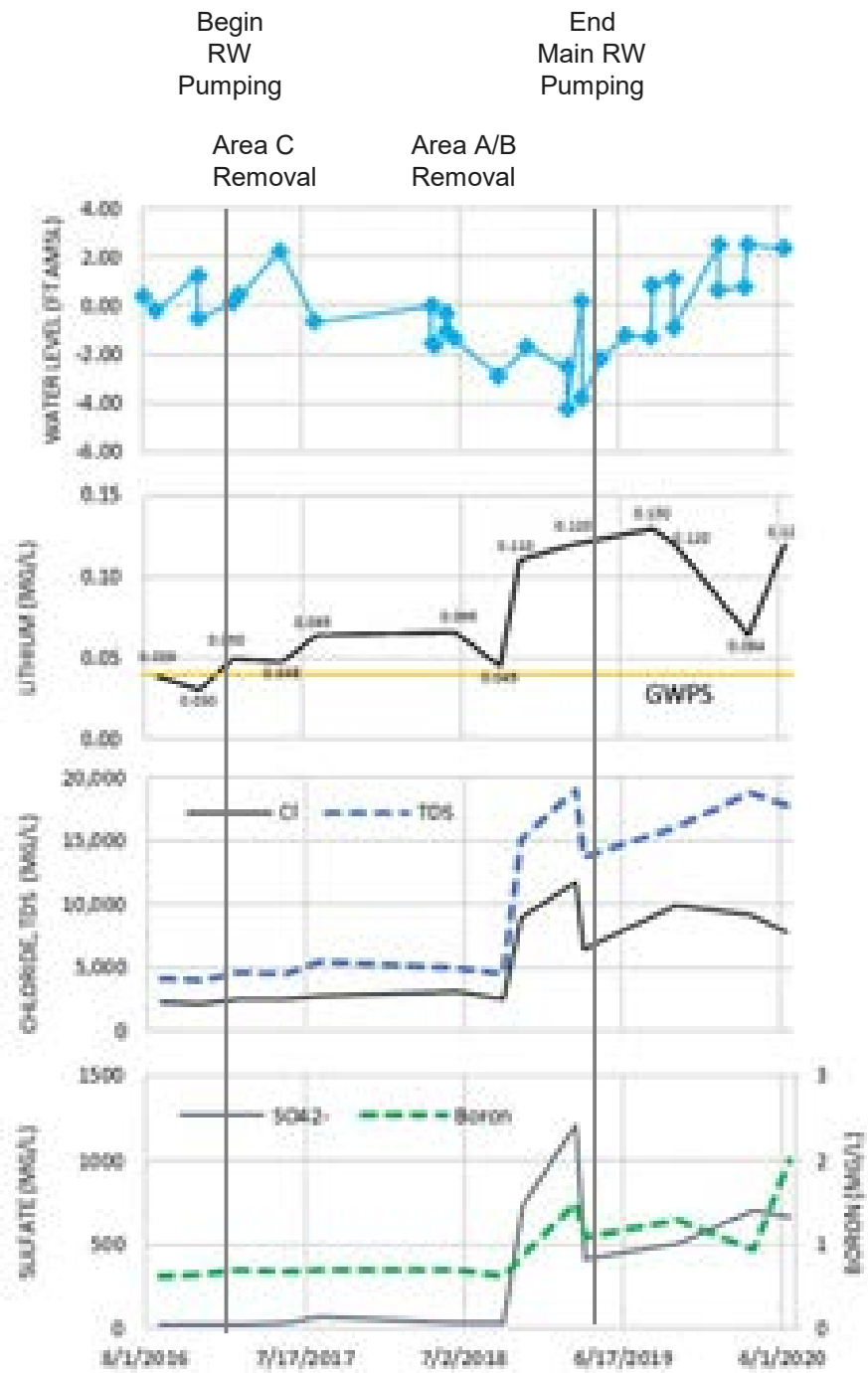
TIDAL INFLUENCE ON MONITORING
WELLS



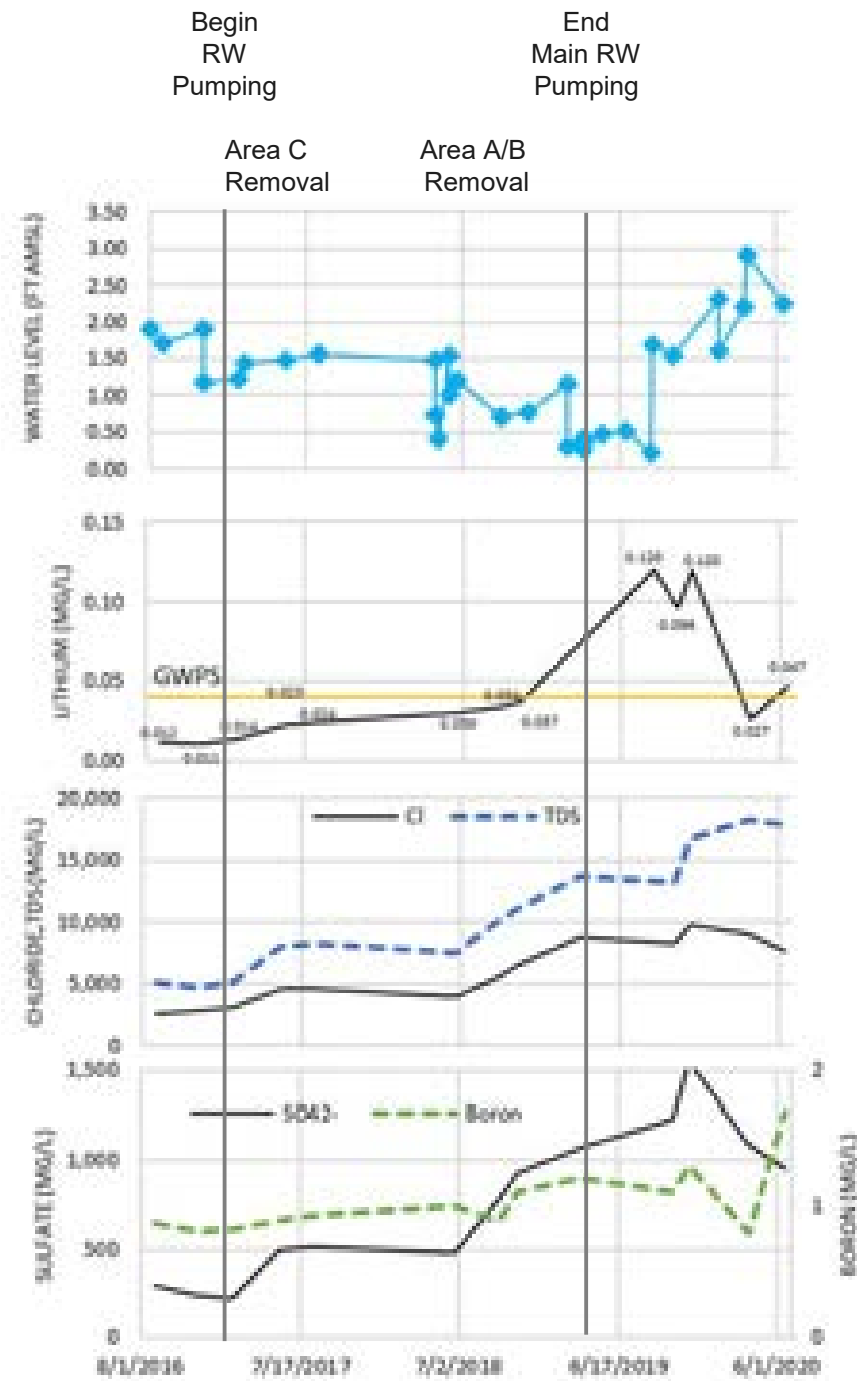
FIGURE

8

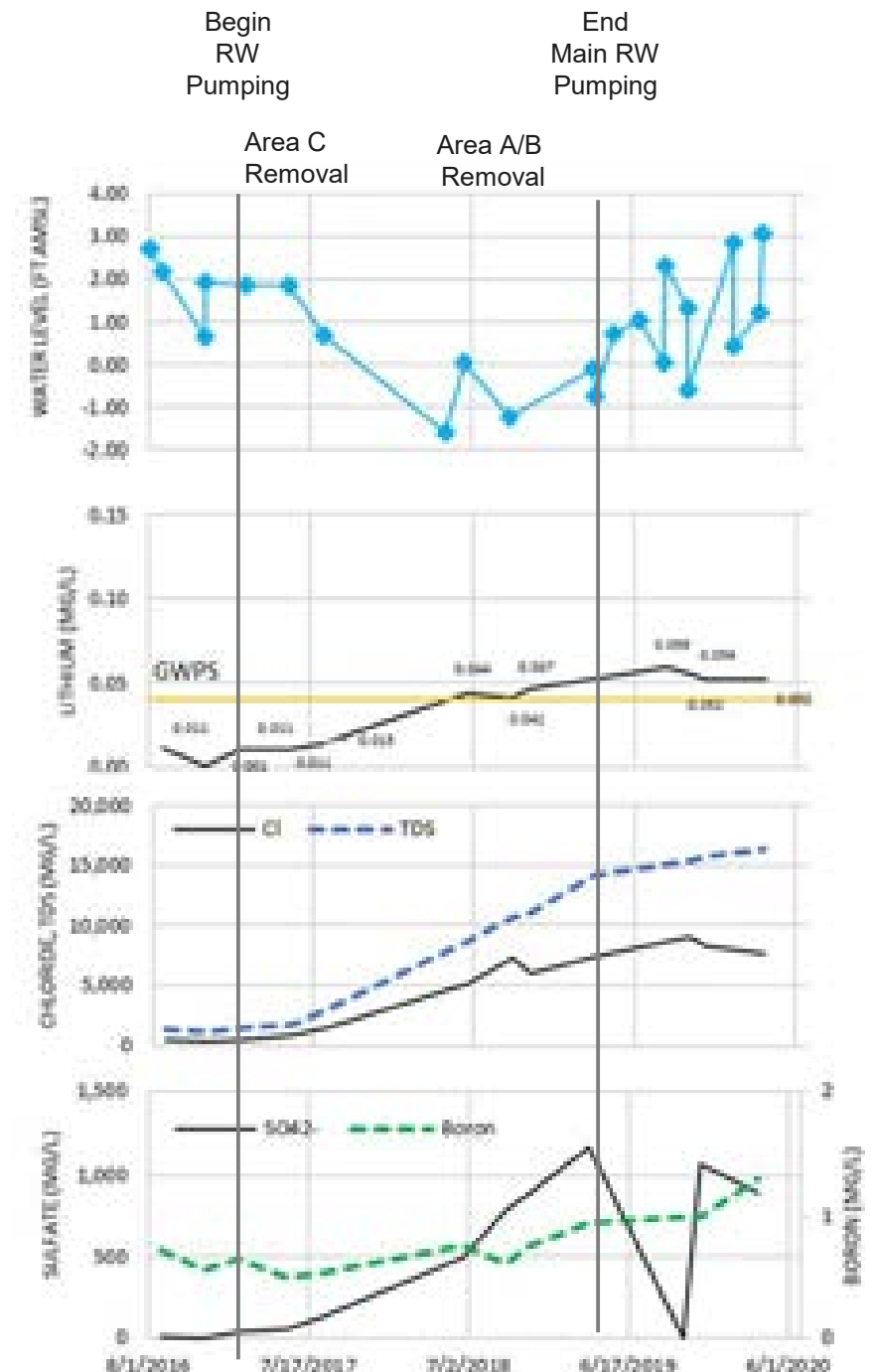
MCM-06



MCM-07



MCM-14



Notes:
 RW – dewatering well
 MG/L – milligrams per liter
 FT AMSL – feet above mean sea level
 GWPS – groundwater protection standard
 TDS – total dissolved solids
 Cl – chloride
 SO₄²⁻ - sulfate
 Start and end dates for pumping and excavations are approximate and are based on dewatering system effluent tracking documents.

GEORGIA POWER
 LITHIUM ALTERNATIVE SOURCE DEMONSTRATION
 PLANT MCMANUS FORMER ASH POND 1
 BRUNSWICK, GEORGIA

CONCENTRATION TRENDS IN SELECT WELLS

ARCADIS Engineering & Construction Services

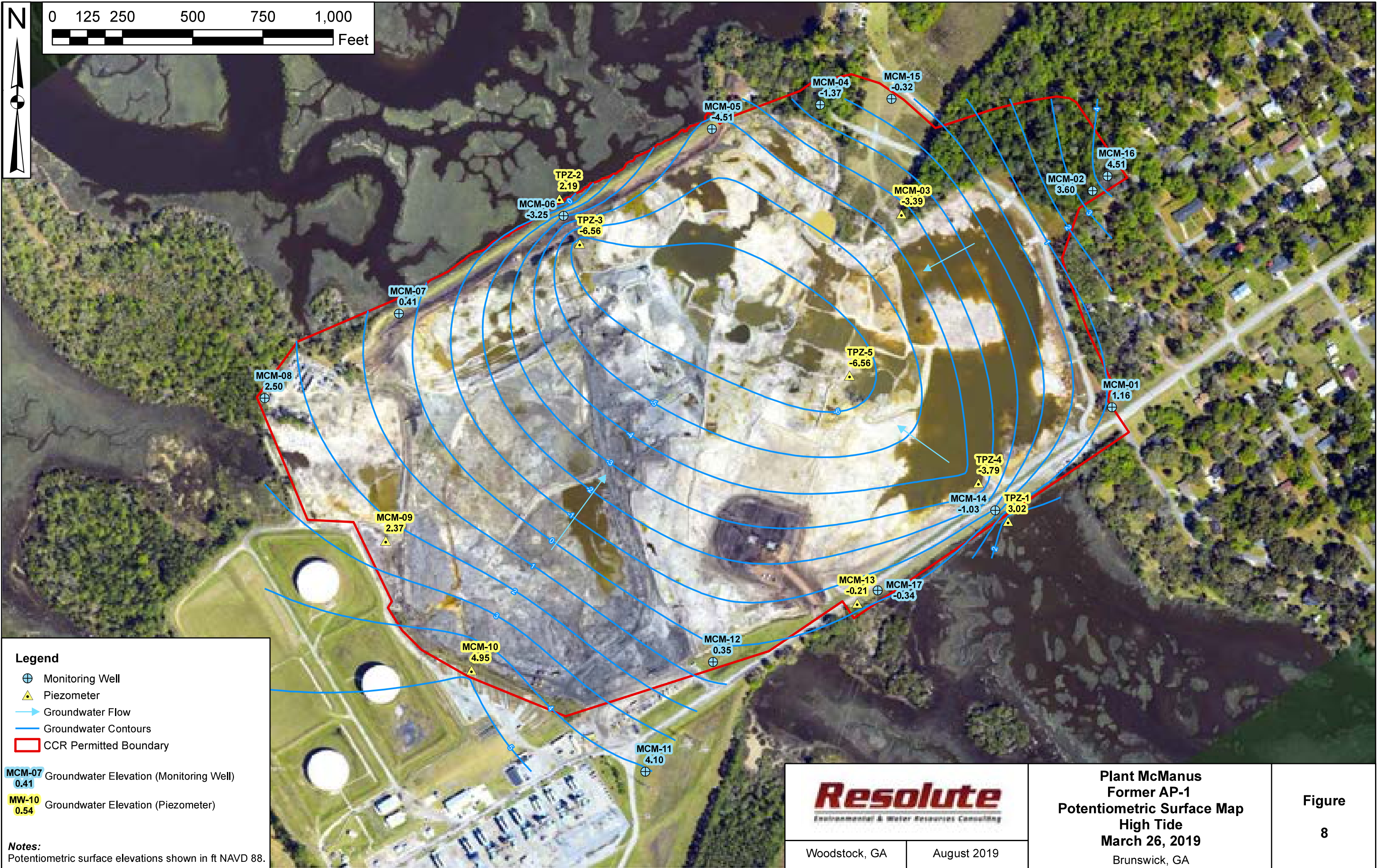
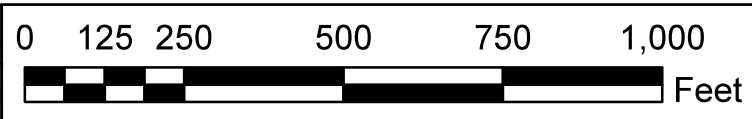
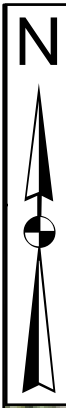
FIGURE
9

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APPENDIX A

Resolute Potentiometric Maps





Legend

- ⊕ Monitoring Well
- ▲ Piezometer
- Groundwater Flow
- Groundwater Contours
- ▭ CCR Permitted Boundary

MCM-07 Groundwater Elevation (Monitoring Well)
0.41

MW-10 Groundwater Elevation (Piezometer)
0.54

Notes:
Potentiometric surface elevations shown in ft NAVD 88.

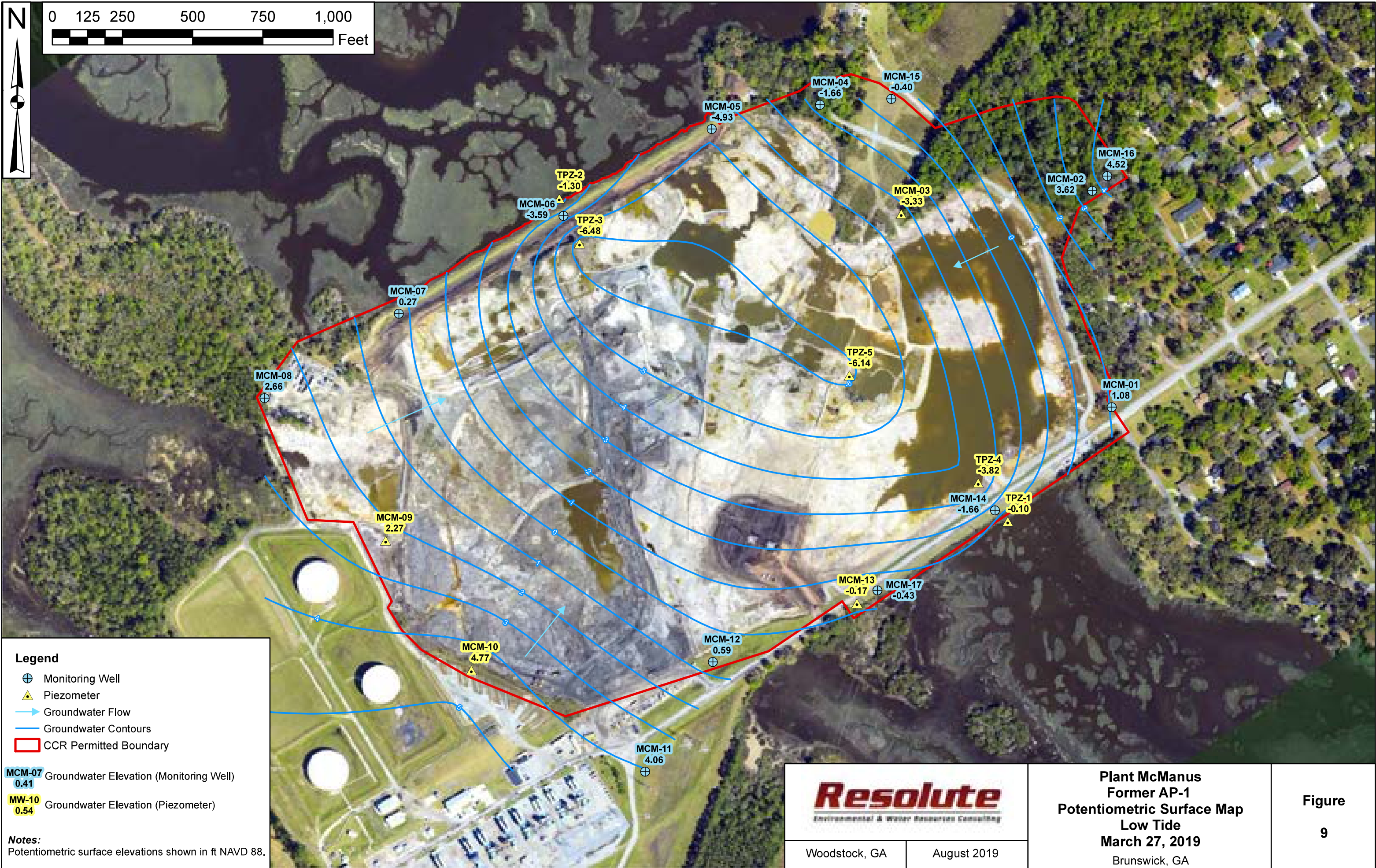
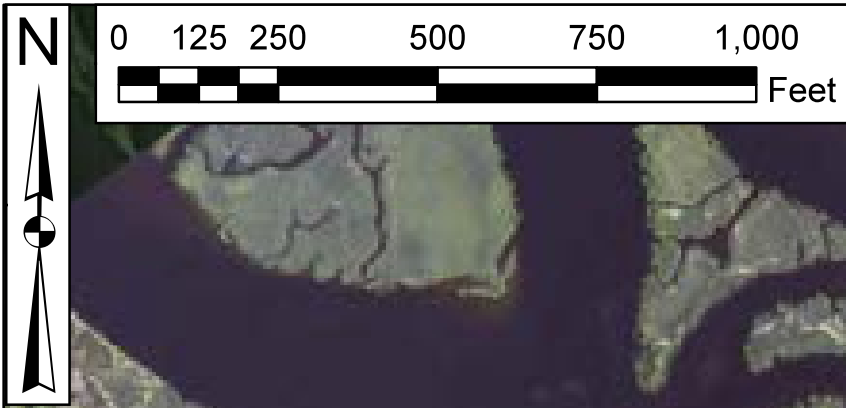
Resolute
Environmental & Water Resources Consulting

Woodstock, GA August 2019

**Plant McManus
Former AP-1
Potentiometric Surface Map
High Tide
March 26, 2019**

Brunswick, GA

**Figure
8**



Legend

- ⊕ Monitoring Well
- ▲ Piezometer
- Groundwater Flow
- Groundwater Contours
- ▭ CCR Permitted Boundary

MCM-07 Groundwater Elevation (Monitoring Well)
0.41

MW-10 Groundwater Elevation (Piezometer)
0.54

Notes:
Potentiometric surface elevations shown in ft NAVD 88.

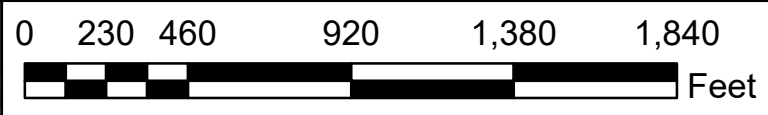
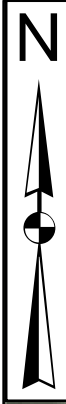
Resolute
Environmental & Water Resources Consulting

Woodstock, GA August 2019

**Plant McManus
Former AP-1
Potentiometric Surface Map
Low Tide
March 27, 2019**

Brunswick, GA

**Figure
9**



X:\ArcGIS\McManus\2020\CCR\Pot Maps



Legend

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

MCM-12
2.83 Groundwater Elevation (Monitoring Well)

MCM-13
2.25 Groundwater Elevation (Piezometer)

Notes:
Potentiometric surface elevations shown in ft NAVD 88.

* Not used for Groundwater Contouring

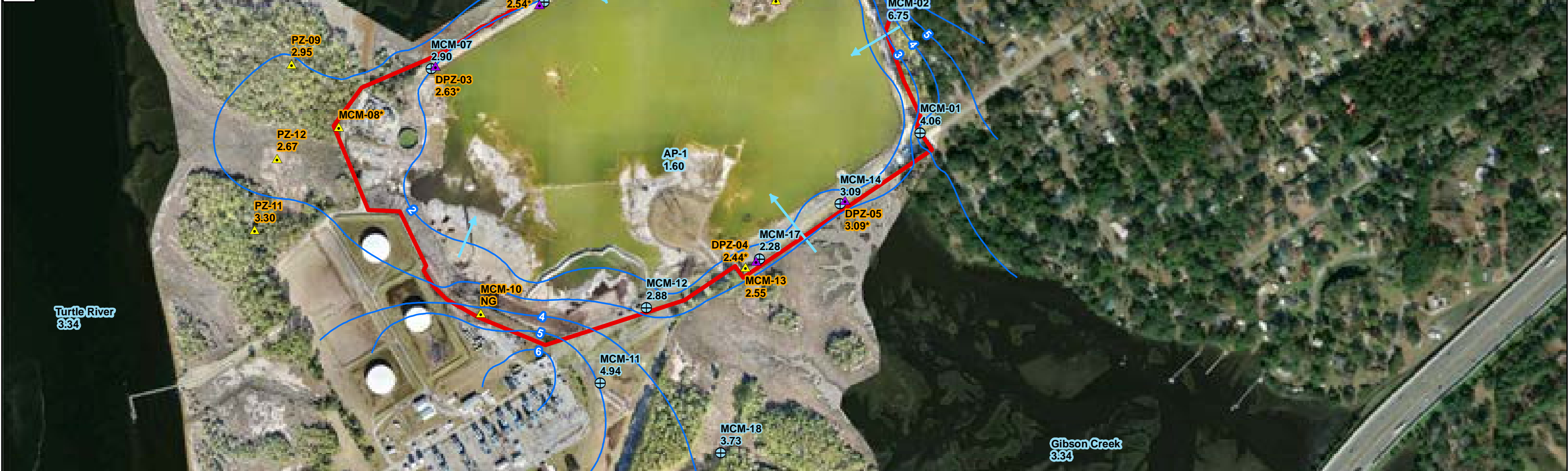
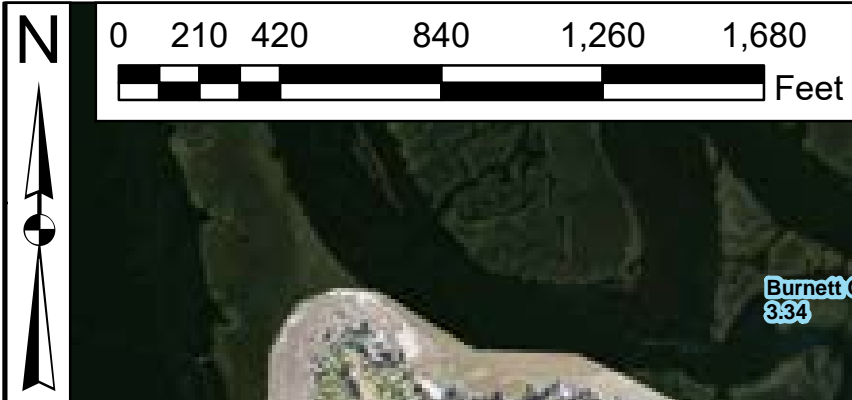


Woodstock, GA

July 2020

**Plant McManus
Former AP-1
Potentiometric Surface Map
Low Tide
March 19, 2020
Brunswick, GA**

**Figure
5**



Legend

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

MCM-07
2.90 Groundwater Elevation (Monitoring Well)

MCM-13
2.55 Groundwater Elevation (Piezometer)

Notes:
Potentiometric surface elevations shown in ft NAVD 88.

* Not used for Groundwater Contouring
NG - Not Gauged

Resolute
Environmental & Water Resources Consulting

Woodstock, GA July 2020

**Plant McManus
Former AP-1
Potentiometric Surface Map
High Tide
March 26, 2020**

Brunswick, GA

**Figure
6**

X:\ArcGIS\McManus\2020\CCR\Pot Maps

APPENDIX B

Resolute Field Sampling Memo, Logs and Analytical Reports –
June 2020



May 8, 2020

Memorandum: Surface Water Sampling Results
Georgia Power Company Plant McManus
Crispen Island Drive, Brunswick, Georgia

To: Ben Hodges, Environmental Affairs
Georgia Power Company

From: Stephen K. Wilson, P.G.
Resolute Environmental & Water Resources Consulting

1.0 PROJECT BACKGROUND

Site Location and Background

The Site is located at 1 Crispen Island Drive in Glynn County, Georgia, approximately 5 miles northwest of the city of Brunswick. The former ash pond 1 (AP-1) is located on the northeastern portion of the plant property (Figure 1). The former AP-1 was constructed in the late 1950's and encompassed approximately 80 acres. Coal ash sluicing operations at former AP-1 commenced in 1959 and ceased in 1972. Excavation and removal of ash from AP-1 commenced in 2016 and was completed in 2019. Since the completion of closure activities, the former AP-1 has filled with water, and the free water elevation within the footprint is currently approximately 2 (two) feet (NAVD88).

Preliminary statistics on the results from background groundwater monitoring, the first annual Appendix IV scan event (August 2019), and the first semiannual assessment monitoring event (November 2019) indicated one or more potentially-elevated levels of arsenic, cobalt, and lithium in groundwater detection monitoring network wells either adjacent to (MCM-05, MCM-06, MCM-07, and MCM-14) or near (MCM-04 and MCM-08) the tidal marshes located on and adjoining the site. On April 10, 2020, pursuant to the Coal Combustion Residuals (CCR) Rule, Georgia Power completed a statistical analysis of the groundwater results, which indicates that cobalt does not exceed the site-specific groundwater protection standard (GWPS) and arsenic and lithium exceed the GWPS in monitoring well MCM-06.

At the request of Georgia Power, Resolute Environmental & Water Resources Consulting, LLC (Resolute) collected surface water and groundwater samples to evaluate concentrations of arsenic, cobalt and lithium in surface water in the tidal salt marsh, free water in the footprint

of former AP-1, and in groundwater monitoring wells MCM-04, MCM-05, MCM-06, MCM-07, MCM-08, and MCM-14. Samples were collected to evaluate nature and extent at the Site. To support this evaluation, samples were collected from locations shown in Figure 1. This memorandum presents the assessment approach, sampling methodology, and results and conclusions of the sampling activities in surface water and groundwater at the Site.

2.0 ASSESSMENT APPROACH

Due to space limitations on the dikes, additional monitoring wells could not be installed between the existing detection monitoring network wells (MCM-04, MCM-05, MCM-06, MCM-07, MCM-08, and MCM-14) and the tidal marsh to evaluate the nature and extent of arsenic, cobalt, and lithium. Consistent with Georgia Power's proactive and comprehensive monitoring approach, additional sampling was completed to assess concentrations of arsenic, cobalt, and lithium in surface water in the tidal salt marsh. Resolute developed 16 sampling points divided equally among four transects (T1 through T4) adjacent to wells MCM-05, MCM-06, MCM-07, and MCM-14. Samples were also collected from groundwater monitoring wells MCM-04, MCM-05, MCM-06, MCM-07, MCM-08, and MCM-14, free water from the top of the water column in the former AP-1 adjacent to these wells, and two upstream surface water sample locations to establish background or natural conditions. To account for potential variability in water quality from tides, samples were collected at both high and low tide. Sampling locations are shown on Figure 1.

Surface water samples collected along transects T1 through T4 were collected from the top of the water column, approximately zero to six inches below the surface of the water, at both high and low tides and also from the bottom of the water column, approximately 12 inches above the marsh bottom, at high tide for the second, third, and fourth locations along each transect (e.g., T1-2, T1-3, T1-4 for transect T1).

Two background surface water sampling locations were identified and sampled to establish a dataset of naturally occurring levels of arsenic, cobalt, and lithium in surface water in the tidal marsh. The low tide background sample location (BG-1LT) was selected in Cowpen Creek, at a point which is hydraulically upgradient of both the junction with Burnett Creek and Crispen Island. At low tide, surface water flow is south from Cowpen Creek, toward the junctions with Burnett Creek and the Turtle River. The high tide background sample location (BG-2HT) was selected in the Turtle River, at a point which is upstream of Crispen Island during the incoming high tide.

Samples were initially submitted under Chain-of-Custody (COC) protocol to Pace Laboratories in Atlanta, Georgia on February 3, 2020, except for samples from transect T4, which were collected at a later date. Pace subsequently transferred the initial samples to their Asheville, North Carolina laboratory as further explained in Section 4.0 below, and the samples from transect T4, which were collected on March 18, 2020 were submitted directly to Pace's Asheville, North Carolina laboratory on March 20, 2020. Samples were analyzed for total and dissolved arsenic, cobalt, and lithium using EPA SW-846 Method 6020B.

To evaluate the data, surface water sample results for arsenic were compared to Georgia's In-Stream Water Quality Standard (ISWQS) for marine estuary environments, and groundwater samples were compared to the USEPA Maximum Contaminant Level (MCL) and the site-specific Groundwater Protection Standard (GWPS). Cobalt and lithium do not have ISWQS or recommended national ambient water quality criteria to compare surface water sample results or an MCL to compare groundwater results. Due to lack of surface water screening criteria for cobalt, surface water sample results were compared to both the observed background concentrations in surface water and the USEPA Regional Screening Level (RSL), which is a conservative approach for surface water comparison and is typically used to evaluate groundwater results. Groundwater sample results for cobalt and lithium were compared to the RSL and site-specific GWPS since neither have an MCL.

3.0 SAMPLING METHODOLOGY

Surface water and groundwater samples were collected in accordance with the *Work Plan for Surface Water Sampling, Georgia Power Company Plant McManus, Former Ash Pond AP-1, Brunswick, Georgia*, dated January 2020, and prepared by Resolute (Work Plan) (Appendix 1). The Work Plan referenced USEPA Region 4 *Science and Ecosystem Support Division (SESD), Operating Procedure, Surface Water Sampling* SESDPROC-201-R3 (February 28, 2013) as a guide for surface water sampling.

The fourth surface water location in each transect (e.g., T1-4) was generally the farthest point from the ash pond dike along each transect that contained sufficient water for sampling at low tide. The first three surface water locations on each transect (e.g., T1-1 through T1-3) had insufficient water for sampling at low tide, and the samples from these locations were collected when the minimum level of surface water sufficient for sampling and access was present (approximately six inches to one foot) near low tide.

At each surface water sample location (tidal salt marsh, background, and free water in former AP-1), one bottle preserved with nitric acid was collected for total metals analysis, and a separate unpreserved bottle was collected for dissolved metals analysis. The unpreserved sample was filtered by the laboratory prior to analysis.

Groundwater sampling was conducted using the site Groundwater Monitoring Plan (GWMP) and USEPA Region 4 Field Quality and Technical Procedures as guides. Groundwater samples were collected for total metals analysis, and a sample for dissolved metals analysis was collected if sample turbidity exceeded 10 Nephelometric Turbidity Units (NTUs), in accordance with the site GWMP. Groundwater samples were collected at low and high tides in wells which were immediately adjacent to corresponding transects (MCM-05, -06, -07, and -14) and were collected at low tide in wells which were not immediately adjacent to transects (MCM-04 and -08). The latter were collected at low tide as a conservative approach based on groundwater flow toward the tidal marsh at low tide.

4.0 RESULTS

The total and dissolved metals samples were analyzed by Pace Atlanta in separate batches. Surface water samples contained high concentrations of total dissolved solids (TDS) (i.e., high concentrations of non-target ions such as sodium and chloride) because the surface water in the marsh is brackish. The laboratory reported that the high concentrations of non-target ions in the samples caused instrumentation interference problems and presented difficulty in reading the low concentrations of the arsenic, lithium, and cobalt target analytes for the instrumentation available in Pace's Atlanta laboratory.

The initial laboratory analytical results also showed the dissolved (filtered) concentrations being several times greater than the total concentrations. The elevated concentrations observed in the dissolved (filtered) results were not accurate, as the total samples collected at the same time were collected into an acidified bottle designed to preserve metals concentrations, including those potentially adsorbed to suspended solids in water. The turbidities of the samples were low, with many less than 10 NTUs; therefore, the total and dissolved concentrations should have been similar. For these reasons, the initial laboratory results were deemed to be suspect, but could not be checked by data validation procedures because the total and dissolved samples had been analyzed as separate laboratory batches. As a result, the remaining volumes of the samples were sent to Pace's laboratory in Asheville, NC for analysis using Method 6020B/3010A on a new mass spectrometer instrument which utilizes both collision cell technology and dual gas mode to make it less susceptible to interference caused by the high concentrations of non-target ions (e.g., salts) in the samples.

Samples collected along transect T4 submitted to Pace's laboratory in Asheville, NC on March 20, 2020 and did not require reanalysis.

The results of the analysis from Pace's Asheville laboratory are summarized on Tables 1 and 2, and the laboratory analytical reports are provided in Appendix 2. The total and dissolved concentrations are similar, as would be expected for samples with low turbidities such as these.

Arsenic

Arsenic was detected at low levels ranging from 0.0013 J to 0.0035 milligrams per liter (mg/L) in surface water samples, including both background samples. These results are well below the Georgia ISWQS chronic standard for dissolved arsenic (0.036 mg/L) for marine estuary environments. Arsenic in samples collected from background surface water sample locations ranged from 0.0014 J to 0.0023 mg/L. Surface water concentrations along transects T1 through T4 ranged from not detected (<0.0012 mg/L) to 0.0035 mg/L. Similar concentrations were detected in the free water samples in former AP-1 at both high and low tides ranging from 0.0013 J to 0.0025 mg/L.

Arsenic was detected in groundwater samples collected from MCM-06 (0.400 to 0.480 mg/L), above the MCL (0.010 mg/L) and site-specific GWPS (0.031 mg/L), and in MCM-07 (0.016 to

0.020 mg/L), above the MCL, but below the site-specific GWPS. Arsenic was detected at trace values between the laboratory method detection and reporting limit in MCM-04, MCM-05, and MCM-08, well below the MCL and site-specific GWPS. Arsenic was not detected in MCM-14. Concentrations in each well do not appear to be significantly affected by tidal stage.

Cobalt

Cobalt was detected at concentrations ranging from 0.0013 J to 0.0049 mg/L in surface water samples, which are slightly above background (<0.0010 mg/L), but below the RSL of 0.006 mg/L. As stated above the RSL is typically used to evaluate groundwater results and is a conservative approach for surface water comparison.

Cobalt detections in groundwater ranged from 0.0015 J to 0.0031 mg/L, which are below the RSL and site-specific GWPS of 0.031 mg/L. Concentrations in each well do not appear to be significantly affected by tidal stage. As documented in the introduction, cobalt is not an SSL in groundwater. Observed surface water data is substantially lower than cobalt in background groundwater (0.031 mg/L) and below the RSL; therefore, cobalt is no longer a constituent of interest in surface water.

Lithium

Lithium in background surface water samples ranged from 0.090 to 0.099 mg/L, which is higher than the RSL of 0.040 mg/L, which is typically used to evaluate groundwater results and is a conservative approach for surface water comparison. Lithium was detected at concentrations from 0.019 J to 0.11 mg/L in surface water samples, with the highest dissolved analysis at 0.10 mg/L in T3-4HT, which is above the RSL, but consistent with background. In comparing the 0.099 mg/L background to the 0.10 mg/L detection, the results are almost identical with a 1% difference. The laboratory reported a Relative Percent Difference (RPD) of 10% in their quality control samples for this batch of samples. Therefore, the sole detection exceeding background by 1% is well within the laboratory's repeatability range of 10%.

Lithium was detected at trace values ranging from 0.012 J to 0.022 J mg/L in free water samples in the former AP-1 and did not appear to vary at high and low tides.

In general, observed lithium concentration in background and transect surface water samples at high tide were greater than those observed at low tide. Lithium is a naturally-occurring element in seawater, and concentrations of lithium in seawater are documented to range from 0.1 to 0.2 mg/L¹. The increased concentrations observed at high tide in surface water are likely attributable to natural variability from the influx of seawater at high tide.

Lithium was detected in groundwater samples collected from MCM-06 (0.094 to 0.11 mg/L), MCM-07 (0.044 J to 0.062 mg/L), and MCM-14 (0.035 J to 0.055 mg/L), above the RSL (0.04 mg/L). Lithium was detected at trace values (between the laboratory method detection and

¹ "Lithium Occurrence", Institute of Ocean Energy, Saga University, Japan

reporting limit) in MCM-05, below the RSL. Lithium was not detected in MCM-04 or MCM-08. Concentrations in MCM-06 well appear to exhibit higher concentrations at high tide and lower concentrations at low tide. Other wells do not appear to be significantly affected by tidal stage. Lithium results in groundwater are generally consistent with previous sampling results.

5.0 CONCLUSIONS

Preliminary statistics on results from background groundwater monitoring and subsequent groundwater monitoring events (August and November 2019) indicated one or more potentially-elevated levels of arsenic, cobalt, and lithium in groundwater detection monitoring network wells adjacent to (MCM-05, MCM-06, MCM-07, and MCM-14) or near (MCM-08 and MCM-14) the tidal marshes located on and adjoining the site. Due to space limitations on the dikes, additional monitoring wells could not be installed between the existing detection monitoring network wells (MCM-04, MCM-05, MCM-06, MCM-07, MCM-08, and MCM-14) and the tidal marsh to evaluate the nature and extent of arsenic, cobalt, and lithium. Consistent with Georgia Power's proactive and comprehensive monitoring approach, surface water, groundwater, and free water sampling was completed to assess concentrations of arsenic, cobalt, and lithium in surface water in the tidal salt marsh.

Surface water sampling provided data that arsenic, cobalt, and lithium concentrations are below surface water comparison criteria or within the range of background levels observed in background surface water samples. Arsenic, cobalt, and lithium concentrations in free water samples from within the pond are below surface water comparison criteria and below levels observed in background surface water samples. On April 10, 2020, pursuant to the CCR Rule, Georgia Power completed a statistical analysis of the groundwater results, which indicates that cobalt does not exceed the site-specific GWPS and arsenic and lithium exceed the site-specific GWPS in monitoring well MCM-06. Based on the data collected, groundwater exceeding the site-specific GWPS in MCM-06 does not indicate impacts to free water quality in former AP-1 or surface water quality adjacent to Georgia Power's Plant McManus property.

TABLES

Table 1
 Surface Water and Pond Water Sample Results
 Georgia Power Company Plant McManus, Brunswick, Georgia

Location	Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Cobalt (mg/l)	Dissolved Cobalt (mg/l)	Lithium (mg/l)	Dissolved Lithium (mg/l)
Surface Water Samples						
ISWQS (Non-drinking water uses)	N/A	0.050	N/A	N/A	N/A	N/A
ISWQS (Estuarine Waters)	N/A	0.069 (Acute) 0.036 (Chronic)	N/A	N/A	N/A	N/A
Site Specific Background (highest of BG-1LT and BG-2HT)	0.0023	0.0016J	<0.0010	<0.0010	0.099	0.099
Background Surface Water						
BG-1LT	0.0019J	0.0014J	<0.0010	<0.0010	0.09	0.098
BG-2HT	0.0023	0.0016J	<0.0010	<0.0010	0.099	0.099
Surface Water Transects						
T1-1HT	0.0016J	<0.0012	<0.0010	<0.0010	0.039J	0.038J
T1-1LT	<0.0012	<0.0012	<0.0010	<0.0010	0.024J	0.022J
T1-2HT	<0.0012	0.0015J	<0.0010	<0.0010	0.11	0.088
T1-2HTS	<0.0012	0.0015J	<0.0010	<0.0010	0.055	0.061
T1-2LT	<0.0012	<0.0012	<0.0010	<0.0010	0.022J	0.024J
T1-3HT	<0.0012	0.0016J	<0.0010	<0.0010	0.092	0.08
T1-3HTS	<0.0012	0.0015J	<0.0010	<0.0010	0.067	0.072
T1-3LT	<0.0012	<0.0012	<0.0010	<0.0010	0.022J	0.019J
T1-4HT	<0.0012	0.0019J	<0.0010	<0.0010	0.08	0.086
T1-4HTS	0.0014J	0.0016J	<0.0010	<0.0010	0.081	0.083
T1-4LT	0.0016J	0.0016J	<0.0010	<0.0010	0.09	0.09
T2-1HT	0.0014	0.0014J	<0.00050	<0.0010	0.052	0.059
T2-2HT	0.0019	0.0015J	<0.00050	<0.0010	0.1	0.084
T2-2HTS	0.0019	0.0014J	<0.00050	<0.0010	0.073	0.06
T2-2LT	0.0018	0.0016J	<0.00050	<0.0010	0.063	0.057
T2-3HT	0.0016J	0.0015J	<0.0010	<0.0010	0.099	0.093
T2-3HTS	0.0018J	0.0015J	<0.0010	<0.0010	0.11	0.094
T2-3LT	0.002	0.0012J	<0.0010	<0.0010	0.049J	0.041J
T2-4HT	0.0016J	0.0020J	<0.0010	<0.0010	0.091	0.092
T2-4HTS	0.0015J	0.0016J	<0.0010	<0.0010	0.085	0.088
T2-4LT	0.0015J	0.0015J	<0.0010	<0.0010	0.075	0.077
T3-1HT	0.0018J	0.0016J	<0.0010	<0.0010	0.076	0.075
T3-2HT	0.0015J	0.0017J	<0.0010	<0.0010	0.097	0.087
T3-2HTS	0.0013J	0.0017J	<0.0010	<0.0010	0.075	0.078
T3-2LT	0.0029	0.0017J	<0.0010	<0.0010	0.077	0.079
T3-3HT	0.0021	0.0017J	<0.0010	<0.0010	0.081	0.088
T3-3HTS	0.0018J	0.0019J	<0.0010	<0.0010	0.08	0.081
T3-3LT	0.0018J	0.0016J	<0.0010	<0.0010	0.084	0.078
T3-4HT	0.0018J	0.0019J	<0.0010	<0.0010	0.087	0.1
T3-4HTS	0.0014J	0.0016J	<0.0010	<0.0010	0.085	0.09
T3-4LT	0.0012J	0.0015J	<0.0010	<0.0010	0.072	0.072
T4-1L	0.0034	0.0018J	<0.0010	<0.0010	0.076	0.056
T4-2L	0.0014J	0.0012J	<0.0010	<0.0010	0.043J	0.061
T4-3L	0.0035	0.0021	0.002	<0.0010	0.053	0.037J

Location	Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Cobalt (mg/l)	Dissolved Cobalt (mg/l)	Lithium (mg/l)	Dissolved Lithium (mg/l)
T4-4L	0.0031	<0.0012	<0.0010	<0.0010	0.062	0.036J
T4-1HS	0.0012J	<0.0012	<0.0010	<0.0010	0.042J	0.058
T4-2HS	<0.0012	0.0013J	<0.0010	<0.0010	0.043J	0.064
T4-3HS	<0.0012	<0.0012	<0.0010	<0.0010	0.035J	0.051
T4-4HS	<0.0012	<0.0012	<0.0010	<0.0010	0.047J	0.041J
T4-1HB	<0.0012	<0.0012	<0.0010	<0.0010	0.036J	0.033J
T4-2HB	0.0015J	<0.0012	<0.0010	<0.0010	0.048J	0.042J
T4-3HB	<0.0012	0.0023	<0.0010	0.0049	0.036J	0.064
T4-4HB	<0.0012	0.0017J	<0.0010	0.0036	0.035J	0.066
<i>Ash Pond Water</i>						
MCM-05HT ASHPOND	0.0019J	0.0013J	<0.0010	<0.0010	0.018J	0.020J
MCM-05LT ASHPOND	0.0017J	<0.0012	<0.0010	<0.0010	0.012J	0.021J
MCM-06HT ASHPOND	0.0025	0.0012J	<0.0010	<0.0010	0.020J	0.021J
MCM-06LT ASHPOND	0.0017J	0.0013J	<0.0010	<0.0010	0.012J	0.022J
MCM-07HT ASHPOND	0.0019J	<0.0012	<0.0010	<0.0010	0.020J	0.020J
MCM-07LT ASHPOND	0.0022	<0.0012	<0.0010	<0.0010	0.019J	0.019J
POND 4L	0.0015J	0.0013J	<0.0010	0.0013J	0.022J	0.022J
POND 4H	0.0012J	0.0013J	<0.0010	0.0016J	0.016J	0.020J

Notes: N/A - Not Applicable or Not Available

GWPS - Groundwater Protection Standard

ISWQS - Georgia In-Stream Water Quality Standard

Results shown in milligrams per liter (mg/l)

"<" - Not detected at the laboratory's Method Detection Limit (MDL) shown

"J" - Estimated concentration greater than the laboratory's MDL, but less than the laboratory's Reporting Limit

Table 2
Groundwater Wells Sample Results
Georgia Power Company Plant McManus, Brunswick, Georgia

Location	Arsenic (mg/l)	Dissolved Arsenic (mg/l)	Cobalt (mg/l)	Dissolved Cobalt (mg/l)	Lithium (mg/l)	Dissolved Lithium (mg/l)
Groundwater Samples						
MCL or RSL GWPS	0.010 MCL	N/A	0.006 RSL	N/A	0.04 RSL	N/A
Site Specific Background GWPS	0.031	N/A	0.031	N/A	<RSL	N/A
MCM-04LT	0.0016J	<0.0012	0.003	0.0026	<0.0084	<0.0084
MCM-05HT	0.0013J	<0.0012	<0.0010	<0.0010	0.017J	0.024J
MCM-05LT	0.0016J	<0.0012	<0.0010	<0.0010	0.023J	0.021J
MCM-06HT	0.4	0.48	<0.0010	<0.0010	0.096	0.11
MCM-06LT	0.44	0.47	<0.0010	<0.0010	0.094	0.094
MCM-07HT	0.018	0.02	<0.0010	<0.0010	0.047J	0.048J
MCM-07LT	0.016	0.018	<0.0010	<0.0010	0.044J	0.062
MCM-08LT	0.0019J	0.0013J	0.0020J	0.0020J	<0.0084	<0.0084
MCM-14L	<0.0012	<0.0012	<0.0010	0.0015J	0.040J	0.055
MCM-14H	<0.0012	<0.0012	<0.0010	0.0031	0.035J	0.044J

Notes: N/A - Not Applicable or Not Available

GWPS - Groundwater Protection Standard

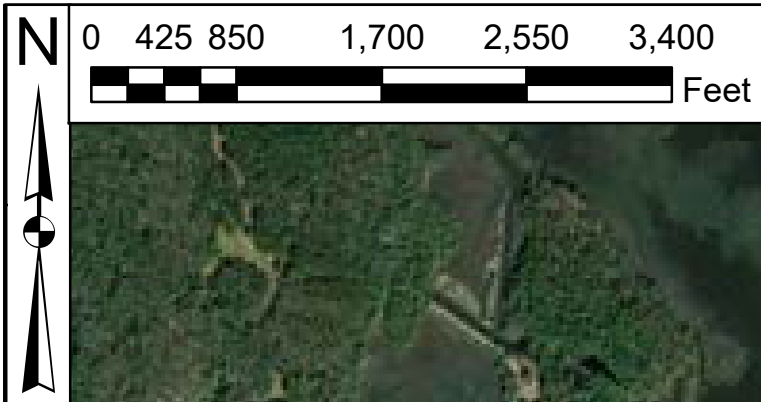
ISWQS - Georgia In-Stream Water Quality Standard

Results shown in milligrams per liter (mg/l)

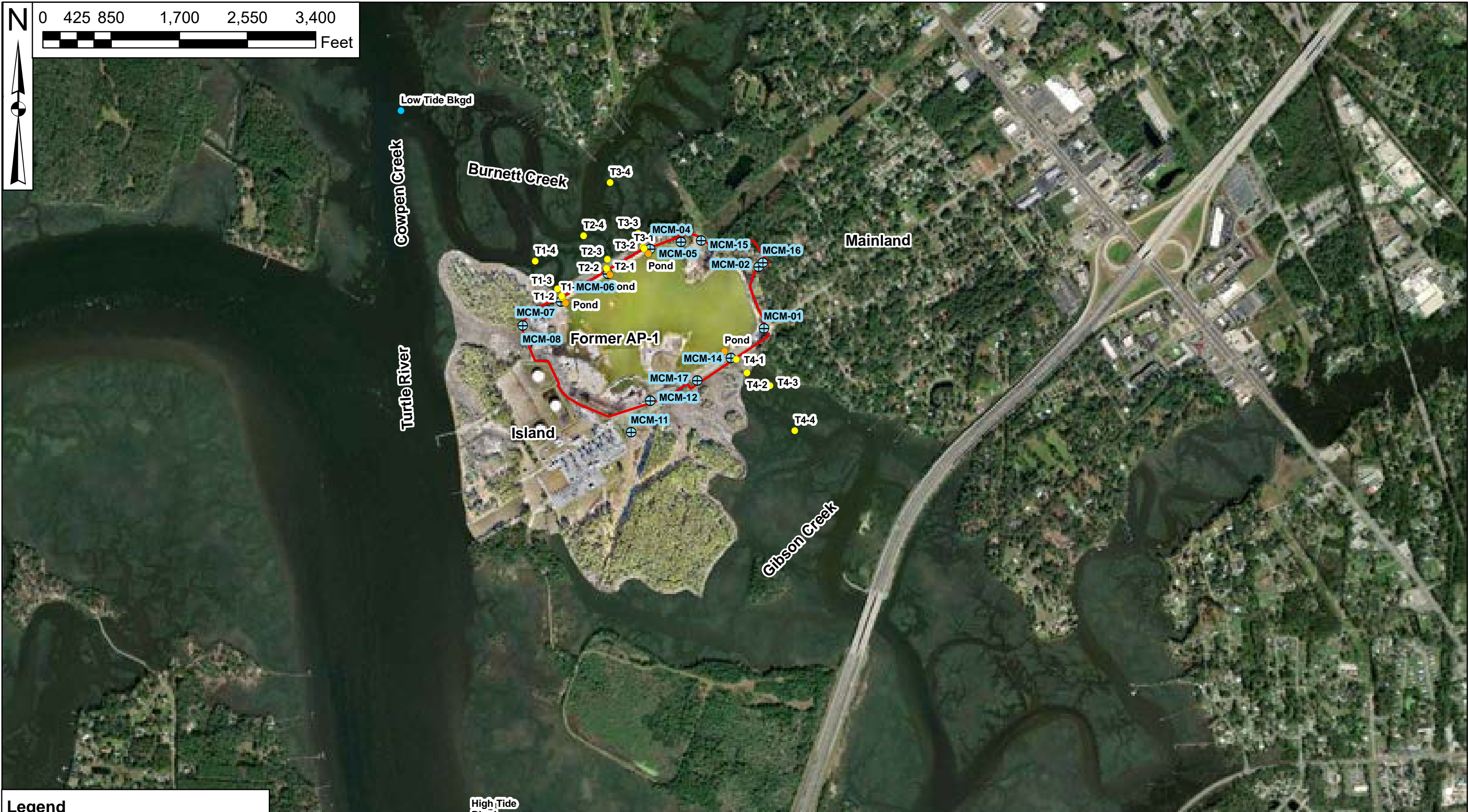
"<" - Not detected at the laboratory's Method Detection Limit (MDL) shown

"J" - Estimated concentration greater than the laboratory's MDL, but less than the laboratory's Reporting Limit

FIGURES



X:\ArcGIS\McManus\ASD2020\AlternateSourceDemonstration\SamplingLocations



Legend

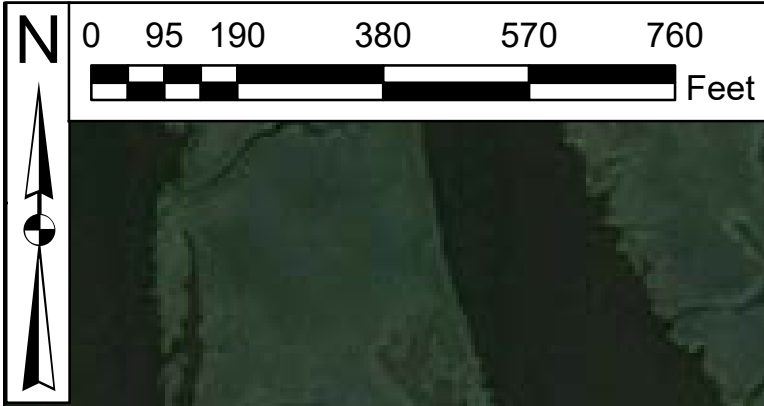
- Surface Water
- Pond Sample
- Background Surface Water Sample
- CCR Permitted Boundary



Woodstock, GA March 2020

**Plant McManus
Surface Water
Sample Collection Location**
Brunswick, GA

**Figure
1**



X:\ArcGIS\McManus\ASD2020\AlternateSourceDemonstration\SamplingLocations



Legend

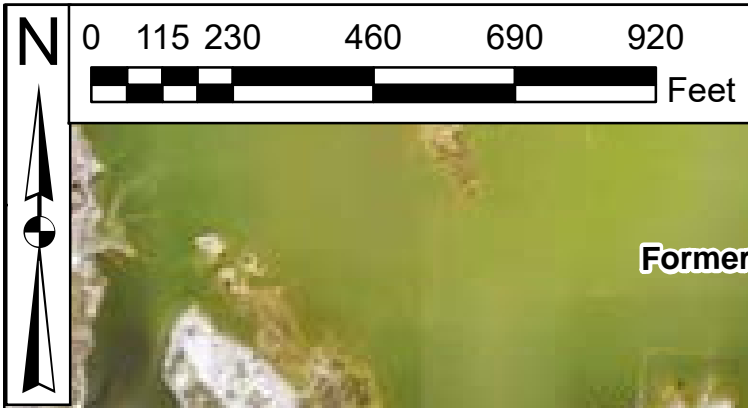
- Surface Water Sample
- Pond Sample
- CCR Permitted Boundary

Resolute
Environmental & Water Resources Consulting

Woodstock, GA	April 2020
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**Plant McManus
Surface Water
Sample Collection Locations**
Brunswick, GA

**Figure
2**



X:\ArcGIS\McManus\ASD2020\AlternateSourceDemonstration\SamplingLocations



Legend

- Surface Water Sample
- Pond Sample
- CCR Permitted Boundary

Resolute
Environmental & Water Resources Consulting

Woodstock, GA	April 2020
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**Plant McManus
Surface Water
Sample Collection Locations**
Brunswick, GA

**Figure
3**

APPENDIX: LABORATORY ANALYTICAL REPORTS

Final Laboratory Reports - Pace Analytical Services, Asheville (Huntersville), NC



March 31, 2020

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

RE: Project: Plant McManus
Pace Project No.: 92466089

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 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

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: 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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CERTIFICATIONS

Project: Plant McManus

Pace Project No.: 92466089

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus
Pace Project No.: 92466089

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92466089001	T2-1HT	Water	02/01/20 13:55	02/04/20 08:00
92466089002	T2-2HT	Water	02/01/20 14:32	02/04/20 08:00
92466089003	T2-2HTS	Water	02/01/20 14:28	02/04/20 08:00
92466089004	T2-2LT	Water	02/02/20 13:38	02/04/20 08:00
92466089005	T2-3HT	Water	02/01/20 14:50	02/04/20 08:00
92466089006	T2-3HTS	Water	02/01/20 14:46	02/04/20 08:00
92466089007	T2-3LT	Water	02/02/20 11:20	02/04/20 08:00
92466089008	T2-4HT	Water	02/01/20 15:14	02/04/20 08:00
92466089009	T2-4HTS	Water	02/01/20 15:00	02/04/20 08:00
92466089010	T2-4LT	Water	02/02/20 09:46	02/04/20 08:00
92466089011	T1-1HT	Water	02/01/20 14:08	02/04/20 08:00
92466089012	T1-1LT	Water	02/01/20 09:50	02/04/20 08:00
92466089013	T1-2HT	Water	02/01/20 14:20	02/04/20 08:00
92466089014	T1-2HTS	Water	02/01/20 14:16	02/04/20 08:00
92466089015	T1-2LT	Water	02/01/20 10:16	02/04/20 08:00
92466089016	T1-3HT	Water	02/01/20 13:56	02/04/20 08:00
92466089017	T1-3HTS	Water	02/01/20 13:52	02/04/20 08:00
92466089018	T1-3LT	Water	02/01/20 10:06	02/04/20 08:00
92466089019	T1-4HT	Water	02/01/20 13:40	02/04/20 08:00
92466089020	T1-4HTS	Water	02/01/20 13:34	02/04/20 08:00
92466089021	T1-4LT	Water	02/01/20 09:56	02/04/20 08:00
92466089022	T3-1HT	Water	02/02/20 14:35	02/04/20 08:00
92466089023	T3-2HT	Water	02/02/20 14:34	02/04/20 08:00
92466089024	T3-2HTS	Water	02/02/20 14:28	02/04/20 08:00
92466089025	T3-2LT	Water	02/03/20 13:30	02/04/20 08:00
92466089026	T3-3HT	Water	02/02/20 14:10	02/04/20 08:00
92466089027	T3-3HTS	Water	02/02/20 14:08	02/04/20 08:00
92466089028	T3-3LT	Water	02/03/20 12:12	02/04/20 08:00
92466089029	T3-4HT	Water	02/02/20 13:50	02/04/20 08:00
92466089030	T3-4HTS	Water	02/02/20 13:44	02/04/20 08:00
92466089031	T3-4LT	Water	02/03/20 10:40	02/04/20 08:00
92466089032	MCM-05HT	Water	02/02/20 14:46	02/04/20 08:00
92466089033	MCM-05LT	Water	02/03/20 09:47	02/04/20 08:00
92466089034	MCM-06HT	Water	02/01/20 13:55	02/04/20 08:00
92466089035	MCM-06LT	Water	02/02/20 09:00	02/04/20 08:00
92466089036	MCM-07HT	Water	02/01/20 14:20	02/04/20 08:00
92466089037	MCM-07LT	Water	02/01/20 10:15	02/04/20 08:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus

Pace Project No.: 92466089

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92466089038	DUP-01	Water	02/03/20 00:00	02/04/20 08:00
92466089039	MCM-05HT ASHPOND	Water	02/02/20 14:30	02/04/20 08:00
92466089040	MCM-06LT ASHPOND	Water	02/02/20 08:50	02/04/20 08:00
92466089041	MCM-05LT ASHPOND	Water	02/03/20 09:45	02/04/20 08:00
92466089042	MCM-07HT ASHPOND	Water	02/01/20 14:20	02/04/20 08:00
92466089043	MCM-07LT ASHPOND	Water	02/01/20 09:40	02/04/20 08:00
92466089044	MCM-06HT ASHPOND	Water	02/01/20 13:55	02/04/20 08:00
92466089045	BG-1LT	Water	02/02/20 08:58	02/04/20 08:00
92466089046	BG-2HT	Water	02/02/20 15:04	02/04/20 08:00
92466089047	MCM-04LT	Water	02/03/20 11:35	02/04/20 10:48
92466089048	MCM-08LT	Water	02/03/20 12:41	02/04/20 10:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus
 Pace Project No.: 92466089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92466089001	T2-1HT	EPA 6020B	BG2	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089002	T2-2HT	EPA 6020B	BG2	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089003	T2-2HTS	EPA 6020B	BG2	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089004	T2-2LT	EPA 6020B	BG2	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089005	T2-3HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089006	T2-3HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089007	T2-3LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089008	T2-4HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089009	T2-4HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089010	T2-4LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089011	T1-1HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089012	T1-1LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089013	T1-2HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089014	T1-2HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A
92466089015	T1-2LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089016	T1-3HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089017	T1-3HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089018	T1-3LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089019	T1-4HT	EPA 6020B	JOR	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus
 Pace Project No.: 92466089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92466089020	T1-4HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089021	T1-4LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089022	T3-1HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089023	T3-2HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089024	T3-2HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089025	T3-2LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089026	T3-3HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089027	T3-3HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089028	T3-3LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089029	T3-4HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089030	T3-4HTS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089031	T3-4LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089032	MCM-05HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089033	MCM-05LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089034	MCM-06HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089035	MCM-06LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089036	MCM-07HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089037	MCM-07LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus
 Pace Project No.: 92466089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92466089038	DUP-01	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089039	MCM-05HT ASHPOND	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089040	MCM-06LT ASHPOND	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089041	MCM-05LT ASHPOND	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92466089042	MCM-07HT ASHPOND	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2, JOR	3	PASI-A
92466089043	MCM-07LT ASHPOND	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2, JOR	3	PASI-A
92466089044	MCM-06HT ASHPOND	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2, JOR	3	PASI-A
92466089045	BG-1LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2, JOR	3	PASI-A
92466089046	BG-2HT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2, JOR	3	PASI-A
92466089047	MCM-04LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2, JOR	3	PASI-A
92466089048	MCM-08LT	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	BG2	3	PASI-A

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus

Pace Project No.: 92466089

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466089001	T2-1HT					
EPA 6020B	Arsenic	0.0014	mg/L	0.0010	02/25/20 10:30	
EPA 6020B	Lithium	0.052	mg/L	0.025	02/25/20 10:30	
EPA 6020B	Arsenic, Dissolved	0.0014J	mg/L	0.0020	02/26/20 15:45	D3
EPA 6020B	Lithium, Dissolved	0.059	mg/L	0.050	02/26/20 15:45	
92466089002	T2-2HT					
EPA 6020B	Arsenic	0.0019	mg/L	0.0010	02/25/20 10:39	
EPA 6020B	Lithium	0.10	mg/L	0.025	02/25/20 10:39	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 18:39	D3
EPA 6020B	Lithium, Dissolved	0.084	mg/L	0.050	02/26/20 18:39	
92466089003	T2-2HTS					
EPA 6020B	Arsenic	0.0019	mg/L	0.0010	02/25/20 10:52	
EPA 6020B	Lithium	0.073	mg/L	0.025	02/25/20 10:52	
EPA 6020B	Arsenic, Dissolved	0.0014J	mg/L	0.0020	02/26/20 18:53	D3
EPA 6020B	Lithium, Dissolved	0.060	mg/L	0.050	02/26/20 18:53	
92466089004	T2-2LT					
EPA 6020B	Arsenic	0.0018	mg/L	0.0010	02/25/20 11:01	
EPA 6020B	Lithium	0.063	mg/L	0.025	02/25/20 11:01	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/26/20 19:06	D3
EPA 6020B	Lithium, Dissolved	0.057	mg/L	0.050	02/26/20 19:06	
92466089005	T2-3HT					
EPA 6020B	Arsenic	0.0016J	mg/L	0.0020	03/05/20 23:55	
EPA 6020B	Lithium	0.099	mg/L	0.050	03/05/20 23:55	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 19:15	D3
EPA 6020B	Lithium, Dissolved	0.093	mg/L	0.050	02/26/20 19:15	
92466089006	T2-3HTS					
EPA 6020B	Arsenic	0.0018J	mg/L	0.0020	03/06/20 00:16	
EPA 6020B	Lithium	0.11	mg/L	0.050	03/06/20 00:16	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 19:23	D3
EPA 6020B	Lithium, Dissolved	0.094	mg/L	0.050	02/26/20 19:23	
92466089007	T2-3LT					
EPA 6020B	Arsenic	0.0020	mg/L	0.0020	03/06/20 00:42	
EPA 6020B	Lithium	0.049J	mg/L	0.050	03/06/20 00:42	
EPA 6020B	Arsenic, Dissolved	0.0012J	mg/L	0.0020	02/26/20 19:32	D3
EPA 6020B	Lithium, Dissolved	0.041J	mg/L	0.050	02/26/20 19:32	
92466089008	T2-4HT					
EPA 6020B	Arsenic	0.0016J	mg/L	0.0020	03/06/20 00:48	
EPA 6020B	Lithium	0.091	mg/L	0.050	03/06/20 00:48	
EPA 6020B	Arsenic, Dissolved	0.0020J	mg/L	0.0020	02/26/20 20:15	D3
EPA 6020B	Lithium, Dissolved	0.092	mg/L	0.050	02/26/20 20:15	
92466089009	T2-4HTS					
EPA 6020B	Arsenic	0.0015J	mg/L	0.0020	03/06/20 00:58	
EPA 6020B	Lithium	0.085	mg/L	0.050	03/06/20 00:58	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus
Pace Project No.: 92466089

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466089009	T2-4HTS					
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/26/20 20:24	D3
EPA 6020B	Lithium, Dissolved	0.088	mg/L	0.050	02/26/20 20:24	
92466089010	T2-4LT					
EPA 6020B	Arsenic	0.0015J	mg/L	0.0020	03/06/20 01:03	
EPA 6020B	Lithium	0.075	mg/L	0.050	03/06/20 01:03	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 20:37	D3
EPA 6020B	Lithium, Dissolved	0.077	mg/L	0.050	02/26/20 20:37	
92466089011	T1-1HT					
EPA 6020B	Arsenic	0.0016J	mg/L	0.0020	03/06/20 01:19	
EPA 6020B	Lithium	0.039J	mg/L	0.050	03/06/20 01:19	
EPA 6020B	Lithium, Dissolved	0.038J	mg/L	0.050	02/26/20 20:46	
92466089012	T1-1LT					
EPA 6020B	Lithium	0.024J	mg/L	0.050	03/06/20 01:51	
EPA 6020B	Lithium, Dissolved	0.022J	mg/L	0.050	02/26/20 20:59	
92466089013	T1-2HT					
EPA 6020B	Lithium	0.11	mg/L	0.050	03/06/20 01:56	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 21:04	D3
EPA 6020B	Lithium, Dissolved	0.088	mg/L	0.050	02/26/20 21:04	
92466089014	T1-2HTS					
EPA 6020B	Lithium	0.055	mg/L	0.050	03/06/20 02:01	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 21:17	D3
EPA 6020B	Lithium, Dissolved	0.061	mg/L	0.050	02/26/20 21:17	
92466089015	T1-2LT					
EPA 6020B	Lithium	0.022J	mg/L	0.050	03/06/20 02:06	
EPA 6020B	Lithium, Dissolved	0.024J	mg/L	0.050	02/26/20 21:39	
92466089016	T1-3HT					
EPA 6020B	Lithium	0.092	mg/L	0.050	03/06/20 02:12	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/26/20 21:48	D3
EPA 6020B	Lithium, Dissolved	0.080	mg/L	0.050	02/26/20 21:48	
92466089017	T1-3HTS					
EPA 6020B	Lithium	0.067	mg/L	0.050	03/06/20 02:17	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/26/20 22:01	D3
EPA 6020B	Lithium, Dissolved	0.072	mg/L	0.050	02/26/20 22:01	
92466089018	T1-3LT					
EPA 6020B	Lithium	0.022J	mg/L	0.050	03/06/20 02:22	
EPA 6020B	Lithium, Dissolved	0.019J	mg/L	0.050	02/26/20 22:35	
92466089019	T1-4HT					
EPA 6020B	Lithium	0.080	mg/L	0.050	03/06/20 02:27	
EPA 6020B	Arsenic, Dissolved	0.0019J	mg/L	0.0020	02/26/20 22:40	D3
EPA 6020B	Lithium, Dissolved	0.086	mg/L	0.050	02/26/20 22:40	

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SUMMARY OF DETECTION

Project: Plant McManus

Pace Project No.: 92466089

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466089020	T1-4HTS					
EPA 6020B	Arsenic	0.0014J	mg/L	0.0020	03/06/20 02:33	
EPA 6020B	Lithium	0.081	mg/L	0.050	03/06/20 02:33	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/26/20 22:56	D3
EPA 6020B	Lithium, Dissolved	0.083	mg/L	0.050	02/26/20 22:56	
92466089021	T1-4LT					
EPA 6020B	Arsenic	0.0016J	mg/L	0.0020	03/06/20 02:48	
EPA 6020B	Lithium	0.090	mg/L	0.050	03/06/20 02:48	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/26/20 23:01	D3
EPA 6020B	Lithium, Dissolved	0.090	mg/L	0.050	02/26/20 23:01	
92466089022	T3-1HT					
EPA 6020B	Arsenic	0.0018J	mg/L	0.0020	03/06/20 02:54	
EPA 6020B	Lithium	0.076	mg/L	0.050	03/06/20 02:54	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/27/20 00:09	D3
EPA 6020B	Lithium, Dissolved	0.075	mg/L	0.050	02/27/20 00:09	
92466089023	T3-2HT					
EPA 6020B	Arsenic	0.0015J	mg/L	0.0020	03/06/20 02:59	
EPA 6020B	Lithium	0.097	mg/L	0.050	03/06/20 02:59	
EPA 6020B	Arsenic, Dissolved	0.0017J	mg/L	0.0020	02/27/20 00:14	D3
EPA 6020B	Lithium, Dissolved	0.087	mg/L	0.050	02/27/20 00:14	
92466089024	T3-2HTS					
EPA 6020B	Arsenic	0.0013J	mg/L	0.0020	03/06/20 03:04	
EPA 6020B	Lithium	0.075	mg/L	0.050	03/06/20 03:04	
EPA 6020B	Arsenic, Dissolved	0.0017J	mg/L	0.0020	02/27/20 00:18	D3
EPA 6020B	Lithium, Dissolved	0.078	mg/L	0.050	02/27/20 00:18	
92466089025	T3-2LT					
EPA 6020B	Arsenic	0.0029	mg/L	0.0020	03/06/20 03:20	BC
EPA 6020B	Lithium	0.077	mg/L	0.050	03/06/20 03:20	
EPA 6020B	Arsenic, Dissolved	0.0017J	mg/L	0.0020	02/27/20 00:27	D3
EPA 6020B	Lithium, Dissolved	0.079	mg/L	0.050	02/27/20 00:27	
92466089026	T3-3HT					
EPA 6020B	Arsenic	0.0021	mg/L	0.0020	03/06/20 03:25	BC
EPA 6020B	Lithium	0.081	mg/L	0.050	03/06/20 03:25	
EPA 6020B	Arsenic, Dissolved	0.0017J	mg/L	0.0020	02/27/20 00:31	D3
EPA 6020B	Lithium, Dissolved	0.088	mg/L	0.050	02/27/20 00:31	
92466089027	T3-3HTS					
EPA 6020B	Arsenic	0.0018J	mg/L	0.0020	03/06/20 04:02	BC
EPA 6020B	Lithium	0.080	mg/L	0.050	03/06/20 04:02	
EPA 6020B	Arsenic, Dissolved	0.0019J	mg/L	0.0020	02/27/20 00:36	D3
EPA 6020B	Lithium, Dissolved	0.081	mg/L	0.050	02/27/20 00:36	
92466089028	T3-3LT					
EPA 6020B	Arsenic	0.0018J	mg/L	0.0020	03/06/20 04:07	BC
EPA 6020B	Lithium	0.084	mg/L	0.050	03/06/20 04:07	

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SUMMARY OF DETECTION

Project: Plant McManus
 Pace Project No.: 92466089

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466089028	T3-3LT					
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/27/20 00:44	D3
EPA 6020B	Lithium, Dissolved	0.078	mg/L	0.050	02/27/20 00:44	
92466089029	T3-4HT					
EPA 6020B	Arsenic	0.0018J	mg/L	0.0020	03/06/20 04:12	BC
EPA 6020B	Lithium	0.087	mg/L	0.050	03/06/20 04:12	
EPA 6020B	Arsenic, Dissolved	0.0019J	mg/L	0.0020	02/27/20 00:49	D3
EPA 6020B	Lithium, Dissolved	0.10	mg/L	0.050	02/27/20 00:49	
92466089030	T3-4HTS					
EPA 6020B	Arsenic	0.0014J	mg/L	0.0020	03/06/20 04:18	BC
EPA 6020B	Lithium	0.085	mg/L	0.050	03/06/20 04:18	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/27/20 00:58	D3
EPA 6020B	Lithium, Dissolved	0.090	mg/L	0.050	02/27/20 00:58	
92466089031	T3-4LT					
EPA 6020B	Arsenic	0.0012J	mg/L	0.0020	03/06/20 04:23	BC
EPA 6020B	Lithium	0.072	mg/L	0.050	03/06/20 04:23	
EPA 6020B	Arsenic, Dissolved	0.0015J	mg/L	0.0020	02/27/20 01:02	D3
EPA 6020B	Lithium, Dissolved	0.072	mg/L	0.050	02/27/20 01:02	
92466089032	MCM-05HT					
EPA 6020B	Arsenic	0.0013J	mg/L	0.0020	03/06/20 04:28	BC
EPA 6020B	Lithium	0.017J	mg/L	0.050	03/06/20 04:28	
EPA 6020B	Lithium, Dissolved	0.024J	mg/L	0.050	02/27/20 01:20	
92466089033	MCM-05LT					
EPA 6020B	Arsenic	0.0016J	mg/L	0.0020	03/06/20 04:34	BC
EPA 6020B	Lithium	0.023J	mg/L	0.050	03/06/20 04:34	
EPA 6020B	Lithium, Dissolved	0.021J	mg/L	0.050	02/27/20 01:24	
92466089034	MCM-06HT					
EPA 6020B	Arsenic	0.40	mg/L	0.0020	03/06/20 04:39	BC
EPA 6020B	Lithium	0.096	mg/L	0.050	03/06/20 04:39	
EPA 6020B	Arsenic, Dissolved	0.48	mg/L	0.0020	02/27/20 01:28	
EPA 6020B	Lithium, Dissolved	0.11	mg/L	0.050	02/27/20 01:28	
92466089035	MCM-06LT					
EPA 6020B	Arsenic	0.44	mg/L	0.0020	03/06/20 05:00	BC
EPA 6020B	Lithium	0.094	mg/L	0.050	03/06/20 05:00	
EPA 6020B	Arsenic, Dissolved	0.47	mg/L	0.0020	02/27/20 01:37	
EPA 6020B	Lithium, Dissolved	0.094	mg/L	0.050	02/27/20 01:37	
92466089036	MCM-07HT					
EPA 6020B	Arsenic	0.018	mg/L	0.0020	03/06/20 05:05	BC
EPA 6020B	Lithium	0.047J	mg/L	0.050	03/06/20 05:05	
EPA 6020B	Arsenic, Dissolved	0.020	mg/L	0.0020	02/27/20 01:42	
EPA 6020B	Lithium, Dissolved	0.048J	mg/L	0.050	02/27/20 01:42	
92466089037	MCM-07LT					
EPA 6020B	Arsenic	0.016	mg/L	0.0020	03/06/20 05:10	BC

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SUMMARY OF DETECTION

Project: Plant McManus

Pace Project No.: 92466089

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466089037	MCM-07LT					
EPA 6020B	Lithium	0.044J	mg/L	0.050	03/06/20 05:10	
EPA 6020B	Arsenic, Dissolved	0.018	mg/L	0.0020	02/27/20 01:46	
EPA 6020B	Lithium, Dissolved	0.062	mg/L	0.050	02/27/20 01:46	
92466089038	DUP-01					
EPA 6020B	Arsenic	0.0018J	mg/L	0.0020	03/06/20 05:15	BC
EPA 6020B	Lithium	0.073	mg/L	0.050	03/06/20 05:15	
EPA 6020B	Arsenic, Dissolved	0.0018J	mg/L	0.0020	02/27/20 01:51	D3
EPA 6020B	Lithium, Dissolved	0.080	mg/L	0.050	02/27/20 01:51	
92466089039	MCM-05HT ASHPOND					
EPA 6020B	Arsenic	0.0019J	mg/L	0.0020	03/06/20 05:21	BC
EPA 6020B	Lithium	0.018J	mg/L	0.050	03/06/20 05:21	
EPA 6020B	Arsenic, Dissolved	0.0013J	mg/L	0.0020	02/27/20 01:59	D3
EPA 6020B	Lithium, Dissolved	0.020J	mg/L	0.050	02/27/20 01:59	
92466089040	MCM-06LT ASHPOND					
EPA 6020B	Arsenic	0.0017J	mg/L	0.0020	03/06/20 05:26	BC
EPA 6020B	Lithium	0.012J	mg/L	0.050	03/06/20 05:26	
EPA 6020B	Arsenic, Dissolved	0.0013J	mg/L	0.0020	02/27/20 02:04	D3
EPA 6020B	Lithium, Dissolved	0.022J	mg/L	0.050	02/27/20 02:04	
92466089041	MCM-05LT ASHPOND					
EPA 6020B	Arsenic	0.0017J	mg/L	0.0020	03/06/20 05:31	BC
EPA 6020B	Lithium	0.012J	mg/L	0.050	03/06/20 05:31	
EPA 6020B	Lithium, Dissolved	0.021J	mg/L	0.050	02/27/20 02:08	
92466089042	MCM-07HT ASHPOND					
EPA 6020B	Arsenic	0.0019J	mg/L	0.0020	03/06/20 05:37	BC
EPA 6020B	Lithium	0.020J	mg/L	0.050	03/06/20 05:37	
EPA 6020B	Lithium, Dissolved	0.020J	mg/L	0.050	02/27/20 02:48	
92466089043	MCM-07LT ASHPOND					
EPA 6020B	Arsenic	0.0022	mg/L	0.0020	03/06/20 05:42	BC
EPA 6020B	Lithium	0.019J	mg/L	0.050	03/06/20 05:42	
EPA 6020B	Lithium, Dissolved	0.019J	mg/L	0.050	02/27/20 02:52	
92466089044	MCM-06HT ASHPOND					
EPA 6020B	Arsenic	0.0025	mg/L	0.0020	03/06/20 05:47	BC
EPA 6020B	Lithium	0.020J	mg/L	0.050	03/06/20 05:47	
EPA 6020B	Arsenic, Dissolved	0.0012J	mg/L	0.0020	02/27/20 15:55	D3
EPA 6020B	Lithium, Dissolved	0.021J	mg/L	0.050	02/27/20 02:57	
92466089045	BG-1LT					
EPA 6020B	Arsenic	0.0019J	mg/L	0.0020	03/06/20 06:45	
EPA 6020B	Lithium	0.090	mg/L	0.050	03/06/20 06:45	
EPA 6020B	Arsenic, Dissolved	0.0014J	mg/L	0.0020	02/27/20 16:00	D3
EPA 6020B	Lithium, Dissolved	0.098	mg/L	0.050	02/27/20 03:06	
92466089046	BG-2HT					
EPA 6020B	Arsenic	0.0023	mg/L	0.0020	03/06/20 07:06	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus

Pace Project No.: 92466089

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466089046	BG-2HT					
EPA 6020B	Lithium	0.099	mg/L	0.050	03/06/20 07:06	
EPA 6020B	Arsenic, Dissolved	0.0016J	mg/L	0.0020	02/27/20 16:08	D3
EPA 6020B	Lithium, Dissolved	0.099	mg/L	0.050	02/27/20 03:10	
92466089047	MCM-04LT					
EPA 6020B	Arsenic	0.0016J	mg/L	0.0020	03/06/20 06:13	
EPA 6020B	Cobalt	0.0030	mg/L	0.0020	03/06/20 06:13	
EPA 6020B	Cobalt, Dissolved	0.0026	mg/L	0.0020	02/27/20 16:17	
92466089048	MCM-08LT					
EPA 6020B	Arsenic	0.0019J	mg/L	0.0020	03/06/20 06:19	
EPA 6020B	Cobalt	0.0020J	mg/L	0.0020	03/06/20 06:19	
EPA 6020B	Arsenic, Dissolved	0.0013J	mg/L	0.0020	02/27/20 16:22	D3
EPA 6020B	Cobalt, Dissolved	0.0020J	mg/L	0.0020	02/27/20 16:22	

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ANALYTICAL RESULTS

Project: Plant McManus
 Pace Project No.: 92466089

Sample: T2-1HT		Lab ID: 92466089001		Collected: 02/01/20 13:55		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic	0.0014	mg/L	0.0010	0.00060	10	02/25/20 02:03	02/25/20 10:30	7440-38-2	
Cobalt	ND	mg/L	0.0010	0.00050	10	02/25/20 02:03	02/25/20 10:30	7440-48-4	
Lithium	0.052	mg/L	0.025	0.0042	10	02/25/20 02:03	02/25/20 10:30	7439-93-2	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic, Dissolved	0.0014J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 15:45	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 15:45	7440-48-4	
Lithium, Dissolved	0.059	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 15:45	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus
 Pace Project No.: 92466089

Sample: T2-2HT Lab ID: 92466089002 Collected: 02/01/20 14:32 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0019	mg/L	0.0010	0.00060	10	02/25/20 02:03	02/25/20 10:39	7440-38-2	
Cobalt	ND	mg/L	0.0010	0.00050	10	02/25/20 02:03	02/25/20 10:39	7440-48-4	
Lithium	0.10	mg/L	0.025	0.0042	10	02/25/20 02:03	02/25/20 10:39	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 18:39	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 18:39	7440-48-4	
Lithium, Dissolved	0.084	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 18:39	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus
 Pace Project No.: 92466089

Sample: T2-2HTS **Lab ID: 92466089003** Collected: 02/01/20 14:28 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0019	mg/L	0.0010	0.00060	10	02/25/20 02:03	02/25/20 10:52	7440-38-2	
Cobalt	ND	mg/L	0.0010	0.00050	10	02/25/20 02:03	02/25/20 10:52	7440-48-4	
Lithium	0.073	mg/L	0.025	0.0042	10	02/25/20 02:03	02/25/20 10:52	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0014J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 18:53	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 18:53	7440-48-4	
Lithium, Dissolved	0.060	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 18:53	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T2-2LT **Lab ID: 92466089004** Collected: 02/02/20 13:38 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018	mg/L	0.0010	0.00060	10	02/25/20 02:03	02/25/20 11:01	7440-38-2	
Cobalt	ND	mg/L	0.0010	0.00050	10	02/25/20 02:03	02/25/20 11:01	7440-48-4	
Lithium	0.063	mg/L	0.025	0.0042	10	02/25/20 02:03	02/25/20 11:01	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 19:06	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 19:06	7440-48-4	
Lithium, Dissolved	0.057	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 19:06	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T2-3HT **Lab ID:** 92466089005 Collected: 02/01/20 14:50 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0016J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/05/20 23:55	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/05/20 23:55	7440-48-4	
Lithium	0.099	mg/L	0.050	0.0084	2	03/04/20 02:26	03/05/20 23:55	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 19:15	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 19:15	7440-48-4	
Lithium, Dissolved	0.093	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 19:15	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T2-3HTS **Lab ID: 92466089006** Collected: 02/01/20 14:46 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 00:16	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 00:16	7440-48-4	
Lithium	0.11	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 00:16	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 19:23	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 19:23	7440-48-4	
Lithium, Dissolved	0.094	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 19:23	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T2-3LT **Lab ID:** 92466089007 Collected: 02/02/20 11:20 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0020	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 00:42	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 00:42	7440-48-4	
Lithium	0.049J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 00:42	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0012J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 19:32	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 19:32	7440-48-4	
Lithium, Dissolved	0.041J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 19:32	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus
 Pace Project No.: 92466089

Sample: T2-4HT		Lab ID: 92466089008		Collected: 02/01/20 15:14	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	0.0016J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 00:48	7440-38-2		
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 00:48	7440-48-4		
Lithium	0.091	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 00:48	7439-93-2		
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic, Dissolved	0.0020J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 20:15	7440-38-2	D3	
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 20:15	7440-48-4		
Lithium, Dissolved	0.092	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 20:15	7439-93-2		

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ANALYTICAL RESULTS

Project: Plant McManus
 Pace Project No.: 92466089

Sample: T2-4HTS **Lab ID: 92466089009** Collected: 02/01/20 15:00 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0015J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 00:58	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 00:58	7440-48-4	
Lithium	0.085	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 00:58	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 20:24	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 20:24	7440-48-4	
Lithium, Dissolved	0.088	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 20:24	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T2-4LT **Lab ID: 92466089010** Collected: 02/02/20 09:46 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0015J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 01:03	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 01:03	7440-48-4	
Lithium	0.075	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 01:03	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 20:37	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 20:37	7440-48-4	
Lithium, Dissolved	0.077	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 20:37	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-1HT **Lab ID: 92466089011** Collected: 02/01/20 14:08 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0016J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 01:19	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 01:19	7440-48-4	
Lithium	0.039J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 01:19	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 20:46	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 20:46	7440-48-4	
Lithium, Dissolved	0.038J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 20:46	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-1LT **Lab ID: 92466089012** Collected: 02/01/20 09:50 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 01:51	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 01:51	7440-48-4	
Lithium	0.024J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 01:51	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 20:59	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 20:59	7440-48-4	
Lithium, Dissolved	0.022J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 20:59	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-2HT **Lab ID: 92466089013** Collected: 02/01/20 14:20 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 01:56	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 01:56	7440-48-4	
Lithium	0.11	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 01:56	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 21:04	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 21:04	7440-48-4	
Lithium, Dissolved	0.088	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 21:04	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-2HTS **Lab ID: 92466089014** Collected: 02/01/20 14:16 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:01	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:01	7440-48-4	
Lithium	0.055	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:01	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 21:17	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 21:17	7440-48-4	
Lithium, Dissolved	0.061	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 21:17	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-2LT **Lab ID: 92466089015** Collected: 02/01/20 10:16 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:06	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:06	7440-48-4	
Lithium	0.022J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:06	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 21:39	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 21:39	7440-48-4	
Lithium, Dissolved	0.024J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 21:39	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-3HT **Lab ID: 92466089016** Collected: 02/01/20 13:56 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:12	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:12	7440-48-4	
Lithium	0.092	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:12	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 21:48	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 21:48	7440-48-4	
Lithium, Dissolved	0.080	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 21:48	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-3HTS **Lab ID: 92466089017** Collected: 02/01/20 13:52 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:17	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:17	7440-48-4	
Lithium	0.067	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:17	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 22:01	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 22:01	7440-48-4	
Lithium, Dissolved	0.072	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 22:01	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-3LT **Lab ID: 92466089018** Collected: 02/01/20 10:06 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:22	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:22	7440-48-4	
Lithium	0.022J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:22	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 22:35	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 22:35	7440-48-4	
Lithium, Dissolved	0.019J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 22:35	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-4HT **Lab ID: 92466089019** Collected: 02/01/20 13:40 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:27	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:27	7440-48-4	
Lithium	0.080	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:27	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0019J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 22:40	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 22:40	7440-48-4	
Lithium, Dissolved	0.086	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 22:40	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus
 Pace Project No.: 92466089

Sample: T1-4HTS		Lab ID: 92466089020		Collected: 02/01/20 13:34		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic	0.0014J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:33	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:33	7440-48-4	
Lithium	0.081	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:33	7439-93-2	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 22:56	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 22:56	7440-48-4	
Lithium, Dissolved	0.083	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 22:56	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T1-4LT **Lab ID: 92466089021** Collected: 02/01/20 09:56 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0016J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:48	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:48	7440-48-4	
Lithium	0.090	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:48	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/26/20 23:01	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/26/20 23:01	7440-48-4	
Lithium, Dissolved	0.090	mg/L	0.050	0.0084	20	02/26/20 11:47	02/26/20 23:01	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-1HT **Lab ID: 92466089022** Collected: 02/02/20 14:35 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:54	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:54	7440-48-4	
Lithium	0.076	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:54	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:09	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:09	7440-48-4	
Lithium, Dissolved	0.075	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:09	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-2HT Lab ID: 92466089023 Collected: 02/02/20 14:34 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0015J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 02:59	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 02:59	7440-48-4	
Lithium	0.097	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 02:59	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0017J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:14	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:14	7440-48-4	
Lithium, Dissolved	0.087	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:14	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-2HTS **Lab ID: 92466089024** Collected: 02/02/20 14:28 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0013J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 03:04	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 03:04	7440-48-4	
Lithium	0.075	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 03:04	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0017J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:18	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:18	7440-48-4	
Lithium, Dissolved	0.078	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:18	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-2LT **Lab ID:** 92466089025 Collected: 02/03/20 13:30 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0029	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 03:20	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 03:20	7440-48-4	
Lithium	0.077	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 03:20	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0017J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:27	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:27	7440-48-4	
Lithium, Dissolved	0.079	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:27	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-3HT **Lab ID: 92466089026** Collected: 02/02/20 14:10 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0021	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 03:25	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 03:25	7440-48-4	
Lithium	0.081	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 03:25	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0017J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:31	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:31	7440-48-4	
Lithium, Dissolved	0.088	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:31	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-3HTS **Lab ID: 92466089027** Collected: 02/02/20 14:08 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:02	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:02	7440-48-4	
Lithium	0.080	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:02	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0019J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:36	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:36	7440-48-4	
Lithium, Dissolved	0.081	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:36	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-3LT **Lab ID: 92466089028** Collected: 02/03/20 12:12 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:07	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:07	7440-48-4	
Lithium	0.084	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:07	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:44	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:44	7440-48-4	
Lithium, Dissolved	0.078	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:44	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-4HT Lab ID: 92466089029 Collected: 02/02/20 13:50 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:12	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:12	7440-48-4	
Lithium	0.087	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:12	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0019J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:49	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:49	7440-48-4	
Lithium, Dissolved	0.10	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:49	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-4HTS **Lab ID: 92466089030** Collected: 02/02/20 13:44 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0014J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:18	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:18	7440-48-4	
Lithium	0.085	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:18	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 00:58	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 00:58	7440-48-4	
Lithium, Dissolved	0.090	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 00:58	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: T3-4LT **Lab ID: 92466089031** Collected: 02/03/20 10:40 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0012J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:23	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:23	7440-48-4	
Lithium	0.072	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:23	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0015J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:02	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:02	7440-48-4	
Lithium, Dissolved	0.072	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:02	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-05HT		Lab ID: 92466089032		Collected: 02/02/20 14:46		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic	0.0013J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:28	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:28	7440-48-4	
Lithium	0.017J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:28	7439-93-2	
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:20	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:20	7440-48-4	
Lithium, Dissolved	0.024J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:20	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-05LT **Lab ID: 92466089033** Collected: 02/03/20 09:47 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0016J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:34	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:34	7440-48-4	
Lithium	0.023J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:34	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:24	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:24	7440-48-4	
Lithium, Dissolved	0.021J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:24	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-06HT **Lab ID: 92466089034** Collected: 02/01/20 13:55 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.40	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 04:39	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 04:39	7440-48-4	
Lithium	0.096	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 04:39	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.48	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:28	7440-38-2	
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:28	7440-48-4	
Lithium, Dissolved	0.11	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:28	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-06LT **Lab ID: 92466089035** Collected: 02/02/20 09:00 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.44	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:00	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:00	7440-48-4	
Lithium	0.094	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:00	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.47	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:37	7440-38-2	
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:37	7440-48-4	
Lithium, Dissolved	0.094	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:37	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-07HT		Lab ID: 92466089036		Collected: 02/01/20 14:20	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020 MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	0.018	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:05	7440-38-2	BC	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:05	7440-48-4		
Lithium	0.047J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:05	7439-93-2		
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic, Dissolved	0.020	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:42	7440-38-2		
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:42	7440-48-4		
Lithium, Dissolved	0.048J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:42	7439-93-2		

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-07LT **Lab ID: 92466089037** Collected: 02/01/20 10:15 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.016	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:10	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:10	7440-48-4	
Lithium	0.044J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:10	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.018	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:46	7440-38-2	
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:46	7440-48-4	
Lithium, Dissolved	0.062	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:46	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: DUP-01 **Lab ID: 92466089038** Collected: 02/03/20 00:00 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0018J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:15	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:15	7440-48-4	
Lithium	0.073	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:15	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0018J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:51	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:51	7440-48-4	
Lithium, Dissolved	0.080	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:51	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-05HT ASHPOND **Lab ID: 92466089039** Collected: 02/02/20 14:30 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0019J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:21	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:21	7440-48-4	
Lithium	0.018J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:21	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0013J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 01:59	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 01:59	7440-48-4	
Lithium, Dissolved	0.020J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 01:59	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-06LT ASHPOND **Lab ID: 92466089040** Collected: 02/02/20 08:50 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0017J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:26	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:26	7440-48-4	
Lithium	0.012J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:26	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0013J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 02:04	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 02:04	7440-48-4	
Lithium, Dissolved	0.022J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 02:04	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-05LT ASHPOND **Lab ID: 92466089041** Collected: 02/03/20 09:45 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0017J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:31	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:31	7440-48-4	
Lithium	0.012J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:31	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 02:08	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 02:08	7440-48-4	
Lithium, Dissolved	0.021J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 02:08	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-07HT ASHPOND **Lab ID: 92466089042** Collected: 02/01/20 14:20 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0019J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:37	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:37	7440-48-4	
Lithium	0.020J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:37	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 15:46	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 15:46	7440-48-4	
Lithium, Dissolved	0.020J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 02:48	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-07LT ASHPOND **Lab ID: 92466089043** Collected: 02/01/20 09:40 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0022	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:42	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:42	7440-48-4	
Lithium	0.019J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:42	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 15:51	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 15:51	7440-48-4	
Lithium, Dissolved	0.019J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 02:52	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-06HT ASHPOND **Lab ID: 92466089044** Collected: 02/01/20 13:55 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0025	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 05:47	7440-38-2	BC
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 05:47	7440-48-4	
Lithium	0.020J	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 05:47	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0012J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 15:55	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 15:55	7440-48-4	
Lithium, Dissolved	0.021J	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 02:57	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: BG-1LT **Lab ID: 92466089045** Collected: 02/02/20 08:58 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0019J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 06:45	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 06:45	7440-48-4	
Lithium	0.090	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 06:45	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0014J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 16:00	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 16:00	7440-48-4	
Lithium, Dissolved	0.098	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 03:06	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: BG-2HT **Lab ID: 92466089046** Collected: 02/02/20 15:04 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0023	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 07:06	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 07:06	7440-48-4	
Lithium	0.099	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 07:06	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0016J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 16:08	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 16:08	7440-48-4	
Lithium, Dissolved	0.099	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 03:10	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-04LT **Lab ID: 92466089047** Collected: 02/03/20 11:35 Received: 02/04/20 10:48 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0016J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 06:13	7440-38-2	
Cobalt	0.0030	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 06:13	7440-48-4	
Lithium	ND	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 06:13	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 16:17	7440-38-2	D3
Cobalt, Dissolved	0.0026	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 16:17	7440-48-4	
Lithium, Dissolved	ND	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 03:14	7439-93-2	

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ANALYTICAL RESULTS

Project: Plant McManus

Pace Project No.: 92466089

Sample: MCM-08LT **Lab ID: 92466089048** Collected: 02/03/20 12:41 Received: 02/04/20 10:48 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0019J	mg/L	0.0020	0.0012	2	03/04/20 02:26	03/06/20 06:19	7440-38-2	
Cobalt	0.0020J	mg/L	0.0020	0.0010	2	03/04/20 02:26	03/06/20 06:19	7440-48-4	
Lithium	ND	mg/L	0.050	0.0084	2	03/04/20 02:26	03/06/20 06:19	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0013J	mg/L	0.0020	0.0012	20	02/26/20 11:47	02/27/20 16:22	7440-38-2	D3
Cobalt, Dissolved	0.0020J	mg/L	0.0020	0.0010	20	02/26/20 11:47	02/27/20 16:22	7440-48-4	
Lithium, Dissolved	ND	mg/L	0.050	0.0084	20	02/26/20 11:47	02/27/20 16:22	7439-93-2	

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QUALITY CONTROL DATA

Project: Plant McManus

Pace Project No.: 92466089

QC Batch:	526783	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92466089001, 92466089002, 92466089003, 92466089004

METHOD BLANK: 2814966 Matrix: Water
 Associated Lab Samples: 92466089001, 92466089002, 92466089003, 92466089004, 92466089005, 92466089006, 92466089007, 92466089008, 92466089009, 92466089010, 92466089011, 92466089012, 92466089013, 92466089014, 92466089015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000060	02/25/20 10:17	
Cobalt	mg/L	ND	0.00010	0.000050	02/25/20 10:17	
Lithium	mg/L	ND	0.0025	0.00042	02/25/20 10:17	

LABORATORY CONTROL SAMPLE: 2814967

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.0099	99	80-120	
Cobalt	mg/L	0.01	0.010	102	80-120	
Lithium	mg/L	0.05	0.050	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2814968 2814969

Parameter	Units	2814968		2814969		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	2.6 ug/L	0.01	0.01	0.012	0.013	97	100	75-125	2	20
Cobalt	mg/L	0.11 ug/L	0.01	0.01	0.010	0.010	100	101	75-125	0	20
Lithium	mg/L	2.6 ug/L	0.05	0.05	0.051	0.054	98	103	75-125	5	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus

Pace Project No.: 92466089

QC Batch: 528310 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92466089005, 92466089006, 92466089007, 92466089008, 92466089009, 92466089010, 92466089011, 92466089012, 92466089013, 92466089014, 92466089015, 92466089016, 92466089017, 92466089018, 92466089019, 92466089020, 92466089021, 92466089022, 92466089023, 92466089024

METHOD BLANK: 2822122 Matrix: Water
 Associated Lab Samples: 92466089005, 92466089006, 92466089007, 92466089008, 92466089009, 92466089010, 92466089011, 92466089012, 92466089013, 92466089014, 92466089015, 92466089016, 92466089017, 92466089018, 92466089019, 92466089020, 92466089021, 92466089022, 92466089023, 92466089024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000060	03/05/20 23:45	
Cobalt	mg/L	ND	0.00010	0.000050	03/05/20 23:45	
Lithium	mg/L	ND	0.0025	0.00042	03/05/20 23:45	

LABORATORY CONTROL SAMPLE: 2822123

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	104	80-120	
Cobalt	mg/L	0.01	0.010	103	80-120	
Lithium	mg/L	0.05	0.056	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2822124 2822125

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92466089006 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0018J	0.1	0.1	0.12	0.11	119	109	75-125	8	20
Cobalt	mg/L	ND	0.1	0.1	0.11	0.11	114	107	75-125	7	20
Lithium	mg/L	0.11	0.5	0.5	0.68	0.62	114	102	75-125	10	20

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QUALITY CONTROL DATA

Project: Plant McManus

Pace Project No.: 92466089

QC Batch: 528311 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92466089025, 92466089026, 92466089027, 92466089028, 92466089029, 92466089030, 92466089031, 92466089032, 92466089033, 92466089034, 92466089035, 92466089036, 92466089037, 92466089038, 92466089039, 92466089040, 92466089041, 92466089042, 92466089043, 92466089044

METHOD BLANK: 2822126 Matrix: Water
 Associated Lab Samples: 92466089025, 92466089026, 92466089027, 92466089028, 92466089029, 92466089030, 92466089031, 92466089032, 92466089033, 92466089034, 92466089035, 92466089036, 92466089037, 92466089038, 92466089039, 92466089040, 92466089041, 92466089042, 92466089043, 92466089044

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	0.000086J	0.00010	0.000060	03/06/20 03:09	BC
Cobalt	mg/L	ND	0.00010	0.000050	03/06/20 03:09	
Lithium	mg/L	ND	0.0025	0.00042	03/06/20 03:09	

LABORATORY CONTROL SAMPLE: 2822127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.0099	99	80-120	BC
Cobalt	mg/L	0.01	0.010	100	80-120	
Lithium	mg/L	0.05	0.052	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2822128 2822129

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92466089026 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0021	0.1	0.1	0.11	0.12	107	113	75-125	6	20
Cobalt	mg/L	ND	0.1	0.1	0.10	0.12	104	116	75-125	10	20
Lithium	mg/L	0.081	0.5	0.5	0.58	0.63	99	110	75-125	9	20

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QUALITY CONTROL DATA

Project: Plant McManus

Pace Project No.: 92466089

QC Batch: 528312

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92466089045, 92466089046, 92466089047, 92466089048

METHOD BLANK: 2822130

Matrix: Water

Associated Lab Samples: 92466089045, 92466089046, 92466089047, 92466089048

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000060	03/06/20 06:03	
Cobalt	mg/L	ND	0.00010	0.000050	03/06/20 06:03	
Lithium	mg/L	ND	0.0025	0.00042	03/06/20 06:03	

LABORATORY CONTROL SAMPLE: 2822131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.0098	98	80-120	
Cobalt	mg/L	0.01	0.010	101	80-120	
Lithium	mg/L	0.05	0.050	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2822132 2822133

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92466089048	Result	Spike Conc.	Spike Conc.								
Arsenic	mg/L	0.0019J	0.1	0.1	0.11	0.10	104	100	75-125	4	20		
Cobalt	mg/L	0.0020J	0.1	0.1	0.11	0.10	107	100	75-125	7	20		
Lithium	mg/L	ND	0.5	0.5	0.53	0.51	106	103	75-125	3	20		

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QUALITY CONTROL DATA

Project: Plant McManus
 Pace Project No.: 92466089

QC Batch: 527145 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92466089001, 92466089002, 92466089003, 92466089004, 92466089005, 92466089006, 92466089007, 92466089008, 92466089009, 92466089010, 92466089011, 92466089012, 92466089013, 92466089014, 92466089015, 92466089016, 92466089017, 92466089018, 92466089019, 92466089020

METHOD BLANK: 2816511 Matrix: Water
 Associated Lab Samples: 92466089001, 92466089002, 92466089003, 92466089004, 92466089005, 92466089006, 92466089007, 92466089008, 92466089009, 92466089010, 92466089011, 92466089012, 92466089013, 92466089014, 92466089015, 92466089016, 92466089017, 92466089018, 92466089019, 92466089020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000060	02/26/20 16:11	
Cobalt, Dissolved	mg/L	ND	0.00010	0.000050	02/26/20 16:11	
Lithium, Dissolved	mg/L	ND	0.0025	0.00042	02/26/20 16:11	

LABORATORY CONTROL SAMPLE: 2816512

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0096	96	80-120	
Cobalt, Dissolved	mg/L	0.01	0.0098	98	80-120	
Lithium, Dissolved	mg/L	0.05	0.047	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2816513 2816514

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92466089001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic, Dissolved	mg/L	0.0014J	0.01	0.01	0.012	0.012	106	105	75-125	2	20
Cobalt, Dissolved	mg/L	ND	0.01	0.01	0.011	0.011	109	108	75-125	1	20
Lithium, Dissolved	mg/L	0.059	0.05	0.05	0.10	0.10	83	86	75-125	2	20

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QUALITY CONTROL DATA

Project: Plant McManus

Pace Project No.: 92466089

QC Batch: 527147 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92466089021, 92466089022, 92466089023, 92466089024, 92466089025, 92466089026, 92466089027, 92466089028, 92466089029, 92466089030, 92466089031, 92466089032, 92466089033, 92466089034, 92466089035, 92466089036, 92466089037, 92466089038, 92466089039, 92466089040

METHOD BLANK: 2816517 Matrix: Water

Associated Lab Samples: 92466089021, 92466089022, 92466089023, 92466089024, 92466089025, 92466089026, 92466089027, 92466089028, 92466089029, 92466089030, 92466089031, 92466089032, 92466089033, 92466089034, 92466089035, 92466089036, 92466089037, 92466089038, 92466089039, 92466089040

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000060	02/26/20 16:02	
Cobalt, Dissolved	mg/L	ND	0.00010	0.000050	02/26/20 16:02	
Lithium, Dissolved	mg/L	ND	0.0025	0.00042	02/26/20 16:02	

LABORATORY CONTROL SAMPLE: 2816518

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0098	98	80-120	
Cobalt, Dissolved	mg/L	0.01	0.010	103	80-120	
Lithium, Dissolved	mg/L	0.05	0.045	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2816519 2816520

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92466089021 Result	Spike Conc.	Spike Conc.	Result						
Arsenic, Dissolved	mg/L	0.0016J	0.01	0.01	0.012	0.013	105	111	75-125	5	20
Cobalt, Dissolved	mg/L	ND	0.01	0.01	0.011	0.011	106	109	75-125	3	20
Lithium, Dissolved	mg/L	0.090	0.05	0.05	0.14	0.14	104	103	75-125	0	20

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QUALITY CONTROL DATA

Project: Plant McManus

Pace Project No.: 92466089

QC Batch:	527148	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET Dissolved
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92466089041, 92466089042, 92466089043, 92466089044, 92466089045, 92466089046, 92466089047, 92466089048		

METHOD BLANK:	2816523	Matrix:	Water
Associated Lab Samples:	92466089041, 92466089042, 92466089043, 92466089044, 92466089045, 92466089046, 92466089047, 92466089048		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000060	02/26/20 15:54	
Cobalt, Dissolved	mg/L	ND	0.00010	0.000050	02/26/20 15:54	
Lithium, Dissolved	mg/L	ND	0.0025	0.00042	02/26/20 15:54	

LABORATORY CONTROL SAMPLE:	2816524					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0098	98	80-120	
Cobalt, Dissolved	mg/L	0.01	0.010	100	80-120	
Lithium, Dissolved	mg/L	0.05	0.047	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2816525			2816526								
Parameter	Units	92466089041 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	ND	0.01	0.01	0.011	0.011	99	100	75-125	1	20	
Cobalt, Dissolved	mg/L	ND	0.01	0.01	0.0097	0.0094	96	94	75-125	3	20	
Lithium, Dissolved	mg/L	0.021J	0.05	0.05	0.065	0.072	89	102	75-125	10	20	

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QUALIFIERS

Project: Plant McManus

Pace Project No.: 92466089

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

BC The same analyte was detected in an associated blank at a concentration above 1/2 the reporting limit but below the laboratory reporting limit.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus
 Pace Project No.: 92466089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92466089001	T2-1HT	EPA 3010A	526783	EPA 6020B	526805
92466089002	T2-2HT	EPA 3010A	526783	EPA 6020B	526805
92466089003	T2-2HTS	EPA 3010A	526783	EPA 6020B	526805
92466089004	T2-2LT	EPA 3010A	526783	EPA 6020B	526805
92466089005	T2-3HT	EPA 3010A	528310	EPA 6020B	528347
92466089006	T2-3HTS	EPA 3010A	528310	EPA 6020B	528347
92466089007	T2-3LT	EPA 3010A	528310	EPA 6020B	528347
92466089008	T2-4HT	EPA 3010A	528310	EPA 6020B	528347
92466089009	T2-4HTS	EPA 3010A	528310	EPA 6020B	528347
92466089010	T2-4LT	EPA 3010A	528310	EPA 6020B	528347
92466089011	T1-1HT	EPA 3010A	528310	EPA 6020B	528347
92466089012	T1-1LT	EPA 3010A	528310	EPA 6020B	528347
92466089013	T1-2HT	EPA 3010A	528310	EPA 6020B	528347
92466089014	T1-2HTS	EPA 3010A	528310	EPA 6020B	528347
92466089015	T1-2LT	EPA 3010A	528310	EPA 6020B	528347
92466089016	T1-3HT	EPA 3010A	528310	EPA 6020B	528347
92466089017	T1-3HTS	EPA 3010A	528310	EPA 6020B	528347
92466089018	T1-3LT	EPA 3010A	528310	EPA 6020B	528347
92466089019	T1-4HT	EPA 3010A	528310	EPA 6020B	528347
92466089020	T1-4HTS	EPA 3010A	528310	EPA 6020B	528347
92466089021	T1-4LT	EPA 3010A	528310	EPA 6020B	528347
92466089022	T3-1HT	EPA 3010A	528310	EPA 6020B	528347
92466089023	T3-2HT	EPA 3010A	528310	EPA 6020B	528347
92466089024	T3-2HTS	EPA 3010A	528310	EPA 6020B	528347
92466089025	T3-2LT	EPA 3010A	528311	EPA 6020B	528348
92466089026	T3-3HT	EPA 3010A	528311	EPA 6020B	528348
92466089027	T3-3HTS	EPA 3010A	528311	EPA 6020B	528348
92466089028	T3-3LT	EPA 3010A	528311	EPA 6020B	528348
92466089029	T3-4HT	EPA 3010A	528311	EPA 6020B	528348
92466089030	T3-4HTS	EPA 3010A	528311	EPA 6020B	528348
92466089031	T3-4LT	EPA 3010A	528311	EPA 6020B	528348
92466089032	MCM-05HT	EPA 3010A	528311	EPA 6020B	528348
92466089033	MCM-05LT	EPA 3010A	528311	EPA 6020B	528348
92466089034	MCM-06HT	EPA 3010A	528311	EPA 6020B	528348
92466089035	MCM-06LT	EPA 3010A	528311	EPA 6020B	528348
92466089036	MCM-07HT	EPA 3010A	528311	EPA 6020B	528348
92466089037	MCM-07LT	EPA 3010A	528311	EPA 6020B	528348
92466089038	DUP-01	EPA 3010A	528311	EPA 6020B	528348
92466089039	MCM-05HT ASHPOND	EPA 3010A	528311	EPA 6020B	528348
92466089040	MCM-06LT ASHPOND	EPA 3010A	528311	EPA 6020B	528348
92466089041	MCM-05LT ASHPOND	EPA 3010A	528311	EPA 6020B	528348
92466089042	MCM-07HT ASHPOND	EPA 3010A	528311	EPA 6020B	528348
92466089043	MCM-07LT ASHPOND	EPA 3010A	528311	EPA 6020B	528348
92466089044	MCM-06HT ASHPOND	EPA 3010A	528311	EPA 6020B	528348
92466089045	BG-1LT	EPA 3010A	528312	EPA 6020B	528350
92466089046	BG-2HT	EPA 3010A	528312	EPA 6020B	528350
92466089047	MCM-04LT	EPA 3010A	528312	EPA 6020B	528350

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus

Pace Project No.: 92466089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92466089048	MCM-08LT	EPA 3010A	528312	EPA 6020B	528350
92466089001	T2-1HT	EPA 3010A	527145	EPA 6020B	527187
92466089002	T2-2HT	EPA 3010A	527145	EPA 6020B	527187
92466089003	T2-2HTS	EPA 3010A	527145	EPA 6020B	527187
92466089004	T2-2LT	EPA 3010A	527145	EPA 6020B	527187
92466089005	T2-3HT	EPA 3010A	527145	EPA 6020B	527187
92466089006	T2-3HTS	EPA 3010A	527145	EPA 6020B	527187
92466089007	T2-3LT	EPA 3010A	527145	EPA 6020B	527187
92466089008	T2-4HT	EPA 3010A	527145	EPA 6020B	527187
92466089009	T2-4HTS	EPA 3010A	527145	EPA 6020B	527187
92466089010	T2-4LT	EPA 3010A	527145	EPA 6020B	527187
92466089011	T1-1HT	EPA 3010A	527145	EPA 6020B	527187
92466089012	T1-1LT	EPA 3010A	527145	EPA 6020B	527187
92466089013	T1-2HT	EPA 3010A	527145	EPA 6020B	527187
92466089014	T1-2HTS	EPA 3010A	527145	EPA 6020B	527187
92466089015	T1-2LT	EPA 3010A	527145	EPA 6020B	527187
92466089016	T1-3HT	EPA 3010A	527145	EPA 6020B	527187
92466089017	T1-3HTS	EPA 3010A	527145	EPA 6020B	527187
92466089018	T1-3LT	EPA 3010A	527145	EPA 6020B	527187
92466089019	T1-4HT	EPA 3010A	527145	EPA 6020B	527187
92466089020	T1-4HTS	EPA 3010A	527145	EPA 6020B	527187
92466089021	T1-4LT	EPA 3010A	527147	EPA 6020B	527190
92466089022	T3-1HT	EPA 3010A	527147	EPA 6020B	527190
92466089023	T3-2HT	EPA 3010A	527147	EPA 6020B	527190
92466089024	T3-2HTS	EPA 3010A	527147	EPA 6020B	527190
92466089025	T3-2LT	EPA 3010A	527147	EPA 6020B	527190
92466089026	T3-3HT	EPA 3010A	527147	EPA 6020B	527190
92466089027	T3-3HTS	EPA 3010A	527147	EPA 6020B	527190
92466089028	T3-3LT	EPA 3010A	527147	EPA 6020B	527190
92466089029	T3-4HT	EPA 3010A	527147	EPA 6020B	527190
92466089030	T3-4HTS	EPA 3010A	527147	EPA 6020B	527190
92466089031	T3-4LT	EPA 3010A	527147	EPA 6020B	527190
92466089032	MCM-05HT	EPA 3010A	527147	EPA 6020B	527190
92466089033	MCM-05LT	EPA 3010A	527147	EPA 6020B	527190
92466089034	MCM-06HT	EPA 3010A	527147	EPA 6020B	527190
92466089035	MCM-06LT	EPA 3010A	527147	EPA 6020B	527190
92466089036	MCM-07HT	EPA 3010A	527147	EPA 6020B	527190
92466089037	MCM-07LT	EPA 3010A	527147	EPA 6020B	527190
92466089038	DUP-01	EPA 3010A	527147	EPA 6020B	527190
92466089039	MCM-05HT ASHPOND	EPA 3010A	527147	EPA 6020B	527190
92466089040	MCM-06LT ASHPOND	EPA 3010A	527147	EPA 6020B	527190
92466089041	MCM-05LT ASHPOND	EPA 3010A	527148	EPA 6020B	527192
92466089042	MCM-07HT ASHPOND	EPA 3010A	527148	EPA 6020B	527192
92466089043	MCM-07LT ASHPOND	EPA 3010A	527148	EPA 6020B	527192
92466089044	MCM-06HT ASHPOND	EPA 3010A	527148	EPA 6020B	527192
92466089045	BG-1LT	EPA 3010A	527148	EPA 6020B	527192
92466089046	BG-2HT	EPA 3010A	527148	EPA 6020B	527192

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus
Pace Project No.: 92466089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92466089047	MCM-04LT	EPA 3010A	527148	EPA 6020B	527192
92466089048	MCM-08LT	EPA 3010A	527148	EPA 6020B	527192

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain of Custody is a document that documents the history of a sample from the time it is collected to the time it is analyzed.

WO#: 2628570



Section 1 - Requester Information

Requester Name: George Peres
 Requester Title: Police Officer
 Requester Agency: San Jose Police Department
 Requester Address: 1000 International Parkway
 Requester City: San Jose
 Requester State: CA
 Requester Zip: 95128
 Requester Phone: (408) 287-1100
 Requester Email: peresg@sjpd.net

Section 2 - Sample Information

Sample ID: 20230716
 Sample Description: Police Officer
 Sample Location: San Jose Police Department
 Sample Date/Time: 2023-07-16
 Sample Quantity: 1

SAMPLE ID	DESCRIPTION	QUANTITY	COLLECTED		BY	DATE/TIME	LOCATION	PREPARED BY	DATE/TIME	LABORATORY	ANALYSIS	RESULTS	REMARKS
			DATE	TIME									
1	1000-1000	1											
2	1000-2000	1											
3	1000-3000	1											
4	1000-4000	1											
5	1000-5000	1											
6	1000-6000	1											
7	1000-7000	1											
8	1000-8000	1											
9	1000-9000	1											
10	1000-0000	1											
11	1000-1000	1											
12	1000-2000	1											

Section 3 - Laboratory Information

Lab Name: San Jose Police Department
 Lab Address: 1000 International Parkway
 Lab City: San Jose
 Lab State: CA
 Lab Zip: 95128
 Lab Phone: (408) 287-1100
 Lab Email: peresg@sjpd.net

Section 4 - Signatures

Requester Signature: [Signature]
 Date/Time: 2023-07-16

Analyst Signature: [Signature]
 Date/Time: 2023-07-16

Reviewer Signature: [Signature]
 Date/Time: 2023-07-16



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section 1: Analytical Request Information

Client Name: State of Oregon
 Requested By: William, Stephen
 Requested On: 08-16-16
 Requested For: 2016-2017

Section 2: Sample Information

Sample ID: MACM-04-LT
 Sample Description: MACM-04-LT

Section 3: Laboratory Information

Lab Name: State of Oregon
 Lab Address: 1000 NE Oregon Street, Portland, OR 97232
 Lab Phone: 503-325-3000
 Lab Fax: 503-325-3000

Date	Time	Activity	Initials	Signature	Print Name	Title	Agency	Phone	Fax	Email	Comments
		Sample Received									
		Sample Stored									
		Sample Analyzed									
		Sample Released									

Section 4: Laboratory Information

Lab Name: State of Oregon
 Lab Address: 1000 NE Oregon Street, Portland, OR 97232
 Lab Phone: 503-325-3000
 Lab Fax: 503-325-3000

Section 5: Chain of Custody

Signature: [Signature]
 Print Name: William, Stephen
 Title: State of Oregon
 Agency: State of Oregon
 Phone: 503-325-3000
 Fax: 503-325-3000
 Email: stephen.williams@state.or.us

NO# : 2628593





CHAIN-OF-CUSTODY COPY 1 Analytical Request Document
This Chain of Custody is a US Govt (FOUO) Document. All requests for this report are (FOUO) and only

Section 1
Section 2
Section 3
Section 4
Section 5

Form with fields for: Analytical Request, Sample Information, Date, Time, Location, etc.

Main data table with columns for Sample ID, Date, Time, Location, and various analytical parameters. Includes handwritten entries like 'SAMPLE NO' and 'CHAIN-OF-CUSTODY'.

MO# : 2628594
2628594

Handwritten notes and signatures at the bottom of the page, including a large signature across the bottom.

Requester's Information
 Company: [blank] Contact: [blank]
 Address: [blank] Phone: [blank]
 City: [blank] State: [blank] Zip: [blank]
 Order #/Ref #/PO #/Fax #/Other: [blank]
 Requested Date: [blank]

Requester's Information
 Name: [blank] Title: [blank]
 Address: [blank]
 Phone: [blank] Fax: [blank]
 Requested Date: [blank]

Reference
 Reference #1: [blank] Reference #2: [blank]

Product Information
 Manufacturer: [blank] Lot Number: [blank]
 Description: [blank] Expiration Date: [blank]

Specimen Information
 Type of Specimen: [blank] Date Collected: [blank]
 Location of Collection: [blank]

SAMPLE ID One Chapter per row 2, 3, 4, 1, 1	COLLECTOR			SUBSTRATE	AMOUNT OF SUBSTRATE	DATE	TIME	ANALYSIS METHOD	RESULTS
	INITIALS	DATE	TIME						
1. 10-2-01-2628595									
2. 10-2-01-2628595									
3. 10-2-01-2628595									
4. 10-2-01-2628595									
5. 10-2-01-2628595									
6. 10-2-01-2628595									
7. 10-2-01-2628595									
8. 10-2-01-2628595									
9. 10-2-01-2628595									
10. 10-2-01-2628595									
11. 10-2-01-2628595									
12. 10-2-01-2628595									
13. 10-2-01-2628595									
14. 10-2-01-2628595									
15. 10-2-01-2628595									
16. 10-2-01-2628595									
17. 10-2-01-2628595									
18. 10-2-01-2628595									
19. 10-2-01-2628595									
20. 10-2-01-2628595									
21. 10-2-01-2628595									
22. 10-2-01-2628595									
23. 10-2-01-2628595									
24. 10-2-01-2628595									
25. 10-2-01-2628595									
26. 10-2-01-2628595									
27. 10-2-01-2628595									
28. 10-2-01-2628595									
29. 10-2-01-2628595									
30. 10-2-01-2628595									
31. 10-2-01-2628595									
32. 10-2-01-2628595									
33. 10-2-01-2628595									
34. 10-2-01-2628595									
35. 10-2-01-2628595									
36. 10-2-01-2628595									
37. 10-2-01-2628595									
38. 10-2-01-2628595									
39. 10-2-01-2628595									
40. 10-2-01-2628595									
41. 10-2-01-2628595									
42. 10-2-01-2628595									
43. 10-2-01-2628595									
44. 10-2-01-2628595									
45. 10-2-01-2628595									
46. 10-2-01-2628595									
47. 10-2-01-2628595									
48. 10-2-01-2628595									
49. 10-2-01-2628595									
50. 10-2-01-2628595									

Analyst's Signature
 Name: [blank] Date: [blank] Time: [blank]

Reviewer's Signature
 Name: [blank] Date: [blank] Time: [blank]

Chain of Custody
 Name: [blank] Date: [blank] Time: [blank]
 Name: [blank] Date: [blank] Time: [blank]
 Name: [blank] Date: [blank] Time: [blank]

Remarks
 1. [blank]
 2. [blank]
 3. [blank]
 4. [blank]
 5. [blank]
 6. [blank]
 7. [blank]
 8. [blank]
 9. [blank]
 10. [blank]
 11. [blank]
 12. [blank]
 13. [blank]
 14. [blank]
 15. [blank]
 16. [blank]
 17. [blank]
 18. [blank]
 19. [blank]
 20. [blank]
 21. [blank]
 22. [blank]
 23. [blank]
 24. [blank]
 25. [blank]
 26. [blank]
 27. [blank]
 28. [blank]
 29. [blank]
 30. [blank]
 31. [blank]
 32. [blank]
 33. [blank]
 34. [blank]
 35. [blank]
 36. [blank]
 37. [blank]
 38. [blank]
 39. [blank]
 40. [blank]
 41. [blank]
 42. [blank]
 43. [blank]
 44. [blank]
 45. [blank]
 46. [blank]
 47. [blank]
 48. [blank]
 49. [blank]
 50. [blank]



CHAIN-OF-CUSTODY / Analytical Request Form
 This Chain-of-Custody is a LEGAL DOCUMENT. All written entries must be in INK.

W04 : 2628595

PN: 04 Day Date: 02/04/200
 CLIENT: 26-GR Foundr

Section I
 Requested From: Information
 Requested By: [Signature]
 Date: 2/4/2008
 Requested For: [Signature]
 Date: 2/4/2008
 Requested From: [Signature]
 Date: 2/4/2008

Section II
 Requested From: Information
 Requested By: [Signature]
 Date: 2/4/2008
 Requested For: [Signature]
 Date: 2/4/2008
 Requested From: [Signature]
 Date: 2/4/2008

SAMPLE ID	Description	Collection		Analysis		Remarks
		Date	Time	Date	Time	
T3-2MS
T3-1MS
MACRO-MS
MACRO-MS
MACRO-MS
T3-4MS
T3-3-MS
T3-2MS
Dup-1

Section III
 Date: 2/5/08 16:00
 Date: 2/4/08 10:00
 Date: 2/4/08 10:00
 Date: 2/4/08 10:00

Section IV
 Date: 2/5/08 16:00
 Date: 2/4/08 10:00
 Date: 2/4/08 10:00
 Date: 2/4/08 10:00

Section V
 Date: 2/5/08 16:00
 Date: 2/4/08 10:00
 Date: 2/4/08 10:00
 Date: 2/4/08 10:00

MO#: 2628595
 2628595

Billing

Client Name: ... Project # ...
 Client Address: ... Client City ...
 Client State ... Client Zip ...
 Client Phone ... Client Fax ...
 Client Email ...
 Date: ... Time: ...
 Analyst Name: ... Analyst ID: ...
 Project Name: ... Project Number: ...

ITEM #	SAMPLE ID	Description of Sample	Collection		Packaging		Storage		Analysis	Remarks
			1 mL	5 mL	10 mL	20 mL	30 mL	40 mL		
1	WATER-SAMPLE	Water Sample								
2	T1-2015	T1-2015								
3	T1-2015	T1-2015								
4	T1-2015	T1-2015								
5	WATER-SAMPLE	Water Sample								
6	T1-2015	T1-2015								
7	T1-2015	T1-2015								
8	T1-2015	T1-2015								
9	T1-2015	T1-2015								
10	T1-2015	T1-2015								
11	T1-2015	T1-2015								
12	T1-2015	T1-2015								
13	T1-2015	T1-2015								
14	T1-2015	T1-2015								
15	T1-2015	T1-2015								
16	T1-2015	T1-2015								
17	T1-2015	T1-2015								
18	T1-2015	T1-2015								
19	T1-2015	T1-2015								
20	T1-2015	T1-2015								

Analysis: ...

Client Signature: ... Date: ...

Analyst Signature: ... Date: ...

Client Name: ... Project # ...

Client Address: ... Client City ...

Client State ... Client Zip ...

Client Phone ... Client Fax ...

Client Email ...

Date: ... Time: ...

Analyst Name: ... Analyst ID: ...

Project Name: ... Project Number: ...

Signature
Date: 10/1/11

CHAIN OF CUSTODY / ANALYSIS REQUEST FOR THE SUBSTANCE IN A UTILITY OCCUPANT AS DESCRIBED IN CASE #

MO# : 2628595

PH: 804 800-2800
FAX: 804 800-2800
Date Rec'd: 10/1/11

Requester: *Requester* Requester Address: *Requester Address* Requester Phone: *Requester Phone*

Case No: *Case No* Case Name: *Case Name* Case Address: *Case Address* Case City: *Case City* Case State: *Case State* Case Zip: *Case Zip*

Requester Name: *Requester Name* Requester Title: *Requester Title* Requester Email: *Requester Email* Requester Phone: *Requester Phone*

SAMPLE NO	Description	Quantity	Containers				Sealed	Label	Remarks
			1	2	3	4			
Y1-4WRT	1	1	1	1	1	...	
Y2-3WRT	1	1	1	1	1	...	
Y3-4WRT	1	1	1	1	1	...	
Y4-4WRT	1	1	1	1	1	...	
Y5-4WRT	1	1	1	1	1	...	
Y6-4WRT	1	1	1	1	1	...	
Y7-4WRT	1	1	1	1	1	...	
Y8-4WRT	1	1	1	1	1	...	
Y9-4WRT	1	1	1	1	1	...	
Y10-4WRT	1	1	1	1	1	...	

Case No	Case Name	Case Address	Case City	Case State	Case Zip	Requester Name	Requester Title	Requester Email	Requester Phone
<i>Case No</i>	<i>Case Name</i>	<i>Case Address</i>	<i>Case City</i>	<i>Case State</i>	<i>Case Zip</i>	<i>Requester Name</i>	<i>Requester Title</i>	<i>Requester Email</i>	<i>Requester Phone</i>

Signature *Signature* *Signature*



CHAIN-OF-CUSTODY / Analytical Request
 The Chain-of-Custody is a LEGAL DOCUMENT. It is not intended for use as evidence.

WO# : 2628598



Section A
 Requestor Information
 Company: *City of St. Louis*
 Address: *100 Northparke Parkway*
 Phone: *314-774-1796* Fax: *314-774-1796*

Section B
 Analytical Request Information
 Request To: *Asst. Dir. of Public Safety*
 From To: *Asst. Dir. of Public Safety*
 Requester: *Fred Williams* BY: *[Signature]*
 Date: *12/17/2008*

SAMPLE ID	DESCRIPTION	COLLECTOR		DATE		TIME		LOCATION		ANALYST	LAB	METHOD	REMARKS
		NAME	TIME	DATE	TIME	ADDRESS	CITY						
MACM-02-11	MACM-02-11	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	MACM-02-11	MACM-02-11	MACM-02-11
TL-11K	TL-11K	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-11K	TL-11K	TL-11K
TL-4WT	TL-4WT	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-4WT	TL-4WT	TL-4WT
TL-3WT	TL-3WT	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-3WT	TL-3WT	TL-3WT
MACM-02-11	MACM-02-11	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	MACM-02-11	MACM-02-11	MACM-02-11
TL-2WT	TL-2WT	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-2WT	TL-2WT	TL-2WT
TL-11WT5	TL-11WT5	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-11WT5	TL-11WT5	TL-11WT5
TL-11WT	TL-11WT	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-11WT	TL-11WT	TL-11WT
TL-2WT2	TL-2WT2	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-2WT2	TL-2WT2	TL-2WT2
TL-1WT	TL-1WT	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	TL-1WT	TL-1WT	TL-1WT
MACM-02-11	MACM-02-11	[Signature]	11:30	12/17/08	11:30	11:30	11:30	11:30	11:30	[Signature]	MACM-02-11	MACM-02-11	MACM-02-11

Section C
 Sample Information
 Sample ID: *MACM-02-11*
 Sample Description: *MACM-02-11*
 Date Collected: *12/17/08*
 Time Collected: *11:30*
 Location: *11:30*
 Analyst: *[Signature]*
 Lab: *MACM-02-11*
 Method: *MACM-02-11*
 Remarks: *MACM-02-11*

Section D
 Signature of Collector: *[Signature]*
 Signature of Analyst: *[Signature]*
 Date of Report: *12/17/08*



CHAIN-OF-CUSTODY / Analytical Request Detail
 The Court-Custody & Legal Document Management Center

W0# : 2628598

PH: 104 Bus Date: 02/03/20
 CLIENT : 24-CA Pender

Requested Case Title: [Blank]
 Requested Case Code: [Blank]
 Requested Case Title: [Blank]
 Requested Case Code: [Blank]
 Requested Case Title: [Blank]
 Requested Case Code: [Blank]
 Requested Case Title: [Blank]
 Requested Case Code: [Blank]

SAMPLE ID	Quantity	Description	SAMPLE		COLLECTOR		Date	Time	PRESERVATION		Date	Time	BY	INITIALS
			DATE	TIME	DATE	TIME			DATE	TIME				
1	1	T2-2-1488	1	1	1	1			1	1				
2	1	T2-1488	1	1	1	1			1	1				
3	1	MEMO-CENT	1	1	1	1			1	1				
4	1	MEMO-CENT	1	1	1	1			1	1				
5	1	T2-1488	1	1	1	1			1	1				
6	1	T2-2-1488	1	1	1	1			1	1				
7	1	Sup 1	1	1	1	1			1	1				

Analytical Requested By: Maui's Stagnant Paper Mill
 Analytical Requested Date: 01/24/20
 Analytical Requested Time: 1:24
 Analytical Requested By: [Signature]
 Analytical Requested Date: 01/24/20
 Analytical Requested Time: 1:24
 Analytical Requested By: [Signature]



CHAIN-OF-CUSTODY / ANALYTICAL REQUEST DOCUMENT

The Chain-of-Custody is a critical document. All personnel must maintain

WQH: 2628598


PM RM Day Date: 02/05/20
 CLIENT: 30-GA Power

Analytical Request Information
 Request # [blank] Request Name [blank]
 Requester Name [blank] Requester Title [blank]
 Requester Phone [blank] Requester Email [blank]
 Requester Address [blank]
 Requester City [blank] Requester State [blank] Requester Zip [blank]
 Requester Fax [blank] Requester Mobile [blank]
 Requester Other [blank] Requester Other [blank]
 Requester Other [blank] Requester Other [blank]
 Requester Other [blank] Requester Other [blank]

SAMPLE ID	SAMPLE DESCRIPTION	ANALYSIS		ANALYST	DATE	TIME	CONCENTRATION		REMARKS	LABORATORY	METHOD	REMARKS	DATE	TIME	ANALYST	REMARKS	
		UNIT	VALUE				UNIT	VALUE									
1	TS-2-105																
2	TS-2-107																
3	TS-2-108																
4	TS-2-109																
5	TS-2-110																
6	TS-2-111																
7	TS-2-112																
8	TS-2-113																
9	TS-2-114																
10	TS-2-115																
11	TS-2-116																
12	TS-2-117																
13	TS-2-118																
14	TS-2-119																
15	TS-2-120																

ANALYST SIGNATURE: [Signature]
 DATE: 2/5/20
 TIME: 10:00
 ANALYST: [Name]
 LABORATORY: [Name]
 METHOD: [Name]
 REVISIONS: [Table]
 APPROVED: [Signature]
 DATE: 2/5/20
 TIME: 10:00
 APPROVED: [Signature]

CHAIN-OF-CUSTODY / Analytical Request ID
 The Chain of Custody is a legal document that provides a record of the handling of evidence from the time it is collected to the time it is analyzed.

W0# : 2628599


Section I
 Analytical Request Information

Requester: George Adams
 Date: 04/11/2011
 Requester Title: Officer
 Requester Agency: San Diego Police Department
 Requester Address: 1111 1st St
 Requester City: San Diego
 Requester State: CA
 Requester Zip: 92101

Section II
 Analytical Request Information

Requester: George Adams
 Date: 04/11/2011
 Requester Title: Officer
 Requester Agency: San Diego Police Department
 Requester Address: 1111 1st St
 Requester City: San Diego
 Requester State: CA
 Requester Zip: 92101

SAMPLE ID	Description	Quantity	Collection		Date/Time	Collector	Witness	Analysis Test	Lab #	Status
			From	To						
T1-4445	100% COTTON	1			04/11/2011	George Adams				Y
T2-4445	100% COTTON	1			04/11/2011	George Adams				Y
T3-4445	100% COTTON	1			04/11/2011	George Adams				Y
T4-4445	100% COTTON	1			04/11/2011	George Adams				Y
T5-4445	100% COTTON	1			04/11/2011	George Adams				Y
T6-4445	100% COTTON	1			04/11/2011	George Adams				Y
T7-4445	100% COTTON	1			04/11/2011	George Adams				Y
T8-4445	100% COTTON	1			04/11/2011	George Adams				Y
T9-4445	100% COTTON	1			04/11/2011	George Adams				Y
T10-4445	100% COTTON	1			04/11/2011	George Adams				Y
T11-4445	100% COTTON	1			04/11/2011	George Adams				Y
T12-4445	100% COTTON	1			04/11/2011	George Adams				Y
T13-4445	100% COTTON	1			04/11/2011	George Adams				Y
T14-4445	100% COTTON	1			04/11/2011	George Adams				Y
T15-4445	100% COTTON	1			04/11/2011	George Adams				Y
T16-4445	100% COTTON	1			04/11/2011	George Adams				Y
T17-4445	100% COTTON	1			04/11/2011	George Adams				Y
T18-4445	100% COTTON	1			04/11/2011	George Adams				Y
T19-4445	100% COTTON	1			04/11/2011	George Adams				Y
T20-4445	100% COTTON	1			04/11/2011	George Adams				Y

Section III
 Analytical Request Information

Requester: George Adams
 Date: 04/11/2011
 Requester Title: Officer
 Requester Agency: San Diego Police Department
 Requester Address: 1111 1st St
 Requester City: San Diego
 Requester State: CA
 Requester Zip: 92101

Section IV
 Analytical Request Information

Requester: George Adams
 Date: 04/11/2011
 Requester Title: Officer
 Requester Agency: San Diego Police Department
 Requester Address: 1111 1st St
 Requester City: San Diego
 Requester State: CA
 Requester Zip: 92101



UNIVERSITY OF CALIFORNIA
 THE CENTER FOR ENVIRONMENTAL & CLIMATE SOLUTIONS

MO# 2628599
 DATE: 12/07/20
 CLIENT: 28-02 4-0000


Request # _____
 Requester Name _____
 Requester Address _____
 Requester Phone _____
 Requester Email _____
 Requester Title _____
 Requester Organization _____
 Requester Department _____
 Requester Location _____
 Requester Date _____

ITEM #	DESCRIPTION	QTY	UNIT	DATE	TIME	LOCATION	STATUS	REMARKS	ANALYSIS		METHOD	REMARKS
									DATE	TIME		
1	100-0115	1	gallon	12/10	10:58	100-0115	Y					
2	100-0115	1	gallon	12/10	10:58	100-0115	Y					
3	100-0115	1	gallon	12/10	10:58	100-0115	Y					
4	100-0115	1	gallon	12/10	10:58	100-0115	Y					
5	100-0115	1	gallon	12/10	10:58	100-0115	Y					
6	100-0115	1	gallon	12/10	10:58	100-0115	Y					
7	100-0115	1	gallon	12/10	10:58	100-0115	Y					
8	100-0115	1	gallon	12/10	10:58	100-0115	Y					
9	100-0115	1	gallon	12/10	10:58	100-0115	Y					
10	100-0115	1	gallon	12/10	10:58	100-0115	Y					
11	100-0115	1	gallon	12/10	10:58	100-0115	Y					
12	100-0115	1	gallon	12/10	10:58	100-0115	Y					
13	100-0115	1	gallon	12/10	10:58	100-0115	Y					
14	100-0115	1	gallon	12/10	10:58	100-0115	Y					
15	100-0115	1	gallon	12/10	10:58	100-0115	Y					
16	100-0115	1	gallon	12/10	10:58	100-0115	Y					
17	100-0115	1	gallon	12/10	10:58	100-0115	Y					
18	100-0115	1	gallon	12/10	10:58	100-0115	Y					
19	100-0115	1	gallon	12/10	10:58	100-0115	Y					
20	100-0115	1	gallon	12/10	10:58	100-0115	Y					

Collected by: _____
 Date: _____
 Time: _____
 Location: _____
 Status: _____
 Remarks: _____

CHAIN-OF-CUSTODY (Analytical Request)
 THE CHAIN-OF-CUSTODY IS A LEGAL DOCUMENT IN NADIR-10000

MO# : 2628600



2628600

Requester's Name: [Blank] Requester's Title: [Blank]
 Date: [Blank] Requester's Phone: [Blank]
 Requester's Address: [Blank]
 Requester's City: [Blank] Requester's State: [Blank] Requester's Zip: [Blank]
 Requester's Email: [Blank]
 Requester's Fax: [Blank]
 Requester's Website: [Blank]
 Requester's Other: [Blank]

Requester's Signature: [Blank] Requester's Date: [Blank]
 Requester's Title: [Blank]

Requester's Company: [Blank]

Requester's Address: [Blank]
 Requester's City: [Blank] Requester's State: [Blank] Requester's Zip: [Blank]
 Requester's Email: [Blank]
 Requester's Fax: [Blank]
 Requester's Website: [Blank]
 Requester's Other: [Blank]

Item #	Description	Quantity		Unit	Material	Analysis Type	Requester's Name	Requester's Title	Requester's Address	Requester's City	Requester's State	Requester's Zip	Requester's Email	Requester's Fax	Requester's Website	Requester's Other
		Original	Copy													
1	100% COTTON	1		1												
2	100% COTTON	1		1												
3	100% COTTON	1		1												
4	100% COTTON	1		1												
5	100% COTTON	1		1												
6	100% COTTON	1		1												
7	100% COTTON	1		1												
8	100% COTTON	1		1												
9	100% COTTON	1		1												
10	100% COTTON	1		1												
11	100% COTTON	1		1												
12	100% COTTON	1		1												

Item #	Description	Quantity	Unit	Material	Analysis Type	Requester's Name	Requester's Title	Requester's Address	Requester's City	Requester's State	Requester's Zip	Requester's Email	Requester's Fax	Requester's Website	Requester's Other
1	100% COTTON	1		1											
2	100% COTTON	1		1											
3	100% COTTON	1		1											
4	100% COTTON	1		1											
5	100% COTTON	1		1											
6	100% COTTON	1		1											
7	100% COTTON	1		1											
8	100% COTTON	1		1											
9	100% COTTON	1		1											
10	100% COTTON	1		1											
11	100% COTTON	1		1											
12	100% COTTON	1		1											

Item #	Description	Quantity	Unit	Material	Analysis Type	Requester's Name	Requester's Title	Requester's Address	Requester's City	Requester's State	Requester's Zip	Requester's Email	Requester's Fax	Requester's Website	Requester's Other
1	100% COTTON	1		1											
2	100% COTTON	1		1											
3	100% COTTON	1		1											
4	100% COTTON	1		1											
5	100% COTTON	1		1											
6	100% COTTON	1		1											
7	100% COTTON	1		1											
8	100% COTTON	1		1											
9	100% COTTON	1		1											
10	100% COTTON	1		1											
11	100% COTTON	1		1											
12	100% COTTON	1		1											

Handwritten signature

CHAIN-OF-CUSTODY 1 Analytical Request ID
The Order of Samples 1-4 (1000) 2002/01/01 All quantities must be

W04: 2628600
PR. 101
CL. 1001 - 20-08
DUP. DATE: 02/11/20

Project Name	Project ID	Project Location	Project Start Date	Project End Date
Client Name	Client ID	Client Address	Client Contact	Client Phone
Order Reference	Order Date	Order Description	Order Status	Order Value
Requester Name	Requester Title	Requester Email	Requester Phone	Requester Fax
Analyst Name	Analyst Title	Analyst Email	Analyst Phone	Analyst Fax

Sample ID	Description	Collection				Preparation				Analysis			
		Method	Time	Location	Collector	Method	Time	Location	Collector	Method	Time	Location	Collector
1	2 - 2.0 LITS												
2	2 - 2.0 LITS												
3	2 - 2.0 LITS												
4	2 - 2.0 LITS												
5	2 - 2.0 LITS												
6	2 - 2.0 LITS												
7	2 - 2.0 LITS												
8	2 - 2.0 LITS												
9	2 - 2.0 LITS												
10	2 - 2.0 LITS												
11	2 - 2.0 LITS												
12	2 - 2.0 LITS												

Comments: *Handwritten notes*

Signature: *Handwritten signature*

Date: *Handwritten date*



March 31, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 92470735

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 24, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville

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: 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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CERTIFICATIONS

Project: Plant McManus SW

Pace Project No.: 92470735

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

Massachusetts Certification #: M-NC030

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: Plant McManus SW

Pace Project No.: 92470735

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92470735001	T4-1L	Water	03/18/20 14:18	03/24/20 12:20
92470735002	T4-2L	Water	03/18/20 13:50	03/24/20 12:20
92470735003	T4-3L	Water	03/18/20 13:06	03/24/20 12:20
92470735004	T4-4L	Water	03/18/20 11:55	03/24/20 12:20
92470735005	T4-1HS	Water	03/18/20 17:30	03/24/20 12:20
92470735006	T4-2HS	Water	03/18/20 17:50	03/24/20 12:20
92470735007	T4-3HS	Water	03/18/20 18:12	03/24/20 12:20
92470735008	T4-4HS	Water	03/18/20 18:40	03/24/20 12:20
92470735009	T4-1HB	Water	03/18/20 17:35	03/24/20 12:20
92470735010	T4-2HB	Water	03/18/20 17:55	03/24/20 12:20
92470735011	T4-3HB	Water	03/18/20 18:17	03/24/20 12:20
92470735012	T4-4HB	Water	03/18/20 18:45	03/24/20 12:20
92470735013	POND 4L	Water	03/18/20 11:14	03/24/20 12:20
92470735014	MCM-14L	Water	03/18/20 12:30	03/24/20 12:20
92470735015	POND 4H	Water	03/18/20 17:45	03/24/20 12:20
92470735016	MCM-14H	Water	03/18/20 19:27	03/24/20 12:20
92470735017	DUP-1	Water	03/18/20 00:00	03/24/20 12:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
 Pace Project No.: 92470735

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92470735001	T4-1L	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735002	T4-2L	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735003	T4-3L	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735004	T4-4L	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735005	T4-1HS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735006	T4-2HS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735007	T4-3HS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735008	T4-4HS	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735009	T4-1HB	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735010	T4-2HB	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735011	T4-3HB	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735012	T4-4HB	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735013	POND 4L	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735014	MCM-14L	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735015	POND 4H	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735016	MCM-14H	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A
92470735017	DUP-1	EPA 6020B	JOR	3	PASI-A
		EPA 6020B	JOR	3	PASI-A

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 92470735

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92470735001	T4-1L					
EPA 6020B	Arsenic	0.0034	mg/L	0.0020	03/27/20 20:19	
EPA 6020B	Lithium	0.076	mg/L	0.050	03/27/20 20:19	M6
EPA 6020B	Arsenic, Dissolved	0.0018J	mg/L	0.0020	03/28/20 01:09	1g
EPA 6020B	Lithium, Dissolved	0.056	mg/L	0.050	03/28/20 01:09	1g,M6
92470735002	T4-2L					
EPA 6020B	Arsenic	0.0014J	mg/L	0.0020	03/26/20 23:21	
EPA 6020B	Lithium	0.043J	mg/L	0.050	03/26/20 23:21	
EPA 6020B	Arsenic, Dissolved	0.0012J	mg/L	0.0020	03/26/20 20:58	1g
EPA 6020B	Lithium, Dissolved	0.061	mg/L	0.050	03/26/20 20:58	1g
92470735003	T4-3L					
EPA 6020B	Arsenic	0.0035	mg/L	0.0020	03/26/20 23:25	
EPA 6020B	Cobalt	0.0020	mg/L	0.0020	03/26/20 23:25	
EPA 6020B	Lithium	0.053	mg/L	0.050	03/26/20 23:25	
EPA 6020B	Arsenic, Dissolved	0.0021	mg/L	0.0020	03/26/20 21:02	1g
EPA 6020B	Lithium, Dissolved	0.037J	mg/L	0.050	03/26/20 21:02	1g
92470735004	T4-4L					
EPA 6020B	Arsenic	0.0031	mg/L	0.0020	03/26/20 23:39	
EPA 6020B	Lithium	0.062	mg/L	0.050	03/26/20 23:39	
EPA 6020B	Lithium, Dissolved	0.036J	mg/L	0.050	03/26/20 21:06	1g
92470735005	T4-1HS					
EPA 6020B	Arsenic	0.0012J	mg/L	0.0020	03/26/20 23:43	
EPA 6020B	Lithium	0.042J	mg/L	0.050	03/26/20 23:43	
EPA 6020B	Lithium, Dissolved	0.058	mg/L	0.050	03/26/20 21:11	1g
92470735006	T4-2HS					
EPA 6020B	Lithium	0.043J	mg/L	0.050	03/26/20 23:47	
EPA 6020B	Arsenic, Dissolved	0.0013J	mg/L	0.0020	03/26/20 21:15	1g
EPA 6020B	Lithium, Dissolved	0.064	mg/L	0.050	03/26/20 21:15	1g
92470735007	T4-3HS					
EPA 6020B	Lithium	0.035J	mg/L	0.050	03/26/20 23:52	
EPA 6020B	Lithium, Dissolved	0.051	mg/L	0.050	03/26/20 21:28	1g
92470735008	T4-4HS					
EPA 6020B	Lithium	0.047J	mg/L	0.050	03/26/20 23:56	
EPA 6020B	Lithium, Dissolved	0.041J	mg/L	0.050	03/26/20 21:32	1g
92470735009	T4-1HB					
EPA 6020B	Lithium	0.036J	mg/L	0.050	03/27/20 00:00	
EPA 6020B	Lithium, Dissolved	0.033J	mg/L	0.050	03/26/20 21:37	1g
92470735010	T4-2HB					
EPA 6020B	Arsenic	0.0015J	mg/L	0.0020	03/27/20 00:05	
EPA 6020B	Lithium	0.048J	mg/L	0.050	03/27/20 00:05	
EPA 6020B	Lithium, Dissolved	0.042J	mg/L	0.050	03/26/20 21:41	1g

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 92470735

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92470735011	T4-3HB					
EPA 6020B	Lithium	0.036J	mg/L	0.050	03/27/20 00:09	
EPA 6020B	Arsenic, Dissolved	0.0023	mg/L	0.0020	03/26/20 21:45	1g
EPA 6020B	Cobalt, Dissolved	0.0049	mg/L	0.0020	03/26/20 21:45	1g
EPA 6020B	Lithium, Dissolved	0.064	mg/L	0.050	03/26/20 21:45	1g
92470735012	T4-4HB					
EPA 6020B	Lithium	0.035J	mg/L	0.050	03/27/20 00:13	
EPA 6020B	Arsenic, Dissolved	0.0017J	mg/L	0.0020	03/26/20 21:50	1g
EPA 6020B	Cobalt, Dissolved	0.0036	mg/L	0.0020	03/26/20 21:50	1g
EPA 6020B	Lithium, Dissolved	0.066	mg/L	0.050	03/26/20 21:50	1g
92470735013	POND 4L					
EPA 6020B	Arsenic	0.0015J	mg/L	0.0020	03/27/20 00:18	
EPA 6020B	Lithium	0.022J	mg/L	0.050	03/27/20 00:18	
EPA 6020B	Arsenic, Dissolved	0.0013J	mg/L	0.0020	03/26/20 21:54	1g
EPA 6020B	Cobalt, Dissolved	0.0013J	mg/L	0.0020	03/26/20 21:54	1g
EPA 6020B	Lithium, Dissolved	0.022J	mg/L	0.050	03/26/20 21:54	1g
92470735014	MCM-14L					
EPA 6020B	Lithium	0.040J	mg/L	0.050	03/27/20 00:31	
EPA 6020B	Cobalt, Dissolved	0.0015J	mg/L	0.0020	03/26/20 21:58	1g
EPA 6020B	Lithium, Dissolved	0.055	mg/L	0.050	03/26/20 21:58	1g
92470735015	POND 4H					
EPA 6020B	Arsenic	0.0012J	mg/L	0.0020	03/27/20 00:35	
EPA 6020B	Lithium	0.016J	mg/L	0.050	03/27/20 00:35	
EPA 6020B	Arsenic, Dissolved	0.0013J	mg/L	0.0020	03/26/20 22:03	1g
EPA 6020B	Cobalt, Dissolved	0.0016J	mg/L	0.0020	03/26/20 22:03	1g
EPA 6020B	Lithium, Dissolved	0.020J	mg/L	0.050	03/26/20 22:03	1g
92470735016	MCM-14H					
EPA 6020B	Lithium	0.035J	mg/L	0.050	03/27/20 00:39	
EPA 6020B	Cobalt, Dissolved	0.0031	mg/L	0.0020	03/26/20 22:07	1g
EPA 6020B	Lithium, Dissolved	0.044J	mg/L	0.050	03/26/20 22:07	1g
92470735017	DUP-1					
EPA 6020B	Lithium	0.039J	mg/L	0.050	03/27/20 00:44	
EPA 6020B	Arsenic, Dissolved	0.0012J	mg/L	0.0020	03/28/20 01:23	1g
EPA 6020B	Lithium, Dissolved	0.053	mg/L	0.050	03/28/20 01:23	1g

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-1L **Lab ID: 92470735001** Collected: 03/18/20 14:18 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0034	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 20:19	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 20:19	7440-48-4	
Lithium	0.076	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 20:19	7439-93-2	M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0018J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/28/20 01:09	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/28/20 01:09	7440-48-4	1g
Lithium, Dissolved	0.056	mg/L	0.050	0.0084	20	03/26/20 03:08	03/28/20 01:09	7439-93-2	1g,M6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-2L **Lab ID: 92470735002** Collected: 03/18/20 13:50 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0014J	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:21	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:21	7440-48-4	
Lithium	0.043J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:21	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0012J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 20:58	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 20:58	7440-48-4	1g
Lithium, Dissolved	0.061	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 20:58	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-3L **Lab ID: 92470735003** Collected: 03/18/20 13:06 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0035	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:25	7440-38-2	
Cobalt	0.0020	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:25	7440-48-4	
Lithium	0.053	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:25	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0021	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:02	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:02	7440-48-4	1g
Lithium, Dissolved	0.037J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:02	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-4L **Lab ID: 92470735004** Collected: 03/18/20 11:55 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0031	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:39	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:39	7440-48-4	
Lithium	0.062	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:39	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:06	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:06	7440-48-4	1g
Lithium, Dissolved	0.036J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:06	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-1HS **Lab ID: 92470735005** Collected: 03/18/20 17:30 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0012J	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:43	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:43	7440-48-4	
Lithium	0.042J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:43	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:11	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:11	7440-48-4	1g
Lithium, Dissolved	0.058	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:11	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-2HS **Lab ID: 92470735006** Collected: 03/18/20 17:50 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:47	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:47	7440-48-4	
Lithium	0.043J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:47	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0013J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:15	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:15	7440-48-4	1g
Lithium, Dissolved	0.064	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:15	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-3HS Lab ID: 92470735007 Collected: 03/18/20 18:12 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:52	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:52	7440-48-4	
Lithium	0.035J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:52	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:28	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:28	7440-48-4	1g
Lithium, Dissolved	0.051	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:28	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 92470735

Sample: T4-4HS **Lab ID: 92470735008** Collected: 03/18/20 18:40 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/26/20 23:56	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/26/20 23:56	7440-48-4	
Lithium	0.047J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/26/20 23:56	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:32	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:32	7440-48-4	1g
Lithium, Dissolved	0.041J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:32	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-1HB **Lab ID: 92470735009** Collected: 03/18/20 17:35 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:00	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:00	7440-48-4	
Lithium	0.036J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:00	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:37	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:37	7440-48-4	1g
Lithium, Dissolved	0.033J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:37	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 92470735

Sample: T4-2HB Lab ID: 92470735010 Collected: 03/18/20 17:55 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0015J	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:05	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:05	7440-48-4	
Lithium	0.048J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:05	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:41	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:41	7440-48-4	1g
Lithium, Dissolved	0.042J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:41	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-3HB **Lab ID: 92470735011** Collected: 03/18/20 18:17 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:09	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:09	7440-48-4	
Lithium	0.036J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:09	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0023	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:45	7440-38-2	1g
Cobalt, Dissolved	0.0049	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:45	7440-48-4	1g
Lithium, Dissolved	0.064	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:45	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: T4-4HB Lab ID: 92470735012 Collected: 03/18/20 18:45 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:13	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:13	7440-48-4	
Lithium	0.035J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:13	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0017J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:50	7440-38-2	1g
Cobalt, Dissolved	0.0036	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:50	7440-48-4	1g
Lithium, Dissolved	0.066	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:50	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 92470735

Sample: **POND 4L** Lab ID: **92470735013** Collected: 03/18/20 11:14 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0015J	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:18	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:18	7440-48-4	
Lithium	0.022J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:18	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0013J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:54	7440-38-2	1g
Cobalt, Dissolved	0.0013J	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:54	7440-48-4	1g
Lithium, Dissolved	0.022J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:54	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 92470735

Sample: **MCM-14L** Lab ID: **92470735014** Collected: 03/18/20 12:30 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:31	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:31	7440-48-4	
Lithium	0.040J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:31	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 21:58	7440-38-2	1g
Cobalt, Dissolved	0.0015J	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 21:58	7440-48-4	1g
Lithium, Dissolved	0.055	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 21:58	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 92470735

Sample: POND 4H **Lab ID: 92470735015** Collected: 03/18/20 17:45 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0012J	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:35	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:35	7440-48-4	
Lithium	0.016J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:35	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0013J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 22:03	7440-38-2	1g
Cobalt, Dissolved	0.0016J	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 22:03	7440-48-4	1g
Lithium, Dissolved	0.020J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 22:03	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: MCM-14H **Lab ID: 92470735016** Collected: 03/18/20 19:27 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:39	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:39	7440-48-4	
Lithium	0.035J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:39	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/26/20 22:07	7440-38-2	1g
Cobalt, Dissolved	0.0031	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/26/20 22:07	7440-48-4	1g
Lithium, Dissolved	0.044J	mg/L	0.050	0.0084	20	03/26/20 03:08	03/26/20 22:07	7439-93-2	1g

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 92470735

Sample: DUP-1 **Lab ID: 92470735017** Collected: 03/18/20 00:00 Received: 03/24/20 12:20 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.0020	0.0012	20	03/25/20 00:22	03/27/20 00:44	7440-38-2	
Cobalt	ND	mg/L	0.0020	0.0010	20	03/25/20 00:22	03/27/20 00:44	7440-48-4	
Lithium	0.039J	mg/L	0.050	0.0084	20	03/25/20 00:22	03/27/20 00:44	7439-93-2	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0012J	mg/L	0.0020	0.0012	20	03/26/20 03:08	03/28/20 01:23	7440-38-2	1g
Cobalt, Dissolved	ND	mg/L	0.0020	0.0010	20	03/26/20 03:08	03/28/20 01:23	7440-48-4	1g
Lithium, Dissolved	0.053	mg/L	0.050	0.0084	20	03/26/20 03:08	03/28/20 01:23	7439-93-2	1g

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 92470735

QC Batch: 532336 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92470735001, 92470735002, 92470735003, 92470735004, 92470735005, 92470735006, 92470735007, 92470735008, 92470735009, 92470735010, 92470735011, 92470735012, 92470735013, 92470735014, 92470735015, 92470735016, 92470735017

METHOD BLANK: 2841830 Matrix: Water
 Associated Lab Samples: 92470735001, 92470735002, 92470735003, 92470735004, 92470735005, 92470735006, 92470735007, 92470735008, 92470735009, 92470735010, 92470735011, 92470735012, 92470735013, 92470735014, 92470735015, 92470735016, 92470735017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000060	03/26/20 22:51	
Cobalt	mg/L	ND	0.00010	0.000050	03/26/20 22:51	
Lithium	mg/L	ND	0.0025	0.00042	03/26/20 22:51	

LABORATORY CONTROL SAMPLE: 2841831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.0098	98	80-120	
Cobalt	mg/L	0.01	0.011	106	80-120	
Lithium	mg/L	0.05	0.052	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2841832 2841833

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92470735001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0034	0.01	0.01	0.011	0.011	80	81	75-125	1	20
Cobalt	mg/L	ND	0.01	0.01	0.0094	0.0099	94	99	75-125	5	20
Lithium	mg/L	0.076	0.05	0.05	0.097	0.10	42	52	75-125	5	20 M6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 92470735

QC Batch:	532344	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET Dissolved
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92470735001, 92470735002, 92470735003, 92470735004, 92470735005, 92470735006, 92470735007, 92470735008, 92470735009, 92470735010, 92470735011, 92470735012, 92470735013, 92470735014, 92470735015, 92470735016, 92470735017		

METHOD BLANK:	2841847	Matrix:	Water
Associated Lab Samples:	92470735001, 92470735002, 92470735003, 92470735004, 92470735005, 92470735006, 92470735007, 92470735008, 92470735009, 92470735010, 92470735011, 92470735012, 92470735013, 92470735014, 92470735015, 92470735016, 92470735017		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000060	03/26/20 20:19	
Cobalt, Dissolved	mg/L	ND	0.00010	0.000050	03/26/20 20:19	
Lithium, Dissolved	mg/L	ND	0.0025	0.00042	03/26/20 20:19	

LABORATORY CONTROL SAMPLE:	2841848					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.011	113	80-120	
Cobalt, Dissolved	mg/L	0.01	0.011	112	80-120	
Lithium, Dissolved	mg/L	0.05	0.057	114	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2841849			2841850								
Parameter	Units	92470735001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0018J	0.01	0.01	0.010	0.011	86	93	75-125	6	20	
Cobalt, Dissolved	mg/L	ND	0.01	0.01	0.0090	0.0096	89	95	75-125	7	20	
Lithium, Dissolved	mg/L	0.056	0.05	0.05	0.091	0.097	69	81	75-125	6	20	M6

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW

Pace Project No.: 92470735

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt (SCUR)
Document No.:
I-CAR-CS-013-Rev-06

Document Revised: February 7, 2018
Page 1 of 2
Issuing Authority:
Pace Carolina Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville

Simple Condition Upon Receipt

Client Name:

GA Power

Project:

WO#: 92470735



Container: Fed Ex UPS USPS Client
 Commercial Pace Other

Custody Seal Present? Yes No Seal Intact? Yes No

Date/Initials Person Examining Contents: 1/17/10 WJF

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?

Yes No N/A

Thermometer: 9137061
Serial No. ID:

Type of Ice: Ice Dry None

Cooler Temp (°C): 8.5 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 5°C

Samples out of temp criteria. Samples re mix, cooling process for logon

Cooler Temp Corrected (°C): 8.5

USDA Regulated Soil: N/A, water sample

Did samples originate in a quarantine zone within the United States (CA, NY, or SC) (check map)?

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

			Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (<12 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Sample Labels Match CDC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix	<u>WT</u>		
Headspace in VOA Vials (D-S Error)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Reviewer: _____ Date: _____

Project Manager SRI Reviewer: _____ Date: _____



Document Name:
Sample Condition Upon Receipt (SCUR)
 Document No.:
F-288-ES-019-Rev 06

Document Revised: February 7, 2011
 Page 1 of 2
 Issuing Authority:
Face Analytical Quality Office

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

Exceptions: VDA, Coliform, TOC, Oil and Grease, DRB/DBS (water) DOC, UHg

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

Project **WO# : 92470735**

PH: KLH1 Due Date: 03/31/20

CLIENT: 26-GR Power

10/2

Brand	Sample Description	1	2	3	4	5	6	7	8	9	10	11	12
BR10-125 ml Plastic Unpreserved (N/A) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-200 ml Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-300 ml Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-1 liter Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-125 ml Plastic HD504 (pH < 2) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-200 ml plastic HD504 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-300 ml Plastic 26 Acetate & NaOH (PH)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-325 ml Plastic NaOH (pH > 12) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BR10/white matched glass jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
A620-1 liter Amber Unpreserved (N/A) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
A620-1 liter Amber HD (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A620-125 ml Amber Unpreserved (N/A) (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
A620-1 liter Amber HD504 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A620-200 ml Amber HD504 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A620/300ml-200 ml Amber HD504 (N/A)(D-1)		/	/	/	/	/	/	/	/	/	/	/	/
B620-40 ml VDA HD (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V620-40 ml VDA HD504 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V620-40 ml white glass jar (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
B620-40 ml VDA HD504 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V620 (B vials per lot) VDA lot (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V620 (B vials per lot) VDA lot (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-125 ml. Scotch Plastic (N/A) - (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-200 ml Scotch Plastic (N/A) - (D-1)		/	/	/	/	/	/	/	/	/	/	/	/
BR10-300 ml Plastic (N/A) (B-1-B-2)		/	/	/	/	/	/	/	/	/	/	/	/
A620-125 ml Amber Unpreserved (N/A) (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V620-20 ml Monaghan vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
B620-40 ml Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

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 Division Certification Office (i.e. Out of field, incorrect preservative, out of time, 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, DOC, Oil and Grease, DRB/WFD (tested) DOC, MTH

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

Proj **WO# : 92470735**

PR: KLR1

Due Date: 03/31/20

CLIENT: 26-CA Power

1 of 2

Row	Bottle	13	12	11	10	9	8	7	6	5	4	3	2	1
1	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
2	8840-100 mL Plastic Unpreserved (PUB)	/	/	/	/	/	/	/	/	/	/	/	/	/
3	8840-100 mL Plastic Unpreserved (PUB)	/	/	/	/	/	/	/	/	/	/	/	/	/
4	8840-125 mL Plastic Unpreserved (PUB)	/	/	/	/	/	/	/	/	/	/	/	/	/
5	8840-125 mL Plastic Unpreserved (PUB) (4)	/	/	/	/	/	/	/	/	/	/	/	/	/
6	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
7	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
8	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
9	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
10	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
11	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
12	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
13	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
14	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
15	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
16	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
17	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
18	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
19	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
20	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
21	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
22	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
23	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
24	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
25	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
26	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
27	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
28	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
29	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/
30	8840-125 mL Plastic Unpreserved (PUB) (2)	/	/	/	/	/	/	/	/	/	/	/	/	/

Sample ID	Type of Preservation	pH upon receipt	Date preservation adjusted	Time preservation added	Amount of Preservation 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 Division of Environmental and Natural Resources.



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page 1 of 2

Section A: Analytical Request Information

Section B: Analytical Request Information

Section C: Analytical Request Information

Section D: Analytical Request Information

Section E: Analytical Request Information

Section F: Analytical Request Information

SAMPLE ID <small>One Overlap per box. Samples are sealed to samples.</small>	COLLECTOR		END		SAMPLE TYP. AT COLLECTOR		PRESERVATION							ANALYSIS TEST		TEMPERATURE		APPROVAL						
	START	END	START	END	FOR CONTAINER	UNPRESERVED	FROZEN	DRY	WET	WET/DRY	METHOD	OTHER	YES	NO	START	END	INITIALS	DATE						
															Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry	Wet/Dry
T4-1L	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-2L	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-3L	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-4L	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-1H	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-2H	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-3H	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-4H	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-1MB	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-2MB	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-3MB	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
T4-4MB	12/11/15	12/11/15	12/11/15	12/11/15	1								X											
APPROVAL (CONTAINER)		INITIALS OF COLLECTOR		INITIALS OF END USER		INITIALS OF ANALYST		INITIALS OF SUPERVISOR		INITIALS OF QUALITY CONTROL		INITIALS OF STORAGE		INITIALS OF RECEIPT		INITIALS OF DELIVERY		INITIALS OF RECEIPT		INITIALS OF DELIVERY				

ANALYST EQUIPMENT AND PROCEDURES

PROJECT NAME OR SAMPLE ID: Stephanie Williams, Trustee Appointment

LOCATION OF SAMPLES: Veronica Fry

DATE OF SAMPLE COLLECTION: 8/18/10

TEMPERATURE

Received on: 8/18/10

By: YS

Checked on: 11/17/15

By: YS

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section 1: Analytical Project Information Section 2: Analytical Laboratory Information Section 3: Regulatory Agency

Section 1: Analytical Project Information Project: <u>Project Location</u> Date: <u>2023</u> Location: <u>3000 Washington Highway, Suite 101</u> Analytical Project: <u>Environmental Testing</u>	Section 2: Analytical Laboratory Information Laboratory: <u>Environmental Testing</u> Analyst: <u>John Doe</u> Date: <u>10/10/2023</u>	Section 3: Regulatory Agency Agency: <u>State of Michigan</u> Department: <u>Department of Environment & Natural Resources</u> Contact: <u>John Doe</u> Date: <u>10/10/2023</u>
--	--	--

SAMPLE ID	Date/Time	Location	Collector	Container	PRODUCTS		ANALYSIS METHOD	ANALYST	LABORATORY	ANALYSIS TESTS		REMARKS
					DATE	TIME				TEST	RESULT	
1	10/10/2023	3000 Washington Highway, Suite 101	John Doe	1	1	1	1	1	1	1	1	92470705
2	10/10/2023	3000 Washington Highway, Suite 101	John Doe	1	1	1	1	1	1	1	1	
3	10/10/2023	3000 Washington Highway, Suite 101	John Doe	1	1	1	1	1	1	1	1	
4	10/10/2023	3000 Washington Highway, Suite 101	John Doe	1	1	1	1	1	1	1	1	
5	10/10/2023	3000 Washington Highway, Suite 101	John Doe	1	1	1	1	1	1	1	1	
6												
7												
8												
9												
10												
11												
12												

ADDITIONAL COMMENTS <u>None</u>	ANALYST SIGNATURE <u>John Doe</u>	DATE <u>10/10/2023</u>
---	---	----------------------------------

ANALYST SIGNATURE <u>John Doe</u>	DATE <u>10/10/2023</u>	LABORATORY <u>Environmental Testing</u>
---	----------------------------------	---

Initial Laboratory Reports - Pace Analytical Services, Atlanta (Norcross), GA



February 04, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628570

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW

Pace Project No.: 2628570

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW

Pace Project No.: 2628570

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628570001	T2-1HT	Water	02/01/20 13:55	02/04/20 08:00
2628570002	T2-2HTS	Water	02/01/20 14:28	02/04/20 08:00
2628570003	T2-2HT	Water	02/01/20 14:32	02/04/20 08:00
2628570004	T2-3HTS	Water	02/01/20 14:46	02/04/20 08:00
2628570005	T2-3HT	Water	02/01/20 14:50	02/04/20 08:00
2628570006	T2-4HTS	Water	02/01/20 15:00	02/04/20 08:00
2628570007	T2-4HT	Water	02/01/20 15:14	02/04/20 08:00
2628570008	T2-4LT	Water	02/02/20 09:46	02/04/20 08:00
2628570009	T2-3LT	Water	02/02/20 11:20	02/04/20 08:00
2628570010	T2-2LT	Water	02/02/20 13:38	02/04/20 08:00

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
Pace Project No.: 2628570

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628570001	T2-1HT	EPA 6020B	CSW	1
2628570002	T2-2HTS	EPA 6020B	CSW	1
2628570003	T2-2HT	EPA 6020B	CSW	1
2628570004	T2-3HTS	EPA 6020B	CSW	1
2628570005	T2-3HT	EPA 6020B	CSW	1
2628570006	T2-4HTS	EPA 6020B	CSW	1
2628570007	T2-4HT	EPA 6020B	CSW	1
2628570008	T2-4LT	EPA 6020B	CSW	1
2628570009	T2-3LT	EPA 6020B	CSW	1
2628570010	T2-2LT	EPA 6020B	CSW	1

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SUMMARY OF DETECTION

Project: Plant McManus SW
 Pace Project No.: 2628570

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628570001	T2-1HT					
EPA 6020B	Arsenic	0.0035J	mg/L	0.025	02/04/20 13:06	D3
2628570002	T2-2HTS					
EPA 6020B	Arsenic	0.0041J	mg/L	0.025	02/04/20 13:29	D3
2628570003	T2-2HT					
EPA 6020B	Arsenic	0.0044J	mg/L	0.025	02/04/20 13:34	D3
2628570004	T2-3HTS					
EPA 6020B	Arsenic	0.0039J	mg/L	0.025	02/04/20 13:40	D3
2628570005	T2-3HT					
EPA 6020B	Arsenic	0.0044J	mg/L	0.025	02/04/20 13:46	D3
2628570006	T2-4HTS					
EPA 6020B	Arsenic	0.0038J	mg/L	0.025	02/04/20 14:04	D3
2628570007	T2-4HT					
EPA 6020B	Arsenic	0.0041J	mg/L	0.025	02/04/20 14:10	D3
2628570008	T2-4LT					
EPA 6020B	Arsenic	0.0051J	mg/L	0.025	02/04/20 14:16	D3
2628570009	T2-3LT					
EPA 6020B	Arsenic	0.0038J	mg/L	0.025	02/04/20 14:21	D3
2628570010	T2-2LT					
EPA 6020B	Arsenic	0.0039J	mg/L	0.025	02/04/20 14:27	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-1HT		Lab ID: 2628570001		Collected: 02/01/20 13:55	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0035J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 13:06	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-2HTS		Lab ID: 2628570002		Collected: 02/01/20 14:28	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0041J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 13:29	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-2HT		Lab ID: 2628570003		Collected: 02/01/20 14:32	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0044J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 13:34	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-3HTS		Lab ID: 2628570004		Collected: 02/01/20 14:46	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0039J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 13:40	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-3HT		Lab ID: 2628570005		Collected: 02/01/20 14:50	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0044J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 13:46	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-4HTS		Lab ID: 2628570006		Collected: 02/01/20 15:00	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0038J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 14:04	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628570

Sample: T2-4HT		Lab ID: 2628570007		Collected: 02/01/20 15:14	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0041J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 14:10	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-4LT		Lab ID: 2628570008		Collected: 02/02/20 09:46	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0051J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 14:16	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-3LT		Lab ID: 2628570009		Collected: 02/02/20 11:20	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0038J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 14:21	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628570

Sample: T2-2LT		Lab ID: 2628570010		Collected: 02/02/20 13:38	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0039J	mg/L	0.025	0.0018	5	02/04/20 09:25	02/04/20 14:27	7440-38-2	D3	

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628570

QC Batch: 42781 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628570001, 2628570002, 2628570003, 2628570004, 2628570005, 2628570006, 2628570007, 2628570008, 2628570009, 2628570010

METHOD BLANK: 195438 Matrix: Water
 Associated Lab Samples: 2628570001, 2628570002, 2628570003, 2628570004, 2628570005, 2628570006, 2628570007, 2628570008, 2628570009, 2628570010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/04/20 12:11	

LABORATORY CONTROL SAMPLE: 195439

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.093	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 195440 195441

Parameter	Units	2628570001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.0035J	0.1	0.1	0.098	0.097	94	93	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW

Pace Project No.: 2628570

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW

Pace Project No.: 2628570

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628570001	T2-1HT	EPA 3005A	42781	EPA 6020B	42798
2628570002	T2-2HTS	EPA 3005A	42781	EPA 6020B	42798
2628570003	T2-2HT	EPA 3005A	42781	EPA 6020B	42798
2628570004	T2-3HTS	EPA 3005A	42781	EPA 6020B	42798
2628570005	T2-3HT	EPA 3005A	42781	EPA 6020B	42798
2628570006	T2-4HTS	EPA 3005A	42781	EPA 6020B	42798
2628570007	T2-4HT	EPA 3005A	42781	EPA 6020B	42798
2628570008	T2-4LT	EPA 3005A	42781	EPA 6020B	42798
2628570009	T2-3LT	EPA 3005A	42781	EPA 6020B	42798
2628570010	T2-2LT	EPA 3005A	42781	EPA 6020B	42798

REPORT OF LABORATORY ANALYSIS

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[Signature]
Name: _____
Address: _____

CHAIN OF CUSTODY / Analytical Request Document

This document is a legal document. It is intended to be used for compliance purposes.

2628570

Request # _____
Requester Name _____
Requester Address _____
Requester Phone _____
Requester Email _____
Requester Title _____
Requester Organization _____
Requester Department _____
Requester Division _____
Requester Location _____
Requester Contact Person _____
Requester Contact Phone _____
Requester Contact Email _____
Requester Contact Title _____
Requester Contact Organization _____
Requester Contact Department _____
Requester Contact Division _____
Requester Contact Location _____
Requester Contact Contact Person _____
Requester Contact Contact Phone _____
Requester Contact Contact Email _____
Requester Contact Contact Title _____
Requester Contact Contact Organization _____
Requester Contact Contact Department _____
Requester Contact Contact Division _____
Requester Contact Contact Location _____

Sample ID	Sample Description	Sample Type	Sample Quantity	Sample Location	Sample Date	Sample Time	Sample Status	Sample Notes
2014-05-15-1	1st Sample	1st Sample	1st Sample	1st Sample	1st Sample	1st Sample	1st Sample	1st Sample
2014-05-15-2	2nd Sample	2nd Sample	2nd Sample	2nd Sample	2nd Sample	2nd Sample	2nd Sample	2nd Sample
2014-05-15-3	3rd Sample	3rd Sample	3rd Sample	3rd Sample	3rd Sample	3rd Sample	3rd Sample	3rd Sample
2014-05-15-4	4th Sample	4th Sample	4th Sample	4th Sample	4th Sample	4th Sample	4th Sample	4th Sample
2014-05-15-5	5th Sample	5th Sample	5th Sample	5th Sample	5th Sample	5th Sample	5th Sample	5th Sample
2014-05-15-6	6th Sample	6th Sample	6th Sample	6th Sample	6th Sample	6th Sample	6th Sample	6th Sample
2014-05-15-7	7th Sample	7th Sample	7th Sample	7th Sample	7th Sample	7th Sample	7th Sample	7th Sample
2014-05-15-8	8th Sample	8th Sample	8th Sample	8th Sample	8th Sample	8th Sample	8th Sample	8th Sample
2014-05-15-9	9th Sample	9th Sample	9th Sample	9th Sample	9th Sample	9th Sample	9th Sample	9th Sample
2014-05-15-10	10th Sample	10th Sample	10th Sample	10th Sample	10th Sample	10th Sample	10th Sample	10th Sample
2014-05-15-11	11th Sample	11th Sample	11th Sample	11th Sample	11th Sample	11th Sample	11th Sample	11th Sample
2014-05-15-12	12th Sample	12th Sample	12th Sample	12th Sample	12th Sample	12th Sample	12th Sample	12th Sample
2014-05-15-13	13th Sample	13th Sample	13th Sample	13th Sample	13th Sample	13th Sample	13th Sample	13th Sample
2014-05-15-14	14th Sample	14th Sample	14th Sample	14th Sample	14th Sample	14th Sample	14th Sample	14th Sample
2014-05-15-15	15th Sample	15th Sample	15th Sample	15th Sample	15th Sample	15th Sample	15th Sample	15th Sample
2014-05-15-16	16th Sample	16th Sample	16th Sample	16th Sample	16th Sample	16th Sample	16th Sample	16th Sample
2014-05-15-17	17th Sample	17th Sample	17th Sample	17th Sample	17th Sample	17th Sample	17th Sample	17th Sample
2014-05-15-18	18th Sample	18th Sample	18th Sample	18th Sample	18th Sample	18th Sample	18th Sample	18th Sample
2014-05-15-19	19th Sample	19th Sample	19th Sample	19th Sample	19th Sample	19th Sample	19th Sample	19th Sample
2014-05-15-20	20th Sample	20th Sample	20th Sample	20th Sample	20th Sample	20th Sample	20th Sample	20th Sample
2014-05-15-21	21st Sample	21st Sample	21st Sample	21st Sample	21st Sample	21st Sample	21st Sample	21st Sample
2014-05-15-22	22nd Sample	22nd Sample	22nd Sample	22nd Sample	22nd Sample	22nd Sample	22nd Sample	22nd Sample
2014-05-15-23	23rd Sample	23rd Sample	23rd Sample	23rd Sample	23rd Sample	23rd Sample	23rd Sample	23rd Sample
2014-05-15-24	24th Sample	24th Sample	24th Sample	24th Sample	24th Sample	24th Sample	24th Sample	24th Sample
2014-05-15-25	25th Sample	25th Sample	25th Sample	25th Sample	25th Sample	25th Sample	25th Sample	25th Sample
2014-05-15-26	26th Sample	26th Sample	26th Sample	26th Sample	26th Sample	26th Sample	26th Sample	26th Sample
2014-05-15-27	27th Sample	27th Sample	27th Sample	27th Sample	27th Sample	27th Sample	27th Sample	27th Sample
2014-05-15-28	28th Sample	28th Sample	28th Sample	28th Sample	28th Sample	28th Sample	28th Sample	28th Sample
2014-05-15-29	29th Sample	29th Sample	29th Sample	29th Sample	29th Sample	29th Sample	29th Sample	29th Sample
2014-05-15-30	30th Sample	30th Sample	30th Sample	30th Sample	30th Sample	30th Sample	30th Sample	30th Sample
2014-05-15-31	31st Sample	31st Sample	31st Sample	31st Sample	31st Sample	31st Sample	31st Sample	31st Sample
2014-05-15-32	32nd Sample	32nd Sample	32nd Sample	32nd Sample	32nd Sample	32nd Sample	32nd Sample	32nd Sample
2014-05-15-33	33rd Sample	33rd Sample	33rd Sample	33rd Sample	33rd Sample	33rd Sample	33rd Sample	33rd Sample
2014-05-15-34	34th Sample	34th Sample	34th Sample	34th Sample	34th Sample	34th Sample	34th Sample	34th Sample
2014-05-15-35	35th Sample	35th Sample	35th Sample	35th Sample	35th Sample	35th Sample	35th Sample	35th Sample
2014-05-15-36	36th Sample	36th Sample	36th Sample	36th Sample	36th Sample	36th Sample	36th Sample	36th Sample
2014-05-15-37	37th Sample	37th Sample	37th Sample	37th Sample	37th Sample	37th Sample	37th Sample	37th Sample
2014-05-15-38	38th Sample	38th Sample	38th Sample	38th Sample	38th Sample	38th Sample	38th Sample	38th Sample
2014-05-15-39	39th Sample	39th Sample	39th Sample	39th Sample	39th Sample	39th Sample	39th Sample	39th Sample
2014-05-15-40	40th Sample	40th Sample	40th Sample	40th Sample	40th Sample	40th Sample	40th Sample	40th Sample
2014-05-15-41	41st Sample	41st Sample	41st Sample	41st Sample	41st Sample	41st Sample	41st Sample	41st Sample
2014-05-15-42	42nd Sample	42nd Sample	42nd Sample	42nd Sample	42nd Sample	42nd Sample	42nd Sample	42nd Sample
2014-05-15-43	43rd Sample	43rd Sample	43rd Sample	43rd Sample	43rd Sample	43rd Sample	43rd Sample	43rd Sample
2014-05-15-44	44th Sample	44th Sample	44th Sample	44th Sample	44th Sample	44th Sample	44th Sample	44th Sample
2014-05-15-45	45th Sample	45th Sample	45th Sample	45th Sample	45th Sample	45th Sample	45th Sample	45th Sample
2014-05-15-46	46th Sample	46th Sample	46th Sample	46th Sample	46th Sample	46th Sample	46th Sample	46th Sample
2014-05-15-47	47th Sample	47th Sample	47th Sample	47th Sample	47th Sample	47th Sample	47th Sample	47th Sample
2014-05-15-48	48th Sample	48th Sample	48th Sample	48th Sample	48th Sample	48th Sample	48th Sample	48th Sample
2014-05-15-49	49th Sample	49th Sample	49th Sample	49th Sample	49th Sample	49th Sample	49th Sample	49th Sample
2014-05-15-50	50th Sample	50th Sample	50th Sample	50th Sample	50th Sample	50th Sample	50th Sample	50th Sample

Requester Name: _____
Requester Address: _____
Requester Phone: _____
Requester Email: _____
Requester Title: _____
Requester Organization: _____
Requester Department: _____
Requester Division: _____
Requester Location: _____
Requester Contact Person: _____
Requester Contact Phone: _____
Requester Contact Email: _____
Requester Contact Title: _____
Requester Contact Organization: _____
Requester Contact Department: _____
Requester Contact Division: _____
Requester Contact Location: _____
Requester Contact Contact Person: _____
Requester Contact Contact Phone: _____
Requester Contact Contact Email: _____
Requester Contact Contact Title: _____
Requester Contact Contact Organization: _____
Requester Contact Contact Department: _____
Requester Contact Contact Division: _____
Requester Contact Contact Location: _____

CHAIN OF CUSTODY / Analytical Request - Equipment
 The Chain of Custody and UTM of Equipment at request form must be completed accurately.

Page 1

Table 1
 Sample ID: Date:
 Sample Location:
 Sample Description:

Sample ID	Date	Location	Status		Requester	Approved By
			Request	Release		
101-1	12/15/11	101-1			101-1	101-1
101-2	12/15/11	101-2			101-2	101-2
101-3	12/15/11	101-3			101-3	101-3
101-4	12/15/11	101-4			101-4	101-4
101-5	12/15/11	101-5			101-5	101-5
101-6	12/15/11	101-6			101-6	101-6
101-7	12/15/11	101-7			101-7	101-7
101-8	12/15/11	101-8			101-8	101-8
101-9	12/15/11	101-9			101-9	101-9
101-10	12/15/11	101-10			101-10	101-10
101-11	12/15/11	101-11			101-11	101-11
101-12	12/15/11	101-12			101-12	101-12
101-13	12/15/11	101-13			101-13	101-13
101-14	12/15/11	101-14			101-14	101-14
101-15	12/15/11	101-15			101-15	101-15
101-16	12/15/11	101-16			101-16	101-16
101-17	12/15/11	101-17			101-17	101-17
101-18	12/15/11	101-18			101-18	101-18
101-19	12/15/11	101-19			101-19	101-19
101-20	12/15/11	101-20			101-20	101-20
101-21	12/15/11	101-21			101-21	101-21
101-22	12/15/11	101-22			101-22	101-22
101-23	12/15/11	101-23			101-23	101-23
101-24	12/15/11	101-24			101-24	101-24
101-25	12/15/11	101-25			101-25	101-25
101-26	12/15/11	101-26			101-26	101-26
101-27	12/15/11	101-27			101-27	101-27
101-28	12/15/11	101-28			101-28	101-28
101-29	12/15/11	101-29			101-29	101-29
101-30	12/15/11	101-30			101-30	101-30
101-31	12/15/11	101-31			101-31	101-31
101-32	12/15/11	101-32			101-32	101-32
101-33	12/15/11	101-33			101-33	101-33
101-34	12/15/11	101-34			101-34	101-34
101-35	12/15/11	101-35			101-35	101-35
101-36	12/15/11	101-36			101-36	101-36
101-37	12/15/11	101-37			101-37	101-37
101-38	12/15/11	101-38			101-38	101-38
101-39	12/15/11	101-39			101-39	101-39
101-40	12/15/11	101-40			101-40	101-40

Requester:
 Approved By:

Table 2
 Requested By:

Requester	Approved By	Date	Status
101-1	101-1	12/15/11	Request
101-2	101-2	12/15/11	Request
101-3	101-3	12/15/11	Request
101-4	101-4	12/15/11	Request
101-5	101-5	12/15/11	Request
101-6	101-6	12/15/11	Request
101-7	101-7	12/15/11	Request
101-8	101-8	12/15/11	Request
101-9	101-9	12/15/11	Request
101-10	101-10	12/15/11	Request
101-11	101-11	12/15/11	Request
101-12	101-12	12/15/11	Request
101-13	101-13	12/15/11	Request
101-14	101-14	12/15/11	Request
101-15	101-15	12/15/11	Request
101-16	101-16	12/15/11	Request
101-17	101-17	12/15/11	Request
101-18	101-18	12/15/11	Request
101-19	101-19	12/15/11	Request
101-20	101-20	12/15/11	Request
101-21	101-21	12/15/11	Request
101-22	101-22	12/15/11	Request
101-23	101-23	12/15/11	Request
101-24	101-24	12/15/11	Request
101-25	101-25	12/15/11	Request
101-26	101-26	12/15/11	Request
101-27	101-27	12/15/11	Request
101-28	101-28	12/15/11	Request
101-29	101-29	12/15/11	Request
101-30	101-30	12/15/11	Request
101-31	101-31	12/15/11	Request
101-32	101-32	12/15/11	Request
101-33	101-33	12/15/11	Request
101-34	101-34	12/15/11	Request
101-35	101-35	12/15/11	Request
101-36	101-36	12/15/11	Request
101-37	101-37	12/15/11	Request
101-38	101-38	12/15/11	Request
101-39	101-39	12/15/11	Request
101-40	101-40	12/15/11	Request

Requester:
 Approved By:

CHAIN-OF-CUSTODY / Analytical Request Document
 The Chain-of-Custody is a UDOA Worksheet. It should be filled out in accordance with the

Page 1 of 3

Sample ID: _____
 Date: _____
 Location: _____
 Requested by: _____
 Requested for: _____
 Requested for use: _____
 Requested for analysis: _____
 Requested for storage: _____
 Requested for disposal: _____
 Requested for return: _____
 Requested for destruction: _____
 Requested for other: _____

Sample ID	Description	Quantity	Unit	Container	Material	Analysis	Storage	Disposal	Return	Destruction	Other	Chain of Custody	
												Initials	Date
1
2
3
4
5
6
7
8
9
10

Analytical Requester: _____
 Date: _____
 Signature: _____
 Title: _____
 Organization: _____
 Address: _____
 City: _____
 State: _____
 Zip: _____
 Phone: _____
 Fax: _____
 Email: _____
 Website: _____
 Other: _____

CHAIN-OF-CUSTODY / Analytical Request Document
 The Owner of the Analytical Document is responsible for compliance recording.

Analytical Request ID: _____
 Requester: _____
 Date: _____
 Requested By: _____
 Requested For: _____
 Requested At: _____
 Requested In: _____
 Requested For: _____
 Requested At: _____
 Requested In: _____
 Requested For: _____
 Requested At: _____
 Requested In: _____

Sample ID	Sample Description	Sample Location	Sample Date	Sample Time	Sample Type	Sample Status	Sample Volume	Sample Weight	Sample Temperature	Sample Humidity	Sample Pressure	Sample Wind Speed	Sample Wind Direction	Sample Cloud Cover	Sample Visibility	Sample Precipitation	Sample Dew Point	Sample Frost Point	Sample Rainfall	Sample Snowfall	Sample Icefall
...

Date: _____
 Time: _____
 Location: _____
 Method: _____
 Instrument: _____
 Operator: _____
 Supervisor: _____
 Analyst: _____
 Reviewer: _____
 Date: _____
 Time: _____
 Location: _____
 Method: _____
 Instrument: _____
 Operator: _____
 Supervisor: _____
 Analyst: _____
 Reviewer: _____



February 18, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628593

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW
Pace Project No.: 2628593

Pace Analytical Services Atlanta

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW
Pace Project No.: 2628593

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628593001	MCM-04LT	Water	02/03/20 11:35	02/04/20 10:48
2628593002	MCM-08LT	Water	02/03/20 12:41	02/04/20 10:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
Pace Project No.: 2628593

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628593001	MCM-04LT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628593002	MCM-08LT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 2628593

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628593001	MCM-04LT					
EPA 6020B	Arsenic	0.0063J	mg/L	0.050	02/17/20 15:10	D3
2628593002	MCM-08LT					
EPA 6020B	Arsenic	0.019J	mg/L	0.050	02/17/20 15:16	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628593

Sample: MCM-04LT		Lab ID: 2628593001		Collected: 02/03/20 11:35		Received: 02/04/20 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0063J	mg/L	0.050	0.0035	10	02/17/20 11:15	02/17/20 15:10	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/17/20 11:15	02/17/20 15:10	7440-48-4	D3
Lithium	ND	mg/L	0.30	0.0078	10	02/17/20 11:15	02/17/20 15:10	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	ND	mg/L	0.050	0.0035	10	02/17/20 11:15	02/17/20 17:25	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/17/20 11:15	02/17/20 17:25	7440-48-4	D3
Lithium, Dissolved	ND	mg/L	0.30	0.0078	10	02/17/20 11:15	02/17/20 17:25	7439-93-2	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628593

Sample: MCM-08LT		Lab ID: 2628593002		Collected: 02/03/20 12:41	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.019J	mg/L	0.050	0.0035	10	02/17/20 11:15	02/17/20 15:16	7440-38-2	D3	
Cobalt	ND	mg/L	0.050	0.0030	10	02/17/20 11:15	02/17/20 15:16	7440-48-4	D3	
Lithium	ND	mg/L	0.30	0.0078	10	02/17/20 11:15	02/17/20 15:16	7439-93-2	D3	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	ND	mg/L	0.050	0.0035	10	02/17/20 11:15	02/17/20 17:48	7440-38-2	D3	
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/17/20 11:15	02/17/20 17:48	7440-48-4	D3	
Lithium, Dissolved	ND	mg/L	0.30	0.0078	10	02/17/20 11:15	02/17/20 17:48	7439-93-2	D3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628593

QC Batch: 43407 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628593001, 2628593002

METHOD BLANK: 198741 Matrix: Water
 Associated Lab Samples: 2628593001, 2628593002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/17/20 14:58	
Cobalt	mg/L	ND	0.0050	0.00030	02/17/20 14:58	
Lithium	mg/L	ND	0.030	0.00078	02/17/20 14:58	

LABORATORY CONTROL SAMPLE: 198742

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.097	97	80-120	
Cobalt	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198743 198744

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		2629097001 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Arsenic	mg/L	ND	0.1	0.1	0.097	0.099	97	99	75-125	2	20		
Cobalt	mg/L	0.017	0.1	0.1	0.11	0.11	95	95	75-125	0	20		
Lithium	mg/L	0.019J	0.1	0.1	0.12	0.11	97	94	75-125	2	20		

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628593

QC Batch: 43413 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628593001, 2628593002

METHOD BLANK: 198753 Matrix: Water
 Associated Lab Samples: 2628593001, 2628593002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/17/20 17:14	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00030	02/17/20 17:14	
Lithium, Dissolved	mg/L	ND	0.030	0.00078	02/17/20 17:14	

LABORATORY CONTROL SAMPLE: 198754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.095	95	80-120	
Cobalt, Dissolved	mg/L	0.1	0.098	98	80-120	
Lithium, Dissolved	mg/L	0.1	0.096	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 198755 198756

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		2628593001 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Arsenic, Dissolved	mg/L	ND	0.1	0.1	0.098	0.095	98	95	75-125	3	20		
Cobalt, Dissolved	mg/L	ND	0.1	0.1	0.098	0.094	95	91	75-125	4	20		
Lithium, Dissolved	mg/L	ND	0.1	0.1	0.095J	0.095J	94	93	75-125		20		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW
Pace Project No.: 2628593

DEFINITIONS

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

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW

Pace Project No.: 2628593

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628593001	MCM-04LT	EPA 3005A	43407	EPA 6020B	43433
2628593002	MCM-08LT	EPA 3005A	43407	EPA 6020B	43433
2628593001	MCM-04LT	EPA 3005A	43413	EPA 6020B	43435
2628593002	MCM-08LT	EPA 3005A	43413	EPA 6020B	43435

REPORT OF LABORATORY ANALYSIS

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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: 04

Section A: Analytical Request Information

Client Name: John Doe
 Requested By: John Doe
 Date: 10/20/2010
 Requested For: GC/MS
 Requested For: GC/MS
 Requested For: GC/MS

Section B: Sample Information

Sample ID: MAC-04-LT
 Sample Description: MAC-04-LT
 Sample Quantity: 1
 Sample Date: 10/20/2010
 Sample Location: 10-1

Section C: Laboratory Information

Laboratory Name: Lab 101
 Laboratory Address: 10101 1st St
 Laboratory City: San Diego, CA
 Laboratory State: CA
 Laboratory Zip: 92161

Date	Time	Activity	By	Sample ID		Status	Remarks
				Initial	Final		
		Received					
		Stored					
		Retrieved					
		Prepared					
		Analyzed					
		Reported					
		Released					
		Retained					

Sample ID	Initial	Final	Date	Time	Activity	By	Status	Remarks
MAC-04-LT			10/20/2010	10:15	Received	J. Doe		
MAC-04-LT			10/20/2010	10:15	Stored	J. Doe		
MAC-04-LT			10/20/2010	10:15	Retrieved	J. Doe		
MAC-04-LT			10/20/2010	10:15	Prepared	J. Doe		
MAC-04-LT			10/20/2010	10:15	Analyzed	J. Doe		
MAC-04-LT			10/20/2010	10:15	Reported	J. Doe		
MAC-04-LT			10/20/2010	10:15	Released	J. Doe		
MAC-04-LT			10/20/2010	10:15	Retained	J. Doe		

NO#: 2628593

Page 2 of 6



Client Name: C. A. Power

PR: KA Run Date: 02/07/20
CLIENT: 26-08 Power

Courier: Fed Ex UPS USPS Other Comments Pass Other
Tracking #: _____

Container Seal on Collection: Present No Seal Intact: Yes No

Packing Material: Bubble Wrap Bubble Bags Foam Other _____

Thermometer Used: 230 Type of Ice: (Dry) Blue Samples on ice cooling process not required

Cooler Temperature: 3.7°C Biological Material to Process: Yes Comments: Cells and initials of technician handling samples 2/4/20/2020

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	1.
Chain of Custody Filled Out	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	2.
Chain of Custody Requisitioned	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	3.
Sample Name & Signature on COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	4.
Sample Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	5.
Short Hold Time Analysis (1-2hrs)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	6.
Room Turn Around Time Requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	7. <u>24hr</u>
Substrate Volume	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	8.
Default Containers Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	9.
-Pack Config Used	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	
Containers Intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	10.
Filtered volume received for Discharged tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	11.
Sample Labels match COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	12.
-Includes date/time/ID/Volume/Temp	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	
All containers meeting presentation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	13.
All containers meeting label criteria are found to be in compliance with EPA requirements	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	
Process: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev <input type="checkbox"/> Other	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	Value after completion Lot # of sample presentation
Samples checked for detection agent	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	14.
Handspace in VOA bags (>2hrs)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	15.
Top Bank Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	16.
Top Bank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dev	
Pass Top Bank Lot # of purchased:		

Client Investigation/Resolution: _____ Field Data Required? Y / N

As per Contract: _____ Date/Trip: _____

Comments/Resolution: _____

Project Manager Review: _____ Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance matters, a copy of this form will be sent to the North Carolina Department of Environment and Natural Resources, 1000 North Salisbury Street, Raleigh, NC 27601.



February 14, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628594

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW
Pace Project No.: 2628594

Pace Analytical Services Atlanta

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

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW
Pace Project No.: 2628594

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628594001	BG-1LT	Water	02/02/20 08:58	02/04/20 10:48
2628594002	BG-2HT	Water	02/02/20 15:04	02/04/20 10:48

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
Pace Project No.: 2628594

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628594001	BG-1LT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628594002	BG-2HT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 2628594

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628594001	BG-1LT					
EPA 6020B	Lithium	0.090J	mg/L	0.30	02/11/20 21:14	
EPA 6020B	Arsenic, Dissolved	0.0057J	mg/L	0.050	02/12/20 21:23	D3
EPA 6020B	Lithium, Dissolved	0.094J	mg/L	0.30	02/12/20 21:23	
2628594002	BG-2HT					
EPA 6020B	Arsenic	0.0055J	mg/L	0.050	02/11/20 21:37	D3
EPA 6020B	Lithium	0.098J	mg/L	0.30	02/11/20 21:37	
EPA 6020B	Arsenic, Dissolved	0.0038J	mg/L	0.050	02/12/20 21:46	D3
EPA 6020B	Lithium, Dissolved	0.096J	mg/L	0.30	02/12/20 21:46	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628594

Sample: BG-1LT		Lab ID: 2628594001		Collected: 02/02/20 08:58		Received: 02/04/20 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.050	0.0035	10	02/11/20 12:50	02/11/20 21:14	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/11/20 12:50	02/11/20 21:14	7440-48-4	
Lithium	0.090J	mg/L	0.30	0.0078	10	02/11/20 12:50	02/11/20 21:14	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0057J	mg/L	0.050	0.0035	10	02/12/20 13:27	02/12/20 21:23	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/12/20 13:27	02/12/20 21:23	7440-48-4	
Lithium, Dissolved	0.094J	mg/L	0.30	0.0078	10	02/12/20 13:27	02/12/20 21:23	7439-93-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628594

Sample: BG-2HT		Lab ID: 2628594002		Collected: 02/02/20 15:04	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0055J	mg/L	0.050	0.0035	10	02/11/20 12:50	02/11/20 21:37	7440-38-2	D3	
Cobalt	ND	mg/L	0.050	0.0030	10	02/11/20 12:50	02/11/20 21:37	7440-48-4		
Lithium	0.098J	mg/L	0.30	0.0078	10	02/11/20 12:50	02/11/20 21:37	7439-93-2		
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.0038J	mg/L	0.050	0.0035	10	02/12/20 13:27	02/12/20 21:46	7440-38-2	D3	
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/12/20 13:27	02/12/20 21:46	7440-48-4		
Lithium, Dissolved	0.096J	mg/L	0.30	0.0078	10	02/12/20 13:27	02/12/20 21:46	7439-93-2		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628594

QC Batch: 43168 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628594001, 2628594002

METHOD BLANK: 197286 Matrix: Water
 Associated Lab Samples: 2628594001, 2628594002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/11/20 21:02	

LABORATORY CONTROL SAMPLE: 197287

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197288 197289

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628594001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0057J	0.1	0.1	0.11	0.11	105	103	75-125	2	20

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628594

QC Batch: 43232 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628594001, 2628594002

METHOD BLANK: 197813 Matrix: Water
 Associated Lab Samples: 2628594001, 2628594002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/12/20 21:11	

LABORATORY CONTROL SAMPLE: 197814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197815 197816

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628594001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic, Dissolved	mg/L	0.0057J	0.1	0.1	0.12	110	102	75-125	7	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW

Pace Project No.: 2628594

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW

Pace Project No.: 2628594

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628594001	BG-1LT	EPA 3005A	43168	EPA 6020B	43189
2628594002	BG-2HT	EPA 3005A	43168	EPA 6020B	43189
2628594001	BG-1LT	EPA 3005A	43232	EPA 6020B	43245
2628594002	BG-2HT	EPA 3005A	43232	EPA 6020B	43245

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY COPY 1 Analytical Request Document
 This Chain of Custody is a U.S. EPA 1600 (Rev. 01) Analytical Request Form. All requests for this report are processed on a daily basis.

Section 1: **Requester Information** (Name, Address, Phone, Fax, E-mail)
 Section 2: **Requester Contact Information** (Name, Title, Address, Phone, Fax, E-mail)
 Section 3: **Requester Signature** (Name, Title, Date)
 Section 4: **Requester Signature** (Name, Title, Date)
 Section 5: **Requester Signature** (Name, Title, Date)

Section 6: **Requester Signature** (Name, Title, Date)
 Section 7: **Requester Signature** (Name, Title, Date)
 Section 8: **Requester Signature** (Name, Title, Date)

NO.	SAMPLE NO.	DATE	TIME	LOCATION	ANALYSIS	METHOD	LABORATORY	ANALYST	CHECKER	REMARKS	CHAIN OF CUSTODY	
											INITIALS	SIGNATURE
1	2628594	10/11/01	16:00	...	...	...	...	...	...	...	...	...
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

Section 9: **Requester Signature** (Name, Title, Date)
 Section 10: **Requester Signature** (Name, Title, Date)
 Section 11: **Requester Signature** (Name, Title, Date)
 Section 12: **Requester Signature** (Name, Title, Date)

NO# : 2628594
CHAIN OF CUSTODY COPY 1
2628594

These materials are to be used for the development of the program. A copy of the form will be sent to the client.

Project Manager (Print): _____
 Date: _____

Client Name: _____
 Client Address: _____
 Client City/State/Zip: _____

Project Description: _____

Project Start Date: _____

Item #	Description	Quantity	Unit	Price	Total
1	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
2	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
3	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
4	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
5	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
6	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
7	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
8	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
9	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
10	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
11	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
12	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
13	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
14	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
15	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
16	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
17	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
18	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
19	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
20	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
21	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
22	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
23	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
24	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
25	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
26	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
27	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
28	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
29	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
30	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
31	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
32	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
33	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
34	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
35	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
36	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
37	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
38	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
39	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
40	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
41	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
42	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
43	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
44	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
45	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
46	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
47	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
48	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
49	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00
50	1-1/2" x 1/2" x 1/2" (1/2")	1	EA	1.00	1.00

Quantity: _____

Price: _____

Total: _____

Notes: _____

Client Name: ABC

Client Address: _____

Client City/State/Zip: _____

Phone: _____

Fax: _____

Email: _____

Order # _____

Date: _____

Sample Collection Upon Receipt



CHAIN-OF-CUSTODY / ANALYTICAL REQUEST
 The Chain of Custody is a critical document in the laboratory process.

WO#: 2628595

ATI: RM Our Date: 02/06/20
 CLINI: 24-CA Found

Section 1: Requester Information
 Company: State Farm
 Address: 4110 W. 100th Street, Suite 100
 City: Overland Park, MO 66204
 Phone: (913) 439-1000 Fax: _____
 Requested Date: _____

Section 2: Sample Information
 Sample ID: 2628595
 Sample Description: Vehicle
 Sample Type: Paint
 Sample Quantity: 1
 Sample Location: Paint on bumper

Section 3: Laboratory Information
 Laboratory Name: ATI
 Laboratory Address: 10000 E. 11th Street, Suite 100, Overland Park, MO 66204
 Laboratory Phone: (913) 439-1000

SAMPLE ID	DESCRIPTION	QTY	COLLECTOR		DATE	TIME	INITIALS	METHOD	REMARKS	ANALYST	DATE	TIME	INITIALS
			NAME	MAP									
1	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
2	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
3	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
4	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
5	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
6	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
7	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
8	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
9	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA
10	Vehicle - CA - Bumper	1	CA	Map	02/06/20	14:00	CA	Paint	Paint on bumper	ATI	02/06/20	14:00	CA

Section 4: Signatures and Dates

Requested by: State Farm Date: 02/06/20
 Accepted by: ATI Date: 02/06/20
 Analyzed by: ATI Date: 02/06/20

Section 5: Laboratory Information

Laboratory Name: ATI
 Laboratory Address: 10000 E. 11th Street, Suite 100, Overland Park, MO 66204
 Laboratory Phone: (913) 439-1000



CHAIN-OF-CUSTODY / Analytical Request Form
 This Chain-of-Custody is a LEGAL DOCUMENT. All written entries must be in INK.

NO# : 2628595

PN : 04 **Exp Date : 02/10/200**
CLIENT : 26-CR F00017

Requester: [Handwritten Name] **Requester Title:** [Handwritten Title]

Requester Agency: [Handwritten Agency Name]

Requester Address: [Handwritten Address]

Requester Phone: [Handwritten Phone Number]

Requester Fax: [Handwritten Fax Number]

Requester Email: [Handwritten Email Address]

SAMPLE ID	DESCRIPTION	COLLECTOR		DATE		TIME	LOCATION	INSTRUMENT	ANALYST	LABORATORY	METHOD	SPECIAL HANDLING
		NAME	PHONE	TIME	DATE							
IS-2005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]
IS-1005	[Handwritten Description]	[Handwritten Name]	[Handwritten Phone]	[Handwritten Time]	[Handwritten Date]	[Handwritten Time]	[Handwritten Location]	[Handwritten Instrument]	[Handwritten Analyst]	[Handwritten Lab]	[Handwritten Method]	[Handwritten Handling]

Comments: [Handwritten Notes]

Signature: [Handwritten Signature]

Date: [Handwritten Date]

Time: [Handwritten Time]

Location: [Handwritten Location]

Special Handling: [Handwritten Notes]

Analyst: [Handwritten Name]

Lab: [Handwritten Lab Name]

Method: [Handwritten Method]

Special Handling: [Handwritten Notes]

CHAIN-OF-CUSTODY / Analytical Request Document

This Chain-of-Custody / Analytical Request Document shall remain the property of the requesting Agency.

Requester Information	
Requester Name: _____	Requester Address: _____
Requester Phone: _____	Requester Email: _____
Requester Title: _____	Requester Agency: _____
Sample Information	
Sample ID: _____	Sample Description: _____
Sample Type: _____	Sample Quantity: _____
Sample Date: _____	Sample Location: _____
Sample Status: _____	Sample Priority: _____
Sample Remarks: _____	Sample Date Received: _____

SAMPLE ID	ANALYSIS REQUESTED	ANALYSIS METHOD	PRELIMINARY RESULTS			ANALYST	DATE	LABORATORY	STATUS
			UNIT	VALUE	REMARKS				
1
2
3
4
5
6
7
8
9
10
11
12

Signature and Date Requester Signature: _____ Date: _____ Analyst Signature: _____ Date: _____	
Remarks Additional notes or observations related to the samples.	Retention Schedule Indicate the retention status of each sample.
Remarks Comments on the analytical process or results.	Retention Schedule Indicate the retention status of each sample.



Client Name: George Power

WO#: 2628595

PR: 131 Due Date: 02/04/20
PLANT: 26-00 Pump

Carrier Field UFG USFS Client Commercial Pass Code
Tracking #: 3401 2400 8795

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

Packing Material: Bubble Wrap Bubble Bags None Other explosion bags

Thermometer Used: Thermo Type of Ice: Ice Dry None Samples at 100, cooling process has failed

Cooler Temperature: 1.4 Biological Threats by Process: No Yes
Temp should be above freezing @ 32°C Comments:

Date and initials of person receiving sample: Y.W. 2/4/20

Chain of Custody Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	1
Chain of Custody Filled Out	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	2
Chain of Custody Reinspected	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	3
Sampler Name & Signature on GOC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	4
Samples Arrived within Spec Time	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	5
Short Hold Time Analyte (<72hrs)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	6
Both Tare & Gross Tare Requested:	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	7
Sufficient Volume	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	8
Correct Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	9
Phase Containers Used	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	10
Containers Labeled	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	11
Filled volume received by Dispatch Unit	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	12
Sample Labels match GOC	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	13
Include Date/Time/CA Analyzed Mark: <u>YWT</u>				
All containers meeting preservation have been checked	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	14
All containers meeting preservation are found to be in compliance with EPA recommendations	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	15
Inventory VQA, Volume, TOC, DAG = (DAG) (year)	<u>Yes</u>	<u>Yes</u>		16
Sample checked for Section 141.001	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	17
Handspace in VQA Unit (>5cm)	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	18
Top Bulk Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	19
Trig Store Custody Seal Present	<u>Yes</u>	<u>Yes</u>	<u>Yes</u>	20
Phase Trig Store Lot # (if applicable)				

Final Date Received: T R N

Client In-House Approval: Patricia Condit Date/Time: _____
Comments/Resolution: _____

Project Manager Review: _____ Date: _____

NOTE: Shipping Service is responsible for meeting HAZOP/CA/CP compliance with Part 4.1005 of this form will be void if the HAZOP/CA/CP is not completed (Print) on out of field incident preservation out of scope. In-house shipping.



February 14, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628595

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW

Pace Project No.: 2628595

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW
Pace Project No.: 2628595

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628595001	T2-1HT	Water	02/01/20 13:55	02/04/20 10:48
2628595002	T2-2HTS	Water	02/01/20 14:28	02/04/20 10:48
2628595003	T2-2HT	Water	02/01/20 14:32	02/04/20 10:48
2628595004	T2-3HTS	Water	02/01/20 14:46	02/04/20 10:48
2628595005	T2-3HT	Water	02/01/20 14:50	02/04/20 10:48
2628595006	T2-4HTS	Water	02/01/20 15:00	02/04/20 10:48
2628595007	T2-4HT	Water	02/01/20 15:14	02/04/20 10:48
2628595008	T2-4LT	Water	02/02/20 09:46	02/04/20 10:48
2628595009	T2-3LT	Water	02/02/20 11:20	02/04/20 10:48
2628595010	T2-2LT	Water	02/02/20 11:38	02/04/20 10:48
2628595011	T1-1LT	Water	02/01/20 09:50	02/04/20 10:48
2628595012	T1-4LT	Water	02/01/20 09:56	02/04/20 10:48
2628595013	T1-3LT	Water	02/01/20 10:06	02/04/20 10:48
2628595014	T1-2LT	Water	02/01/20 10:16	02/04/20 10:48
2628595015	T1-4HTS	Water	02/01/20 13:34	02/04/20 10:48
2628595016	T1-4HT	Water	02/01/20 13:40	02/04/20 10:48
2628595017	T1-3HTS	Water	02/01/20 13:52	02/04/20 10:48
2628595018	T1-3HT	Water	02/01/20 13:56	02/04/20 10:48
2628595019	T1-1HT	Water	02/01/20 14:08	02/04/20 10:48
2628595020	T1-2HTS	Water	02/01/20 14:16	02/04/20 10:48
2628595021	T1-2HT	Water	02/01/20 14:20	02/04/20 10:48

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW

Pace Project No.: 2628595

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628595001	T2-1HT	EPA 6020B	CSW	1
2628595002	T2-2HTS	EPA 6020B	CSW	1
2628595003	T2-2HT	EPA 6020B	CSW	1
2628595004	T2-3HTS	EPA 6020B	CSW	1
2628595005	T2-3HT	EPA 6020B	CSW	1
2628595006	T2-4HTS	EPA 6020B	CSW	1
2628595007	T2-4HT	EPA 6020B	CSW	1
2628595008	T2-4LT	EPA 6020B	CSW	1
2628595009	T2-3LT	EPA 6020B	CSW	1
2628595010	T2-2LT	EPA 6020B	CSW	1
2628595011	T1-1LT	EPA 6020B	CSW	1
2628595012	T1-4LT	EPA 6020B	CSW	1
2628595013	T1-3LT	EPA 6020B	CSW	1
2628595014	T1-2LT	EPA 6020B	CSW	1
2628595015	T1-4HTS	EPA 6020B	CSW	1
2628595016	T1-4HT	EPA 6020B	CSW	1
2628595017	T1-3HTS	EPA 6020B	CSW	1
2628595018	T1-3HT	EPA 6020B	CSW	1
2628595019	T1-1HT	EPA 6020B	CSW	1
2628595020	T1-2HTS	EPA 6020B	CSW	1
2628595021	T1-2HT	EPA 6020B	CSW	1

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SUMMARY OF DETECTION

Project: Plant McManus SW
 Pace Project No.: 2628595

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628595001	T2-1HT					
EPA 6020B	Arsenic, Dissolved	0.012J	mg/L	0.050	02/13/20 14:15	D3
2628595002	T2-2HTS					
EPA 6020B	Arsenic, Dissolved	0.018J	mg/L	0.050	02/13/20 14:20	D3
2628595003	T2-2HT					
EPA 6020B	Arsenic, Dissolved	0.023J	mg/L	0.050	02/13/20 14:26	D3,M6
2628595004	T2-3HTS					
EPA 6020B	Arsenic, Dissolved	0.036J	mg/L	0.050	02/13/20 14:49	D3
2628595005	T2-3HT					
EPA 6020B	Arsenic, Dissolved	0.043J	mg/L	0.050	02/13/20 14:55	D3
2628595006	T2-4HTS					
EPA 6020B	Arsenic, Dissolved	0.037J	mg/L	0.050	02/13/20 15:35	D3
2628595007	T2-4HT					
EPA 6020B	Arsenic, Dissolved	0.040J	mg/L	0.050	02/13/20 15:43	D3
2628595008	T2-4LT					
EPA 6020B	Arsenic, Dissolved	0.044J	mg/L	0.050	02/13/20 15:49	D3
2628595009	T2-3LT					
EPA 6020B	Arsenic, Dissolved	0.043J	mg/L	0.050	02/13/20 15:54	D3
2628595010	T2-2LT					
EPA 6020B	Arsenic, Dissolved	0.040J	mg/L	0.050	02/13/20 16:29	D3
2628595011	T1-1LT					
EPA 6020B	Arsenic, Dissolved	0.039J	mg/L	0.050	02/13/20 16:35	D3
2628595012	T1-4LT					
EPA 6020B	Arsenic, Dissolved	0.046J	mg/L	0.050	02/13/20 16:41	D3
2628595013	T1-3LT					
EPA 6020B	Arsenic, Dissolved	0.043J	mg/L	0.050	02/13/20 16:47	D3
2628595014	T1-2LT					
EPA 6020B	Arsenic, Dissolved	0.041J	mg/L	0.050	02/13/20 16:52	D3
2628595015	T1-4HTS					
EPA 6020B	Arsenic, Dissolved	0.048J	mg/L	0.050	02/13/20 16:58	D3
2628595016	T1-4HT					
EPA 6020B	Arsenic, Dissolved	0.0065J	mg/L	0.050	02/13/20 19:04	D3
2628595017	T1-3HTS					
EPA 6020B	Arsenic, Dissolved	0.0086J	mg/L	0.050	02/13/20 19:10	D3
2628595018	T1-3HT					
EPA 6020B	Arsenic, Dissolved	0.0079J	mg/L	0.050	02/13/20 19:16	D3

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 2628595

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628595019	T1-1HT					
EPA 6020B	Arsenic, Dissolved	0.0082J	mg/L	0.050	02/13/20 19:21	D3
2628595020	T1-2HTS					
EPA 6020B	Arsenic, Dissolved	0.0077J	mg/L	0.050	02/13/20 19:27	D3
2628595021	T1-2HT					
EPA 6020B	Arsenic, Dissolved	0.0062J	mg/L	0.050	02/12/20 18:20	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-1HT		Lab ID: 2628595001		Collected: 02/01/20 13:55	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.012J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 14:15	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-2HTS		Lab ID: 2628595002		Collected: 02/01/20 14:28	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.018J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 14:20	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-2HT		Lab ID: 2628595003		Collected: 02/01/20 14:32		Received: 02/04/20 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.023J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 14:26	7440-38-2	D3,M6

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-3HTS		Lab ID: 2628595004		Collected: 02/01/20 14:46		Received: 02/04/20 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.036J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 14:49	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-3HT		Lab ID: 2628595005		Collected: 02/01/20 14:50	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.043J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 14:55	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-4HTS		Lab ID: 2628595006		Collected: 02/01/20 15:00	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.037J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 15:35	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-4HT		Lab ID: 2628595007		Collected: 02/01/20 15:14	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.040J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 15:43	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T2-4LT		Lab ID: 2628595008		Collected: 02/02/20 09:46	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.044J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 15:49	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628595

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T2-3LT Lab ID: 2628595009 Collected: 02/02/20 11:20 Received: 02/04/20 10:48 Matrix: Water									
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.043J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 15:54	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628595

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T2-2LT									
Lab ID: 2628595010									
Collected: 02/02/20 11:38 Received: 02/04/20 10:48 Matrix: Water									
Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.040J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 16:29	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-1LT		Lab ID: 2628595011		Collected: 02/01/20 09:50		Received: 02/04/20 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.039J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 16:35	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-4LT		Lab ID: 2628595012		Collected: 02/01/20 09:56	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.046J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 16:41	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628595

Sample: T1-3LT		Lab ID: 2628595013		Collected: 02/01/20 10:06	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.043J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 16:47	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628595

Sample: T1-2LT		Lab ID: 2628595014		Collected: 02/01/20 10:16	Received: 02/04/20 10:48	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.041J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 16:52	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-4HTS		Lab ID: 2628595015		Collected: 02/01/20 13:34	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.048J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 16:58	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-4HT		Lab ID: 2628595016		Collected: 02/01/20 13:40	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.0065J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 19:04	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628595

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T1-3HTS Lab ID: 2628595017 Collected: 02/01/20 13:52 Received: 02/04/20 10:48 Matrix: Water									
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.0086J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 19:10	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-3HT		Lab ID: 2628595018		Collected: 02/01/20 13:56	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.0079J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 19:16	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-1HT		Lab ID: 2628595019		Collected: 02/01/20 14:08		Received: 02/04/20 10:48		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0082J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 19:21	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-2HTS		Lab ID: 2628595020		Collected: 02/01/20 14:16	Received: 02/04/20 10:48	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0077J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/13/20 19:27	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628595

Sample: T1-2HT		Lab ID: 2628595021		Collected: 02/01/20 14:20	Received: 02/04/20 10:48	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.0062J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 18:20	7440-38-2	D3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628595

QC Batch: 43170 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628595001, 2628595002, 2628595003, 2628595004, 2628595005, 2628595006, 2628595007, 2628595008,
 2628595009, 2628595010, 2628595011, 2628595012, 2628595013, 2628595014, 2628595015, 2628595016,
 2628595017, 2628595018, 2628595019, 2628595020

METHOD BLANK: 197294 Matrix: Water
 Associated Lab Samples: 2628595001, 2628595002, 2628595003, 2628595004, 2628595005, 2628595006, 2628595007, 2628595008,
 2628595009, 2628595010, 2628595011, 2628595012, 2628595013, 2628595014, 2628595015, 2628595016,
 2628595017, 2628595018, 2628595019, 2628595020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/13/20 14:03	

LABORATORY CONTROL SAMPLE: 197295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197296 197297

Parameter	Units	197296		197297		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628595003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Arsenic, Dissolved	mg/L	0.023J	0.1	0.1	0.14	0.15	122	127	75-125	3	20 M6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628595

QC Batch: 43171 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628595021

METHOD BLANK: 197298 Matrix: Water
 Associated Lab Samples: 2628595021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/12/20 18:08	

LABORATORY CONTROL SAMPLE: 197299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197300 197301

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		2628599001 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Arsenic, Dissolved	mg/L	0.0065J	0.1	0.1	0.12	0.11	111	109	75-125	2	20		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW
Pace Project No.: 2628595

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW
Pace Project No.: 2628595

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628595001	T2-1HT	EPA 3005A	43170	EPA 6020B	43193
2628595002	T2-2HTS	EPA 3005A	43170	EPA 6020B	43193
2628595003	T2-2HT	EPA 3005A	43170	EPA 6020B	43193
2628595004	T2-3HTS	EPA 3005A	43170	EPA 6020B	43193
2628595005	T2-3HT	EPA 3005A	43170	EPA 6020B	43193
2628595006	T2-4HTS	EPA 3005A	43170	EPA 6020B	43193
2628595007	T2-4HT	EPA 3005A	43170	EPA 6020B	43193
2628595008	T2-4LT	EPA 3005A	43170	EPA 6020B	43193
2628595009	T2-3LT	EPA 3005A	43170	EPA 6020B	43193
2628595010	T2-2LT	EPA 3005A	43170	EPA 6020B	43193
2628595011	T1-1LT	EPA 3005A	43170	EPA 6020B	43193
2628595012	T1-4LT	EPA 3005A	43170	EPA 6020B	43193
2628595013	T1-3LT	EPA 3005A	43170	EPA 6020B	43193
2628595014	T1-2LT	EPA 3005A	43170	EPA 6020B	43193
2628595015	T1-4HTS	EPA 3005A	43170	EPA 6020B	43193
2628595016	T1-4HT	EPA 3005A	43170	EPA 6020B	43193
2628595017	T1-3HTS	EPA 3005A	43170	EPA 6020B	43193
2628595018	T1-3HT	EPA 3005A	43170	EPA 6020B	43193
2628595019	T1-1HT	EPA 3005A	43170	EPA 6020B	43193
2628595020	T1-2HTS	EPA 3005A	43170	EPA 6020B	43193
2628595021	T1-2HT	EPA 3005A	43171	EPA 6020B	43192

REPORT OF LABORATORY ANALYSIS

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[Handwritten signature]
Date: 1/11/05

CHAIN OF CUSTODY BY Analytical Request By
The Chain of Custody # 41154, 306, and 411 are returned with you

NO#: 2628595
2/2/05

Client Name: General Public	Project Name: General Public	Sample Name: General Public
Client Address: 10000 1st St	City: San Diego	State: CA
Client Phone: 619-555-1234	Client Email: genpub@city.com	Sample Date: 1/11/05
Analyst: [Signature]	Supervisor: [Signature]	QA: [Signature]

ITEM #	DESCRIPTION	COLLECTOR	DATE	ANALYSIS											
				1	2	3	4	5	6	7	8	9	10	11	12

1	WATER-SAMPLE	1	1/11/05																			
2	WATER-SAMPLE	1	1/11/05																			
3	WATER-SAMPLE	1	1/11/05																			
4	WATER-SAMPLE	1	1/11/05																			
5	WATER-SAMPLE	1	1/11/05																			
6	WATER-SAMPLE	1	1/11/05																			
7	WATER-SAMPLE	1	1/11/05																			
8	WATER-SAMPLE	1	1/11/05																			
9	WATER-SAMPLE	1	1/11/05																			
10	WATER-SAMPLE	1	1/11/05																			

ANALYST: *[Signature]* CHAIN OF CUSTODY: *[Signature]*

DATE: 1/11/05 LOCATION: *[Handwritten]*

LABORATORY: *[Handwritten]* PROJECT: *[Handwritten]*

Signature
Date: 10/1/11

CHAIN OF CUSTODY / ANALYSIS REQUEST FOR THE SUBSTANCE
This Substance is a 1014, 200 UNIFORM NUMBER 11 11 11

MO# : 2628595
 PR : 104 Date Rec'd : 12/08/10
 CLIENT : 21-021 Power

Sample 1 **Sample 2**

Original Date/Location: Original Project/Reference:

Collector: *Project Name* *Sample ID* *Sample Name*

Client: *Client Name* *Project Name* *Sample Name*

Case # *Case #* *Project Name* *Sample Name*

Analyst: *Analyst Name* *Project Name* *Sample Name*

Lab # *Lab #* *Project Name* *Sample Name*

SAMPLE NO	Description	Type	CONCENTRATIONS				% TOTAL	REMARKS	ANALYSIS	DATE	LAB	ANALYST
			mg/L	ug/L	ug/g	ug/kg						
T1-4145
T2-4145
T3-4145
T4-4145
T5-4145
T6-4145
T7-4145
T8-4145
T9-4145
T10-4145

Chain of Custody

Original Date/Location: Original Project/Reference:

Collector: *Project Name* *Sample ID* *Sample Name*

Client: *Client Name* *Project Name* *Sample Name*

Case # *Case #* *Project Name* *Sample Name*

Analyst: *Analyst Name* *Project Name* *Sample Name*

Lab # *Lab #* *Project Name* *Sample Name*

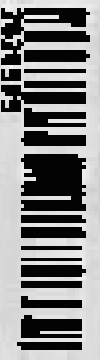
Signature *Signature* *Signature*

Date *Date* *Date*



CHAIN-OF-CUSTODY / ANALYTICAL REQUEST
The Standard Form 115-1 (Rev. 10/2004) is an optional form.

W0# - 2628595



LABORERS

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Section 100

Form header and metadata fields including Agency, Request Number, Date, and various checkboxes for sample handling and analysis.

Table with columns for Sample ID, Description, Location, and various tracking fields. Includes handwritten entries for 'SAMPLE ID' and 'DESCRIPTION'.

Main data table with multiple rows and columns for recording sample details, including dates, times, and locations. Contains handwritten entries for 'DATE', 'TIME', and 'LOCATION'.

Handwritten notes and signatures in the left margin, including the name 'A. Davis' and various illegible signatures.

Form footer section containing administrative fields, checkboxes, and a signature line.



February 06, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628598

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW

Pace Project No.: 2628598

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW

Pace Project No.: 2628598

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628598001	T1-1LT	Water	02/01/20 09:50	02/04/20 08:00
2628598002	T1-4LT	Water	02/01/20 09:56	02/04/20 08:00
2628598003	T1-3LT	Water	02/01/20 10:06	02/04/20 08:00
2628598004	T1-2LT	Water	02/01/20 10:16	02/04/20 08:00
2628598005	T1-4HTS	Water	02/01/20 13:34	02/04/20 08:00
2628598006	T1-4HT	Water	02/01/20 13:40	02/04/20 08:00
2628598007	T1-3HTS	Water	02/01/20 13:52	02/04/20 08:00
2628598008	T1-3HT	Water	02/01/20 13:56	02/04/20 08:00
2628598009	T1-1HT	Water	02/01/20 14:08	02/04/20 08:00
2628598010	T1-2HTS	Water	02/01/20 14:16	02/04/20 08:00
2628598011	T1-2HT	Water	02/01/20 14:20	02/04/20 08:00

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
Pace Project No.: 2628598

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628598001	T1-1LT	EPA 6020B	CSW	1
2628598002	T1-4LT	EPA 6020B	CSW	1
2628598003	T1-3LT	EPA 6020B	CSW	1
2628598004	T1-2LT	EPA 6020B	CSW	1
2628598005	T1-4HTS	EPA 6020B	CSW	1
2628598006	T1-4HT	EPA 6020B	CSW	1
2628598007	T1-3HTS	EPA 6020B	CSW	1
2628598008	T1-3HT	EPA 6020B	CSW	1
2628598009	T1-1HT	EPA 6020B	CSW	1
2628598010	T1-2HTS	EPA 6020B	CSW	1
2628598011	T1-2HT	EPA 6020B	CSW	1

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SUMMARY OF DETECTION

Project: Plant McManus SW
 Pace Project No.: 2628598

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628598002	T1-4LT					
EPA 6020B	Arsenic	0.0055J	mg/L	0.050	02/05/20 18:49	
2628598003	T1-3LT					
EPA 6020B	Arsenic	0.0039J	mg/L	0.050	02/05/20 18:55	
2628598005	T1-4HTS					
EPA 6020B	Arsenic	0.0037J	mg/L	0.050	02/05/20 19:06	
2628598006	T1-4HT					
EPA 6020B	Arsenic	0.0059J	mg/L	0.050	02/05/20 19:23	
2628598007	T1-3HTS					
EPA 6020B	Arsenic	0.0044J	mg/L	0.050	02/05/20 19:29	
2628598008	T1-3HT					
EPA 6020B	Arsenic	0.0052J	mg/L	0.050	02/05/20 19:35	
2628598009	T1-1HT					
EPA 6020B	Arsenic	0.0050J	mg/L	0.050	02/05/20 19:41	
2628598010	T1-2HTS					
EPA 6020B	Arsenic	0.0060J	mg/L	0.050	02/05/20 19:46	
2628598011	T1-2HT					
EPA 6020B	Arsenic	0.0049J	mg/L	0.050	02/05/20 19:52	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-1LT		Lab ID: 2628598001		Collected: 02/01/20 09:50	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 18:26	7440-38-2		

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-4LT		Lab ID: 2628598002		Collected: 02/01/20 09:56	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0055J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 18:49	7440-38-2		

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-3LT		Lab ID: 2628598003		Collected: 02/01/20 10:06		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0039J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 18:55	7440-38-2	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-2LT		Lab ID: 2628598004		Collected: 02/01/20 10:16	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	ND	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:00	7440-38-2		

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-4HTS		Lab ID: 2628598005		Collected: 02/01/20 13:34		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0037J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:06	7440-38-2	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-4HT		Lab ID: 2628598006		Collected: 02/01/20 13:40	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0059J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:23	7440-38-2		

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-3HTS		Lab ID: 2628598007		Collected: 02/01/20 13:52		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0044J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:29	7440-38-2	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-3HT		Lab ID: 2628598008		Collected: 02/01/20 13:56		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0052J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:35	7440-38-2	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-1HT		Lab ID: 2628598009		Collected: 02/01/20 14:08	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0050J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:41	7440-38-2		

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-2HTS		Lab ID: 2628598010		Collected: 02/01/20 14:16	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0060J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:46	7440-38-2		

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628598

Sample: T1-2HT		Lab ID: 2628598011		Collected: 02/01/20 14:20	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0049J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:52	7440-38-2		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628598

QC Batch: 42836 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628598001, 2628598002, 2628598003, 2628598004, 2628598005, 2628598006, 2628598007, 2628598008, 2628598009, 2628598010, 2628598011

METHOD BLANK: 195730 Matrix: Water
 Associated Lab Samples: 2628598001, 2628598002, 2628598003, 2628598004, 2628598005, 2628598006, 2628598007, 2628598008, 2628598009, 2628598010, 2628598011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/05/20 18:15	

LABORATORY CONTROL SAMPLE: 195731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 195732 195733

Parameter	Units	2628598001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	0.1	0.1	0.11	0.099	106	96	75-125	9	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW
Pace Project No.: 2628598

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW

Pace Project No.: 2628598

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628598001	T1-1LT	EPA 3005A	42836	EPA 6020B	42909
2628598002	T1-4LT	EPA 3005A	42836	EPA 6020B	42909
2628598003	T1-3LT	EPA 3005A	42836	EPA 6020B	42909
2628598004	T1-2LT	EPA 3005A	42836	EPA 6020B	42909
2628598005	T1-4HTS	EPA 3005A	42836	EPA 6020B	42909
2628598006	T1-4HT	EPA 3005A	42836	EPA 6020B	42909
2628598007	T1-3HTS	EPA 3005A	42836	EPA 6020B	42909
2628598008	T1-3HT	EPA 3005A	42836	EPA 6020B	42909
2628598009	T1-1HT	EPA 3005A	42836	EPA 6020B	42909
2628598010	T1-2HTS	EPA 3005A	42836	EPA 6020B	42909
2628598011	T1-2HT	EPA 3005A	42836	EPA 6020B	42909

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request
 The Chain-of-Custody is a LEGAL DOCUMENT. It is not a receipt.

WO# : 2628598



Section A - Requester Information

Company: City of Chicago
 Address: 100 North Dearborn Parkway
 City: Chicago, IL 60642
 Phone: (312) 769-1700 Fax: 312
 Requestor Name: [Signature]

Section B - Sample Information

Sample ID: [Blank]
 Sample Description: [Blank]
 Date of Collection: [Blank]
 Location: [Blank]
 Requestor Signature: [Signature]
 Date: [Blank]

SAMPLE ID	DESCRIPTION	COLLECTOR		ANALYST		LABORATORY		TESTS		DATE	TIME	REMARKS
		NAME	TYPE	NAME	TYPE	NAME	TYPE	NAME	TYPE			
MACM-CO-11	MACM-CO-11	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	1/15/10	10:30	[Blank]
TL-111	TL-111	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-112	TL-112	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-113	TL-113	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-114	TL-114	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-115	TL-115	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-116	TL-116	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-117	TL-117	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-118	TL-118	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-119	TL-119	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]
TL-120	TL-120	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	2/10/10	10:30	[Blank]

Section C - Laboratory Information

Lab Name: Chicago Police Department
 Lab Address: 100 North Dearborn Parkway
 Lab Phone: (312) 769-1700
 Lab Fax: 312
 Lab Director: [Signature]
 Lab Analyst: [Signature]
 Lab Date: 2/10/10
 Lab Time: 10:30
 Lab Remarks: [Blank]

Section D - Signatures

Requester Signature: [Signature]
 Analyst Signature: [Signature]
 Date: 2/10/10
 Time: 10:30



CHAIN-OF-CUSTODY / Analytical Request Detail
The Court-Custody & Legal Document Administration Center

W0#: 2628598

PH: 104 Run Date: 02/03/20
CLIENT: 24-CA-Foster

Request # _____ Requester Name _____ Requester Title _____

Request Date _____ Requested Date _____ Requested Date Code _____

Requester Address _____ Requester Phone _____ Requester Email _____

Requester City _____ Requester State _____ Requester Zip _____

Requester Fax _____ Requester Cell _____ Requester Pager _____

Requester Email _____ Requester Mobile _____ Requester Other _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

SAMPLE ID	DESCRIPTION	QTY	UNIT	DATE	TIME	BY	REMARKS	COLLECTOR		PREPARED BY	DATE	TIME	BY	REMARKS
								NAME	PHONE					
1	TS-2-NR	1	g	02/03/20	10:00	John Doe	Sample 1	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
2	TS-1-NR	1	g	02/03/20	10:00	John Doe	Sample 2	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
3	MCN-OS-NR	1	g	02/03/20	10:00	John Doe	Sample 3	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
4	MCN-OS-NR	1	g	02/03/20	10:00	John Doe	Sample 4	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
5	TS-4-NR	1	g	02/03/20	10:00	John Doe	Sample 5	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
6	TS-3-NR	1	g	02/03/20	10:00	John Doe	Sample 6	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
7	TS-2-NR	1	g	02/03/20	10:00	John Doe	Sample 7	John Doe	John Doe	John Doe	10:00	10:00	John Doe	
8	Dup 1	1	g	02/03/20	10:00	John Doe	Sample 8	John Doe	John Doe	John Doe	10:00	10:00	John Doe	

Requester Name: _____ Requester Title: _____ Requester Phone: _____

Requester Address: _____ Requester City: _____ Requester State: _____ Requester Zip: _____

Requester Email: _____ Requester Fax: _____ Requester Cell: _____ Requester Pager: _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____

Requester Job # _____ Requester Job Title _____ Requester Job Description _____

Requester Project # _____ Requester Manager _____ Requester Supervisor _____



CHAIN-OF-CUSTODY / Analytical Request Doc
 This Chain-of-Custody is a LEGAL DOCUMENT. All information herein must be true & correct.

WO# : 2628598

WIN RM Date Date: 02/09/20

CLIENT: 28-GA Request

Section 1
 Analytical Request Information
 Client: Georgia Dept of Transportation
 Project: I-75 Rehabilitation Project
 Site: I-75, Interchange 106, Macon, GA
 Requested Date: 02/09/20

Section 2
 Sampling Location Information
 Location: I-75, Interchange 106, Macon, GA
 Date: 02/09/20
 Time: 14:30

Section 3
 Sampling Personnel Information
 Name: [Redacted]
 Title: [Redacted]
 Signature: [Redacted]

ITEM #	DESCRIPTION	COLLECTED		ANALYZED		LABORATORY	DATE	TIME	ANALYST	REMARKS
		DATE	TIME	DATE	TIME					
1	T2-4MT									
2	MCN-CALIT Asphal									
3	MCN-CALIT									
4	T2-4MT									
5	T2-3MT									
6	T2-2MT									
7	T3-4MTS									
8	T3-4MT									
9	T3-3MTS									
10	T3-3MT									
11	T3-2MTS									
12	MCN-CALIT Asphal									

Section 4
 Chain of Custody Signatures
 Name: [Redacted]
 Title: [Redacted]
 Signature: [Redacted]

Section 5
 Laboratory Information
 Name: [Redacted]
 Address: [Redacted]
 Phone: [Redacted]

Section 6
 Date: 02/09/20
 Time: 14:30

Section 7
 Analyst: [Redacted]

Section 8
 Remarks: K. Wellington / Rice 2/4/20 0800 14 Y Y Y



CHAIN-OF-CUSTODY / ANALYTICAL REQUEST DOCUMENT

WON#: 2628598

PM RM Day Date: 02/05/20
CLIENT: 30-GA Power

Section A
 Analytical Request Information
 Company: Georgia Power
 Request No: 10101010
 Request Date: 02/05/20
 Requested For: 30-GA Power

Section B
 Sample Information
 Sample ID: 10101010
 Sample Description: 30-GA Power
 Sample Location: 30-GA Power
 Sample Quantity: 10101010
 Sample Date: 02/05/20

SAMPLE ID	Description	Quantity	Unit	Collection		Preservation		Remarks
				DATE	TIME	TEMP	TYPE	
TS-2-105
TS-2-106
TS-2-107
TS-2-108
TS-2-109
TS-2-110
TS-2-111
TS-2-112
TS-2-113
TS-2-114
TS-2-115
TS-2-116
TS-2-117
TS-2-118
TS-2-119
TS-2-120

Section C
 Chain of Custody
 Date: 02/05/20
 Time: 10:00
 Location: 30-GA Power
 Signature: [Signature]
 Title: [Title]

Section D
 Analytical Results
 Method: [Method]
 Results: [Results]

FOR OFFICIAL USE ONLY

Client Name: George Fowler

MO#: **2628598**

Equipment: FM Ex IFS USPS Cable Commercial Other
 Tracking #: _____
 Client # _____
 Date: MO: _____ Date Paid: 02/05/20

Shipping Method: Insured Signature Required Signature Required Signature Required Signature Required

DATE THE ORDER IS RECEIVED AT THE OFFICE OF THE DIRECTOR OF THE ARMY CORPUS OF ENGINEERS
 1. SIGNATURE OF THE DIRECTOR OF THE ARMY CORPUS OF ENGINEERS
 2. SIGNATURE OF THE DIRECTOR OF THE ARMY CORPUS OF ENGINEERS

Order #	Description	Qty	Unit Price	Total Price	Tax	Notes
001	Order of Circuit Breaker	1	100.00	100.00		
002	Order of Circuit Breaker	1	100.00	100.00		
003	Order of Circuit Breaker	1	100.00	100.00		
004	Order of Circuit Breaker	1	100.00	100.00		
005	Order of Circuit Breaker	1	100.00	100.00		
006	Order of Circuit Breaker	1	100.00	100.00		
007	Order of Circuit Breaker	1	100.00	100.00		
008	Order of Circuit Breaker	1	100.00	100.00		
009	Order of Circuit Breaker	1	100.00	100.00		
010	Order of Circuit Breaker	1	100.00	100.00		
011	Order of Circuit Breaker	1	100.00	100.00		
012	Order of Circuit Breaker	1	100.00	100.00		
013	Order of Circuit Breaker	1	100.00	100.00		
014	Order of Circuit Breaker	1	100.00	100.00		
015	Order of Circuit Breaker	1	100.00	100.00		
016	Order of Circuit Breaker	1	100.00	100.00		
017	Order of Circuit Breaker	1	100.00	100.00		
018	Order of Circuit Breaker	1	100.00	100.00		
019	Order of Circuit Breaker	1	100.00	100.00		
020	Order of Circuit Breaker	1	100.00	100.00		
021	Order of Circuit Breaker	1	100.00	100.00		
022	Order of Circuit Breaker	1	100.00	100.00		
023	Order of Circuit Breaker	1	100.00	100.00		
024	Order of Circuit Breaker	1	100.00	100.00		
025	Order of Circuit Breaker	1	100.00	100.00		
026	Order of Circuit Breaker	1	100.00	100.00		
027	Order of Circuit Breaker	1	100.00	100.00		
028	Order of Circuit Breaker	1	100.00	100.00		
029	Order of Circuit Breaker	1	100.00	100.00		
030	Order of Circuit Breaker	1	100.00	100.00		
031	Order of Circuit Breaker	1	100.00	100.00		
032	Order of Circuit Breaker	1	100.00	100.00		
033	Order of Circuit Breaker	1	100.00	100.00		
034	Order of Circuit Breaker	1	100.00	100.00		
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037	Order of Circuit Breaker	1	100.00	100.00		
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040	Order of Circuit Breaker	1	100.00	100.00		
041	Order of Circuit Breaker	1	100.00	100.00		
042	Order of Circuit Breaker	1	100.00	100.00		
043	Order of Circuit Breaker	1	100.00	100.00		
044	Order of Circuit Breaker	1	100.00	100.00		
045	Order of Circuit Breaker	1	100.00	100.00		
046	Order of Circuit Breaker	1	100.00	100.00		
047	Order of Circuit Breaker	1	100.00	100.00		
048	Order of Circuit Breaker	1	100.00	100.00		
049	Order of Circuit Breaker	1	100.00	100.00		
050	Order of Circuit Breaker	1	100.00	100.00		
051	Order of Circuit Breaker	1	100.00	100.00		
052	Order of Circuit Breaker	1	100.00	100.00		
053	Order of Circuit Breaker	1	100.00	100.00		
054	Order of Circuit Breaker	1	100.00	100.00		
055	Order of Circuit Breaker	1	100.00	100.00		
056	Order of Circuit Breaker	1	100.00	100.00		
057	Order of Circuit Breaker	1	100.00	100.00		
058	Order of Circuit Breaker	1	100.00	100.00		
059	Order of Circuit Breaker	1	100.00	100.00		
060	Order of Circuit Breaker	1	100.00	100.00		
061	Order of Circuit Breaker	1	100.00	100.00		
062	Order of Circuit Breaker	1	100.00	100.00		
063	Order of Circuit Breaker	1	100.00	100.00		
064	Order of Circuit Breaker	1	100.00	100.00		
065	Order of Circuit Breaker	1	100.00	100.00		
066	Order of Circuit Breaker	1	100.00	100.00		
067	Order of Circuit Breaker	1	100.00	100.00		
068	Order of Circuit Breaker	1	100.00	100.00		
069	Order of Circuit Breaker	1	100.00	100.00		
070	Order of Circuit Breaker	1	100.00	100.00		
071	Order of Circuit Breaker	1	100.00	100.00		
072	Order of Circuit Breaker	1	100.00	100.00		
073	Order of Circuit Breaker	1	100.00	100.00		
074	Order of Circuit Breaker	1	100.00	100.00		
075	Order of Circuit Breaker	1	100.00	100.00		
076	Order of Circuit Breaker	1	100.00	100.00		
077	Order of Circuit Breaker	1	100.00	100.00		
078	Order of Circuit Breaker	1	100.00	100.00		
079	Order of Circuit Breaker	1	100.00	100.00		
080	Order of Circuit Breaker	1	100.00	100.00		
081	Order of Circuit Breaker	1	100.00	100.00		
082	Order of Circuit Breaker	1	100.00	100.00		
083	Order of Circuit Breaker	1	100.00	100.00		
084	Order of Circuit Breaker	1	100.00	100.00		
085	Order of Circuit Breaker	1	100.00	100.00		
086	Order of Circuit Breaker	1	100.00	100.00		
087	Order of Circuit Breaker	1	100.00	100.00		
088	Order of Circuit Breaker	1	100.00	100.00		
089	Order of Circuit Breaker	1	100.00	100.00		
090	Order of Circuit Breaker	1	100.00	100.00		
091	Order of Circuit Breaker	1	100.00	100.00		
092	Order of Circuit Breaker	1	100.00	100.00		
093	Order of Circuit Breaker	1	100.00	100.00		
094	Order of Circuit Breaker	1	100.00	100.00		
095	Order of Circuit Breaker	1	100.00	100.00		
096	Order of Circuit Breaker	1	100.00	100.00		
097	Order of Circuit Breaker	1	100.00	100.00		
098	Order of Circuit Breaker	1	100.00	100.00		
099	Order of Circuit Breaker	1	100.00	100.00		
100	Order of Circuit Breaker	1	100.00	100.00		

Direct Material Description: _____
 Quantity: _____
 Comments: _____
 Project #1: _____
 Date: _____

Notes: Please refer to the drawing for details. (Drawing reference number is copy of the drawing in the field. Contact the field office for more information. 4/1/02) (Rev. 10/2000)



February 13, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628599

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW

Pace Project No.: 2628599

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW

Pace Project No.: 2628599

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628599001	T3-4HTS	Water	02/02/20 13:44	02/04/20 08:00
2628599002	T3-4HT	Water	02/02/20 13:50	02/04/20 08:00
2628599003	T3-3HTS	Water	02/02/20 14:08	02/04/20 08:00
2628599004	T3-3HT	Water	02/02/20 14:10	02/04/20 08:00
2628599005	T3-2HTS	Water	02/02/20 14:28	02/04/20 08:00
2628599006	T3-2HT	Water	02/02/20 14:34	02/04/20 08:00
2628599007	T3-1HT	Water	02/02/20 14:35	02/04/20 08:00
2628599008	T3-4LT	Water	02/03/20 10:40	02/04/20 08:00
2628599009	T3-3LT	Water	02/03/20 12:12	02/04/20 08:00
2628599010	T3-2LT	Water	02/03/20 13:30	02/04/20 08:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW

Pace Project No.: 2628599

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628599001	T3-4HTS	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599002	T3-4HT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599003	T3-3HTS	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599004	T3-3HT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599005	T3-2HTS	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599006	T3-2HT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599007	T3-1HT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599008	T3-4LT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599009	T3-3LT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1
2628599010	T3-2LT	EPA 6020B	CSW	1
		EPA 6020B	CSW	1

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW
 Pace Project No.: 2628599

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628599001	T3-4HTS					
EPA 6020B	Arsenic	0.0065J	mg/L	0.050	02/05/20 19:58	
EPA 6020B	Arsenic, Dissolved	0.0047J	mg/L	0.050	02/12/20 18:25	D3
2628599002	T3-4HT					
EPA 6020B	Arsenic	0.0064J	mg/L	0.050	02/05/20 20:03	
EPA 6020B	Arsenic, Dissolved	0.0084J	mg/L	0.050	02/12/20 18:48	D3
2628599003	T3-3HTS					
EPA 6020B	Arsenic	0.0072J	mg/L	0.050	02/05/20 20:09	
EPA 6020B	Arsenic, Dissolved	0.0065J	mg/L	0.050	02/12/20 18:54	D3
2628599004	T3-3HT					
EPA 6020B	Arsenic	0.0058J	mg/L	0.050	02/05/20 20:15	
EPA 6020B	Arsenic, Dissolved	0.0061J	mg/L	0.050	02/12/20 19:00	D3
2628599005	T3-2HTS					
EPA 6020B	Arsenic	0.0054J	mg/L	0.050	02/05/20 20:32	
EPA 6020B	Arsenic, Dissolved	0.0068J	mg/L	0.050	02/12/20 19:17	D3
2628599006	T3-2HT					
EPA 6020B	Arsenic	0.0056J	mg/L	0.050	02/05/20 20:38	
EPA 6020B	Arsenic, Dissolved	0.0065J	mg/L	0.050	02/12/20 19:23	D3
2628599007	T3-1HT					
EPA 6020B	Arsenic	0.0066J	mg/L	0.050	02/05/20 20:44	
EPA 6020B	Arsenic, Dissolved	0.0061J	mg/L	0.050	02/12/20 19:28	D3
2628599008	T3-4LT					
EPA 6020B	Arsenic	0.0048J	mg/L	0.050	02/05/20 20:49	
EPA 6020B	Arsenic, Dissolved	0.0065J	mg/L	0.050	02/12/20 19:34	D3
2628599009	T3-3LT					
EPA 6020B	Arsenic	0.0052J	mg/L	0.050	02/05/20 20:55	
EPA 6020B	Arsenic, Dissolved	0.0062J	mg/L	0.050	02/12/20 19:40	D3
2628599010	T3-2LT					
EPA 6020B	Arsenic	0.0044J	mg/L	0.050	02/06/20 19:10	D3
EPA 6020B	Arsenic, Dissolved	0.0047J	mg/L	0.050	02/12/20 19:45	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-4HTS		Lab ID: 2628599001		Collected: 02/02/20 13:44	Received: 02/04/20 08:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0065J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 19:58	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0047J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 18:25	7440-38-2	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-4HT		Lab ID: 2628599002		Collected: 02/02/20 13:50		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0064J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:03	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0084J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 18:48	7440-38-2	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628599

Sample: T3-3HTS		Lab ID: 2628599003		Collected: 02/02/20 14:08	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0072J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:09	7440-38-2		
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.0065J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 18:54	7440-38-2	D3	

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-3HT		Lab ID: 2628599004		Collected: 02/02/20 14:10	Received: 02/04/20 08:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic	0.0058J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:15	7440-38-2		
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A								
Arsenic, Dissolved	0.0061J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:00	7440-38-2	D3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-2HTS		Lab ID: 2628599005		Collected: 02/02/20 14:28		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0054J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:32	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0068J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:17	7440-38-2	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-2HT		Lab ID: 2628599006		Collected: 02/02/20 14:34	Received: 02/04/20 08:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0056J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:38	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0065J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:23	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-1HT		Lab ID: 2628599007		Collected: 02/02/20 14:35	Received: 02/04/20 08:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0066J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:44	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0061J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:28	7440-38-2	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-4LT		Lab ID: 2628599008		Collected: 02/03/20 10:40		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0048J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:49	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0065J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:34	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-3LT		Lab ID: 2628599009		Collected: 02/03/20 12:12	Received: 02/04/20 08:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0052J	mg/L	0.050	0.0035	10	02/04/20 21:50	02/05/20 20:55	7440-38-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0062J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:40	7440-38-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628599

Sample: T3-2LT		Lab ID: 2628599010		Collected: 02/03/20 13:30		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0044J	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 19:10	7440-38-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0047J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:45	7440-38-2	D3

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628599

QC Batch: 42836 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628599001, 2628599002, 2628599003, 2628599004, 2628599005, 2628599006, 2628599007, 2628599008, 2628599009

METHOD BLANK: 195730 Matrix: Water
 Associated Lab Samples: 2628599001, 2628599002, 2628599003, 2628599004, 2628599005, 2628599006, 2628599007, 2628599008, 2628599009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/05/20 18:15	

LABORATORY CONTROL SAMPLE: 195731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.097	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 195732 195733

Parameter	Units	2628598001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	0.1	0.1	0.11	0.099	106	96	75-125	9	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628599

QC Batch: 42953 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628599010

METHOD BLANK: 196325 Matrix: Water
 Associated Lab Samples: 2628599010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/06/20 18:59	

LABORATORY CONTROL SAMPLE: 196326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 196330 196331

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628600001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0061J	0.1	0.1	0.11	0.11	110	107	75-125	3	20

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628599

QC Batch: 43171 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628599001, 2628599002, 2628599003, 2628599004, 2628599005, 2628599006, 2628599007, 2628599008, 2628599009, 2628599010

METHOD BLANK: 197298 Matrix: Water
 Associated Lab Samples: 2628599001, 2628599002, 2628599003, 2628599004, 2628599005, 2628599006, 2628599007, 2628599008, 2628599009, 2628599010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/12/20 18:08	

LABORATORY CONTROL SAMPLE: 197299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.10	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197300 197301

Parameter	Units	2628599001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0065J	0.1	0.1	0.12	0.11	111	109	75-125	2	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Plant McManus SW
Pace Project No.: 2628599

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW
Pace Project No.: 2628599

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628599001	T3-4HTS	EPA 3005A	42836	EPA 6020B	42909
2628599002	T3-4HT	EPA 3005A	42836	EPA 6020B	42909
2628599003	T3-3HTS	EPA 3005A	42836	EPA 6020B	42909
2628599004	T3-3HT	EPA 3005A	42836	EPA 6020B	42909
2628599005	T3-2HTS	EPA 3005A	42836	EPA 6020B	42909
2628599006	T3-2HT	EPA 3005A	42836	EPA 6020B	42909
2628599007	T3-1HT	EPA 3005A	42836	EPA 6020B	42909
2628599008	T3-4LT	EPA 3005A	42836	EPA 6020B	42909
2628599009	T3-3LT	EPA 3005A	42836	EPA 6020B	42909
2628599010	T3-2LT	EPA 3005A	42953	EPA 6020B	42956
2628599001	T3-4HTS	EPA 3005A	43171	EPA 6020B	43192
2628599002	T3-4HT	EPA 3005A	43171	EPA 6020B	43192
2628599003	T3-3HTS	EPA 3005A	43171	EPA 6020B	43192
2628599004	T3-3HT	EPA 3005A	43171	EPA 6020B	43192
2628599005	T3-2HTS	EPA 3005A	43171	EPA 6020B	43192
2628599006	T3-2HT	EPA 3005A	43171	EPA 6020B	43192
2628599007	T3-1HT	EPA 3005A	43171	EPA 6020B	43192
2628599008	T3-4LT	EPA 3005A	43171	EPA 6020B	43192
2628599009	T3-3LT	EPA 3005A	43171	EPA 6020B	43192
2628599010	T3-2LT	EPA 3005A	43171	EPA 6020B	43192

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CHAIN-OF-CUSTODY / Analytical Request ID
 The Chain of Custody is a legal document that provides a record of the handling of evidence from the time it is collected until it is analyzed in the laboratory.

LABORATORY #01
LABORATORY #02
LABORATORY #03
LABORATORY #04
LABORATORY #05
LABORATORY #06
LABORATORY #07
LABORATORY #08
LABORATORY #09
LABORATORY #10
LABORATORY #11
LABORATORY #12
LABORATORY #13
LABORATORY #14
LABORATORY #15
LABORATORY #16
LABORATORY #17
LABORATORY #18
LABORATORY #19
LABORATORY #20

W0# : 2628599

Section I
 Requesting Agency Information
 Agency Name: Orange County Sheriff's Office
 Address: 1011 West Orange Blvd, Orange, CA 92668
 Contact: Det. [Name]
 Date: 01/14/2014
 Requested By: [Name]
 Requested For: [Name]

Section II
 Requesting Agency Information
 Agency Name: Orange County Sheriff's Office
 Address: 1011 West Orange Blvd, Orange, CA 92668
 Contact: Det. [Name]
 Date: 01/14/2014
 Requested By: [Name]
 Requested For: [Name]

Section III
 Requesting Agency Information
 Agency Name: Orange County Sheriff's Office
 Address: 1011 West Orange Blvd, Orange, CA 92668
 Contact: Det. [Name]
 Date: 01/14/2014
 Requested By: [Name]
 Requested For: [Name]

SAMPLE ID	Description	Quantity	Collection		Date/Time	Collector	Witness	Remarks	Status
			From	To					
T1-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T2-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T3-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T4-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T5-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T6-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T7-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T8-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T9-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T10-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T11-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T12-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T13-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T14-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T15-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T16-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T17-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T18-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T19-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y
T20-4445	MEGA-CHIT Ampul	1	MEGA-CHIT Ampul		01/14/2014	[Name]	[Name]		Y

Section IV
 Requesting Agency Information
 Agency Name: Orange County Sheriff's Office
 Address: 1011 West Orange Blvd, Orange, CA 92668
 Contact: Det. [Name]
 Date: 01/14/2014
 Requested By: [Name]
 Requested For: [Name]

Section V
 Requesting Agency Information
 Agency Name: Orange County Sheriff's Office
 Address: 1011 West Orange Blvd, Orange, CA 92668
 Contact: Det. [Name]
 Date: 01/14/2014
 Requested By: [Name]
 Requested For: [Name]

Section VI
 Requesting Agency Information
 Agency Name: Orange County Sheriff's Office
 Address: 1011 West Orange Blvd, Orange, CA 92668
 Contact: Det. [Name]
 Date: 01/14/2014
 Requested By: [Name]
 Requested For: [Name]

Redwood
LABORATORY

UNLABELED CUSTODY Analytical Request Dr
The Client and Carriers must SIGN, indicating as to what extent:

Lot# 2628599
MR. NAME: [Redacted] Date Recd: 02/07/00
CLIENT: [Redacted]

Request # [Redacted]
Client Name [Redacted]
Order # [Redacted]
Order Date [Redacted]
Request Date [Redacted]
Request Time [Redacted]
Request Location [Redacted]
Requester Name [Redacted]
Requester Title [Redacted]
Requester Phone [Redacted]
Requester Fax [Redacted]
Requester Email [Redacted]
Requester Address [Redacted]
Requester City [Redacted]
Requester State [Redacted]
Requester Zip [Redacted]
Requester Country [Redacted]
Requester Comments [Redacted]

ITEM #	SAMPLE ID Can this be removed? [Redacted]	[Redacted]	[Redacted]	[Redacted]	VOL. (L)			Analytical Request							[Redacted]									
					Initial	Final	Residue	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]		[Redacted]								
TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111	TR-111		
TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	TR-112	
TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113	TR-113
TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114	TR-114
TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115	TR-115
TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116	TR-116
TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117	TR-117
TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118	TR-118
TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119	TR-119
TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120	TR-120
TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121	TR-121
TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122	TR-122

Call only

Requester Name [Redacted]
Requester Title [Redacted]
Requester Phone [Redacted]
Requester Fax [Redacted]
Requester Email [Redacted]
Requester Address [Redacted]
Requester City [Redacted]
Requester State [Redacted]
Requester Zip [Redacted]
Requester Country [Redacted]
Requester Comments [Redacted]



CHAIN OF CUSTODY / Analytical Request Doc

MO#: 2628599

PM 104 Date Rec'd: 02/07/20
CLIENT: 38-00 Pender

Client Name	38-00 Pender	Project Name	
Client Address		Project Address	
Client Phone		Project Phone	
Client Email		Project Email	
Client Representative		Project Representative	
Client Signature		Project Signature	

ITEM #	DESCRIPTION	ANALYSIS	QUANTITIES		REMARKS	DATE	INITIALS	SIGNATURE
			REQD	ACTL				
1	MECHANICAL	...	1	1				
2	1	1				
3	1	1				
4	1	1				
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35	1	1				
36	1	1				
37	1	1				
38	1	1				
39	1	1				
40	1	1				

Collected by: [Handwritten Name]

Client Representative: [Handwritten Name]

Date Rec'd: 02/07/20

Client: 38-00 Pender

Client Name	38-00 Pender
Client Address	
Client Phone	
Client Email	
Client Representative	
Client Signature	

Client Name: Georgia Power

MO# : 2628599

Client: 28-00 Power
 Date: 02/27/20

Ordering #: Fed Ex UPS USPS Other Commercial Freight Other

Shipping Method: Standard Next Business Day Next Business Day Overnight Signature Required

Signature: *[Handwritten Signature]*
 Date: *[Handwritten Date]*

DATE AND SIGNATURE OF THE CUSTOMER
 Signature: *[Handwritten Signature]*

Order #	Order Description	Quantity	Unit Price	Total Price
1	24x36 Clarity Thermal	1	100.00	100.00
2	24x36 Clarity Thermal	1	100.00	100.00
3	24x36 Clarity Thermal	1	100.00	100.00
4	24x36 Clarity Thermal	1	100.00	100.00
5	24x36 Clarity Thermal	1	100.00	100.00
6	24x36 Clarity Thermal	1	100.00	100.00
7	24x36 Clarity Thermal	1	100.00	100.00
8	24x36 Clarity Thermal	1	100.00	100.00
9	24x36 Clarity Thermal	1	100.00	100.00
10	24x36 Clarity Thermal	1	100.00	100.00
11	24x36 Clarity Thermal	1	100.00	100.00
12	24x36 Clarity Thermal	1	100.00	100.00
13	24x36 Clarity Thermal	1	100.00	100.00
14	24x36 Clarity Thermal	1	100.00	100.00
15	24x36 Clarity Thermal	1	100.00	100.00
16	24x36 Clarity Thermal	1	100.00	100.00
17	24x36 Clarity Thermal	1	100.00	100.00
18	24x36 Clarity Thermal	1	100.00	100.00
19	24x36 Clarity Thermal	1	100.00	100.00
20	24x36 Clarity Thermal	1	100.00	100.00
21	24x36 Clarity Thermal	1	100.00	100.00
22	24x36 Clarity Thermal	1	100.00	100.00
23	24x36 Clarity Thermal	1	100.00	100.00
24	24x36 Clarity Thermal	1	100.00	100.00
25	24x36 Clarity Thermal	1	100.00	100.00
26	24x36 Clarity Thermal	1	100.00	100.00
27	24x36 Clarity Thermal	1	100.00	100.00
28	24x36 Clarity Thermal	1	100.00	100.00
29	24x36 Clarity Thermal	1	100.00	100.00
30	24x36 Clarity Thermal	1	100.00	100.00
31	24x36 Clarity Thermal	1	100.00	100.00
32	24x36 Clarity Thermal	1	100.00	100.00
33	24x36 Clarity Thermal	1	100.00	100.00
34	24x36 Clarity Thermal	1	100.00	100.00
35	24x36 Clarity Thermal	1	100.00	100.00
36	24x36 Clarity Thermal	1	100.00	100.00
37	24x36 Clarity Thermal	1	100.00	100.00
38	24x36 Clarity Thermal	1	100.00	100.00
39	24x36 Clarity Thermal	1	100.00	100.00
40	24x36 Clarity Thermal	1	100.00	100.00
41	24x36 Clarity Thermal	1	100.00	100.00
42	24x36 Clarity Thermal	1	100.00	100.00
43	24x36 Clarity Thermal	1	100.00	100.00
44	24x36 Clarity Thermal	1	100.00	100.00
45	24x36 Clarity Thermal	1	100.00	100.00
46	24x36 Clarity Thermal	1	100.00	100.00
47	24x36 Clarity Thermal	1	100.00	100.00
48	24x36 Clarity Thermal	1	100.00	100.00
49	24x36 Clarity Thermal	1	100.00	100.00
50	24x36 Clarity Thermal	1	100.00	100.00

Client Name: Georgia Power
 Date: _____
 Project Manager: _____
 Contract #: _____



February 14, 2020

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

RE: Project: Plant McManus SW
Pace Project No.: 2628600

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Veronica Faye, Resolute
Trent Godwin, Resolute Environmental & Water Resources
Kristen Jurinko
Lea Millet, Resolute Environmental & Water Resources
Lauren Petty, Southern Company Services, Inc.
Kevin Stephenson, Resolute Environmental & Water Resources Consulting, LLC
Stephen Wilson, Resolute Environmental & Water Resources Consulting, LLC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Plant McManus SW

Pace Project No.: 2628600

Pace Analytical Services Atlanta

110 Technology Parkway Peachtree Corners, GA 30092

Florida DOH Certification #: E87315

Georgia DW Inorganics Certification #: 812

Georgia DW Microbiology Certification #: 812

North Carolina Certification #: 381

South Carolina Certification #: 98011001

Virginia Certification #: 460204

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW
Pace Project No.: 2628600

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628600001	MCM-07LT ASHPOND	Water	02/01/20 09:40	02/04/20 08:00
2628600002	MCM-07LT	Water	02/01/20 10:15	02/04/20 08:00
2628600003	MCM-06HT ASHPOND	Water	02/01/20 13:55	02/04/20 08:00
2628600004	MCM-06HT	Water	02/01/20 13:55	02/04/20 08:00
2628600005	MCM-07HT ASHPOND	Water	02/01/20 14:20	02/04/20 08:00
2628600006	MCM-07HT	Water	02/01/20 14:20	02/04/20 08:00
2628600007	MCM-06LT ASHPOND	Water	02/02/20 08:50	02/04/20 08:00
2628600008	MCM-06LT	Water	02/02/20 09:00	02/04/20 08:00
2628600009	MCM-05HT ASHPOND	Water	02/02/20 14:30	02/04/20 08:00
2628600010	MCM-05HT	Water	02/02/20 14:46	02/04/20 08:00
2628600011	MCM-05LT ASHPOND	Water	02/03/20 09:45	02/04/20 08:00
2628600012	MCM-05LT	Water	02/03/20 09:47	02/04/20 08:00
2628600013	DUP-1	Water	02/03/20 00:00	02/04/20 08:00
2628600014	T2-1HT	Water	02/01/20 13:55	02/04/20 08:00
2628600015	T2-2HTS	Water	02/01/20 14:28	02/04/20 08:00
2628600016	T2-2HT	Water	02/01/20 14:32	02/04/20 08:00
2628600017	T2-3HTS	Water	02/01/20 14:46	02/04/20 08:00
2628600018	T2-3HT	Water	02/01/20 14:50	02/04/20 08:00
2628600019	T2-4HTS	Water	02/01/20 15:00	02/04/20 08:00
2628600020	T2-4HT	Water	02/01/20 15:14	02/04/20 08:00
2628600021	T2-4LT	Water	02/02/20 09:46	02/04/20 08:00
2628600022	T2-3LT	Water	02/02/20 11:20	02/04/20 08:00
2628600023	T2-2LT	Water	02/02/20 11:38	02/04/20 08:00
2628600024	T1-1LT	Water	02/01/20 09:50	02/04/20 08:00
2628600025	T1-4LT	Water	02/01/20 09:56	02/04/20 08:00
2628600026	T1-3LT	Water	02/01/20 10:06	02/04/20 08:00
2628600027	T1-2LT	Water	02/01/20 10:16	02/04/20 08:00
2628600028	T1-4HTS	Water	02/01/20 13:34	02/04/20 08:00
2628600029	T1-4HT	Water	02/01/20 13:40	02/04/20 08:00
2628600030	T1-3HTS	Water	02/01/20 13:52	02/04/20 08:00
2628600031	T1-3HT	Water	02/01/20 13:56	02/04/20 08:00
2628600032	T1-1HT	Water	02/01/20 14:08	02/04/20 08:00
2628600033	T1-2HTS	Water	02/01/20 14:16	02/04/20 08:00
2628600034	T1-2HT	Water	02/01/20 14:20	02/04/20 08:00
2628600035	T3-4HTS	Water	02/02/20 13:44	02/04/20 08:00
2628600036	T3-4HT	Water	02/02/20 13:50	02/04/20 08:00
2628600037	T3-3HTS	Water	02/02/20 14:08	02/04/20 08:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Plant McManus SW

Pace Project No.: 2628600

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2628600038	T3-3HT	Water	02/02/20 14:10	02/04/20 08:00
2628600039	T3-2HTS	Water	02/02/20 14:28	02/04/20 08:00
2628600040	T3-2HT	Water	02/02/20 14:34	02/04/20 08:00
2628600041	T3-1HT	Water	02/02/20 14:35	02/04/20 08:00
2628600042	T3-4LT	Water	02/03/20 10:40	02/04/20 08:00
2628600043	T3-3LT	Water	02/03/20 12:12	02/04/20 08:00
2628600044	T3-2LT	Water	02/03/20 13:30	02/04/20 08:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
 Pace Project No.: 2628600

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628600001	MCM-07LT ASHPOND	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600002	MCM-07LT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600003	MCM-06HT ASHPOND	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600004	MCM-06HT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600005	MCM-07HT ASHPOND	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600006	MCM-07HT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600007	MCM-06LT ASHPOND	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600008	MCM-06LT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600009	MCM-05HT ASHPOND	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600010	MCM-05HT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600011	MCM-05LT ASHPOND	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600012	MCM-05LT	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600013	DUP-1	EPA 6020B	CSW	3
		EPA 6020B	CSW	3
2628600014	T2-1HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600015	T2-2HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600016	T2-2HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600017	T2-3HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600018	T2-3HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600019	T2-4HTS	EPA 6020B	CSW	2

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW
 Pace Project No.: 2628600

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628600020	T2-4HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600021	T2-4LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600022	T2-3LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600023	T2-2LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600024	T1-1LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600025	T1-4LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600026	T1-3LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600027	T1-2LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600028	T1-4HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600029	T1-4HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600030	T1-3HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600031	T1-3HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600032	T1-1HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600033	T1-2HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600034	T1-2HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600035	T3-4HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600036	T3-4HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600037	T3-3HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Plant McManus SW

Pace Project No.: 2628600

Lab ID	Sample ID	Method	Analysts	Analytes Reported
2628600038	T3-3HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600039	T3-2HTS	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600040	T3-2HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600041	T3-1HT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600042	T3-4LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600043	T3-3LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2
2628600044	T3-2LT	EPA 6020B	CSW	2
		EPA 6020B	CSW	2

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW
 Pace Project No.: 2628600

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628600001	MCM-07LT ASHPOND					
EPA 6020B	Lithium	0.022J	mg/L	0.30	02/06/20 19:16	D3
EPA 6020B	Arsenic, Dissolved	0.0061J	mg/L	0.050	02/12/20 19:51	D3
EPA 6020B	Lithium, Dissolved	0.022J	mg/L	0.30	02/12/20 19:51	D3
2628600002	MCM-07LT					
EPA 6020B	Arsenic	0.022J	mg/L	0.050	02/06/20 19:39	D3
EPA 6020B	Lithium	0.053J	mg/L	0.30	02/06/20 19:39	D3
EPA 6020B	Arsenic, Dissolved	0.022J	mg/L	0.050	02/12/20 19:57	D3
EPA 6020B	Lithium, Dissolved	0.055J	mg/L	0.30	02/12/20 19:57	D3
2628600003	MCM-06HT ASHPOND					
EPA 6020B	Arsenic	0.0045J	mg/L	0.050	02/06/20 19:44	D3
EPA 6020B	Lithium	0.023J	mg/L	0.30	02/06/20 19:44	D3
EPA 6020B	Arsenic, Dissolved	0.0040J	mg/L	0.050	02/12/20 20:03	D3
EPA 6020B	Lithium, Dissolved	0.023J	mg/L	0.30	02/12/20 20:03	D3
2628600004	MCM-06HT					
EPA 6020B	Arsenic	0.46	mg/L	0.050	02/06/20 19:50	
EPA 6020B	Lithium	0.11J	mg/L	0.30	02/06/20 19:50	D3
EPA 6020B	Arsenic, Dissolved	0.25	mg/L	0.050	02/12/20 20:08	
EPA 6020B	Lithium, Dissolved	0.11J	mg/L	0.30	02/12/20 20:08	D3
2628600005	MCM-07HT ASHPOND					
EPA 6020B	Lithium	0.020J	mg/L	0.30	02/06/20 20:07	D3
EPA 6020B	Lithium, Dissolved	0.020J	mg/L	0.30	02/12/20 20:26	D3
2628600006	MCM-07HT					
EPA 6020B	Arsenic	0.022J	mg/L	0.050	02/06/20 20:13	D3
EPA 6020B	Lithium	0.050J	mg/L	0.30	02/06/20 20:13	D3
EPA 6020B	Arsenic, Dissolved	0.023J	mg/L	0.050	02/12/20 20:31	D3
EPA 6020B	Lithium, Dissolved	0.048J	mg/L	0.30	02/12/20 20:31	D3
2628600007	MCM-06LT ASHPOND					
EPA 6020B	Arsenic	0.0047J	mg/L	0.050	02/06/20 20:19	D3
EPA 6020B	Lithium	0.022J	mg/L	0.30	02/06/20 20:19	D3
EPA 6020B	Lithium, Dissolved	0.021J	mg/L	0.30	02/12/20 20:37	D3
2628600008	MCM-06LT					
EPA 6020B	Arsenic	0.50	mg/L	0.050	02/06/20 20:24	
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/06/20 20:24	D3
EPA 6020B	Arsenic, Dissolved	0.50	mg/L	0.050	02/12/20 20:43	
EPA 6020B	Lithium, Dissolved	0.099J	mg/L	0.30	02/12/20 20:43	D3
2628600009	MCM-05HT ASHPOND					
EPA 6020B	Lithium	0.022J	mg/L	0.30	02/06/20 20:30	D3
EPA 6020B	Arsenic, Dissolved	0.0051J	mg/L	0.050	02/12/20 20:48	D3
EPA 6020B	Lithium, Dissolved	0.021J	mg/L	0.30	02/12/20 20:48	D3
2628600010	MCM-05HT					
EPA 6020B	Lithium	0.022J	mg/L	0.30	02/06/20 20:36	D3
EPA 6020B	Arsenic, Dissolved	0.0039J	mg/L	0.050	02/12/20 09:55	B,D3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Plant McManus SW
 Pace Project No.: 2628600

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628600010	MCM-05HT					
EPA 6020B	Lithium, Dissolved	0.023J	mg/L	0.30	02/12/20 09:55	D3
2628600011	MCM-05LT ASHPOND					
EPA 6020B	Lithium	0.022J	mg/L	0.30	02/06/20 20:42	D3
EPA 6020B	Arsenic, Dissolved	0.0051J	mg/L	0.050	02/12/20 10:01	B,D3
EPA 6020B	Lithium, Dissolved	0.022J	mg/L	0.30	02/12/20 10:01	D3
2628600012	MCM-05LT					
EPA 6020B	Lithium	0.022J	mg/L	0.30	02/06/20 20:47	D3
EPA 6020B	Arsenic, Dissolved	0.0041J	mg/L	0.050	02/12/20 10:24	B,D3
EPA 6020B	Lithium, Dissolved	0.023J	mg/L	0.30	02/12/20 10:24	D3
2628600013	DUP-1					
EPA 6020B	Arsenic	0.0054J	mg/L	0.050	02/06/20 20:53	D3
EPA 6020B	Lithium	0.082J	mg/L	0.30	02/06/20 20:53	D3
EPA 6020B	Arsenic, Dissolved	0.0078J	mg/L	0.050	02/12/20 10:30	B,D3
EPA 6020B	Lithium, Dissolved	0.081J	mg/L	0.30	02/12/20 10:30	D3
2628600014	T2-1HT					
EPA 6020B	Lithium	0.055J	mg/L	0.30	02/06/20 12:02	D3
EPA 6020B	Lithium, Dissolved	0.060J	mg/L	0.30	02/13/20 14:15	D3
2628600015	T2-2HTS					
EPA 6020B	Lithium	0.071J	mg/L	0.30	02/06/20 12:07	D3
EPA 6020B	Lithium, Dissolved	0.065J	mg/L	0.30	02/13/20 14:20	D3
2628600016	T2-2HT					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/06/20 12:13	D3
EPA 6020B	Lithium, Dissolved	0.093J	mg/L	0.30	02/13/20 14:26	D3
2628600017	T2-3HTS					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/06/20 12:19	D3
EPA 6020B	Lithium, Dissolved	0.10J	mg/L	0.30	02/13/20 14:49	D3
2628600018	T2-3HT					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/06/20 12:24	D3
EPA 6020B	Lithium, Dissolved	0.11J	mg/L	0.30	02/13/20 14:55	D3
2628600019	T2-4HTS					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/06/20 12:30	D3
EPA 6020B	Lithium, Dissolved	0.10J	mg/L	0.30	02/13/20 15:35	D3
2628600020	T2-4HT					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/06/20 12:36	D3
EPA 6020B	Lithium, Dissolved	0.11J	mg/L	0.30	02/13/20 15:43	D3
2628600021	T2-4LT					
EPA 6020B	Lithium	0.085J	mg/L	0.30	02/06/20 12:42	D3
EPA 6020B	Lithium, Dissolved	0.086J	mg/L	0.30	02/13/20 15:49	D3
2628600022	T2-3LT					
EPA 6020B	Lithium	0.046J	mg/L	0.30	02/06/20 12:47	D3

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 2628600

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628600022	T2-3LT					
EPA 6020B	Lithium, Dissolved	0.049J	mg/L	0.30	02/13/20 15:54	D3
2628600023	T2-2LT					
EPA 6020B	Lithium	0.066J	mg/L	0.30	02/06/20 12:53	D3
EPA 6020B	Lithium, Dissolved	0.063J	mg/L	0.30	02/13/20 16:29	D3
2628600024	T1-1LT					
EPA 6020B	Lithium	0.027J	mg/L	0.30	02/05/20 18:26	
EPA 6020B	Lithium, Dissolved	0.025J	mg/L	0.30	02/13/20 16:35	D3
2628600025	T1-4LT					
EPA 6020B	Lithium	0.095J	mg/L	0.30	02/05/20 18:49	
EPA 6020B	Lithium, Dissolved	0.099J	mg/L	0.30	02/13/20 16:41	D3
2628600026	T1-3LT					
EPA 6020B	Lithium	0.023J	mg/L	0.30	02/05/20 18:55	
EPA 6020B	Lithium, Dissolved	0.025J	mg/L	0.30	02/13/20 16:47	D3
2628600027	T1-2LT					
EPA 6020B	Lithium	0.029J	mg/L	0.30	02/05/20 19:00	
EPA 6020B	Lithium, Dissolved	0.031J	mg/L	0.30	02/13/20 16:52	D3
2628600028	T1-4HTS					
EPA 6020B	Lithium	0.092J	mg/L	0.30	02/05/20 19:06	
EPA 6020B	Lithium, Dissolved	0.10J	mg/L	0.30	02/13/20 16:58	D3
2628600029	T1-4HT					
EPA 6020B	Lithium	0.099J	mg/L	0.30	02/05/20 19:23	
EPA 6020B	Lithium, Dissolved	0.10J	mg/L	0.30	02/13/20 17:15	D3
2628600030	T1-3HTS					
EPA 6020B	Lithium	0.069J	mg/L	0.30	02/05/20 19:29	
EPA 6020B	Lithium, Dissolved	0.091J	mg/L	0.30	02/13/20 17:21	D3
2628600031	T1-3HT					
EPA 6020B	Lithium	0.096J	mg/L	0.30	02/05/20 19:35	
EPA 6020B	Lithium, Dissolved	0.11J	mg/L	0.30	02/13/20 17:27	D3
2628600032	T1-1HT					
EPA 6020B	Lithium	0.039J	mg/L	0.30	02/05/20 19:41	
EPA 6020B	Lithium, Dissolved	0.049J	mg/L	0.30	02/13/20 17:32	D3
2628600033	T1-2HTS					
EPA 6020B	Lithium	0.066J	mg/L	0.30	02/05/20 19:46	
EPA 6020B	Lithium, Dissolved	0.070J	mg/L	0.30	02/13/20 17:38	D3
2628600034	T1-2HT					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/05/20 19:52	
EPA 6020B	Lithium, Dissolved	0.098J	mg/L	0.30	02/12/20 18:20	D3
2628600035	T3-4HTS					
EPA 6020B	Lithium	0.10J	mg/L	0.30	02/05/20 19:58	

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SUMMARY OF DETECTION

Project: Plant McManus SW

Pace Project No.: 2628600

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
2628600035	T3-4HTS					
EPA 6020B	Lithium, Dissolved	0.097J	mg/L	0.30	02/12/20 18:25	D3
2628600036	T3-4HT					
EPA 6020B	Lithium	0.097J	mg/L	0.30	02/05/20 20:03	
EPA 6020B	Lithium, Dissolved	0.094J	mg/L	0.30	02/12/20 18:48	D3
2628600037	T3-3HTS					
EPA 6020B	Lithium	0.087J	mg/L	0.30	02/05/20 20:09	
EPA 6020B	Lithium, Dissolved	0.087J	mg/L	0.30	02/12/20 18:54	D3
2628600038	T3-3HT					
EPA 6020B	Lithium	0.095J	mg/L	0.30	02/05/20 20:15	
EPA 6020B	Lithium, Dissolved	0.095J	mg/L	0.30	02/12/20 19:00	D3
2628600039	T3-2HTS					
EPA 6020B	Lithium	0.081J	mg/L	0.30	02/05/20 20:32	
EPA 6020B	Lithium, Dissolved	0.077J	mg/L	0.30	02/12/20 19:17	D3
2628600040	T3-2HT					
EPA 6020B	Lithium	0.097J	mg/L	0.30	02/05/20 20:38	
EPA 6020B	Lithium, Dissolved	0.093J	mg/L	0.30	02/12/20 19:23	D3
2628600041	T3-1HT					
EPA 6020B	Lithium	0.086J	mg/L	0.30	02/05/20 20:44	
EPA 6020B	Lithium, Dissolved	0.084J	mg/L	0.30	02/12/20 19:28	D3
2628600042	T3-4LT					
EPA 6020B	Lithium	0.076J	mg/L	0.30	02/05/20 20:49	
EPA 6020B	Lithium, Dissolved	0.077J	mg/L	0.30	02/12/20 19:34	D3
2628600043	T3-3LT					
EPA 6020B	Lithium	0.081J	mg/L	0.30	02/05/20 20:55	
EPA 6020B	Lithium, Dissolved	0.078J	mg/L	0.30	02/12/20 19:40	D3
2628600044	T3-2LT					
EPA 6020B	Lithium	0.083J	mg/L	0.30	02/06/20 19:10	D3
EPA 6020B	Lithium, Dissolved	0.087J	mg/L	0.30	02/12/20 19:45	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: MCM-07LT ASHPOND Lab ID: 2628600001 Collected: 02/01/20 09:40 Received: 02/04/20 08:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	ND	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 19:16	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 19:16	7440-48-4	D3
Lithium	0.022J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 19:16	7439-93-2	D3
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.0061J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:51	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:51	7440-48-4	D3
Lithium, Dissolved	0.022J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:51	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: MCM-07LT		Lab ID: 2628600002		Collected: 02/01/20 10:15		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.022J	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 19:39	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 19:39	7440-48-4	D3
Lithium	0.053J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 19:39	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.022J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 19:57	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:57	7440-48-4	D3
Lithium, Dissolved	0.055J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:57	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: MCM-06HT ASHPOND Lab ID: 2628600003 Collected: 02/01/20 13:55 Received: 02/04/20 08:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	0.0045J	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 19:44	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 19:44	7440-48-4	D3
Lithium	0.023J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 19:44	7439-93-2	D3
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.0040J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:03	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:03	7440-48-4	D3
Lithium, Dissolved	0.023J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:03	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-06HT		Lab ID: 2628600004		Collected: 02/01/20 13:55		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.46	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 19:50	7440-38-2	
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 19:50	7440-48-4	D3
Lithium	0.11J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 19:50	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.25	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:08	7440-38-2	
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:08	7440-48-4	D3
Lithium, Dissolved	0.11J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:08	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-07HT ASHPOND		Lab ID: 2628600005		Collected: 02/01/20 14:20		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:07	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:07	7440-48-4	D3
Lithium	0.020J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:07	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	ND	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:26	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:26	7440-48-4	D3
Lithium, Dissolved	0.020J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:26	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-07HT		Lab ID: 2628600006		Collected: 02/01/20 14:20		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.022J	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:13	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:13	7440-48-4	D3
Lithium	0.050J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:13	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.023J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:31	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:31	7440-48-4	D3
Lithium, Dissolved	0.048J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:31	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-06LT ASHPOND Lab ID: 2628600007 Collected: 02/02/20 08:50 Received: 02/04/20 08:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	0.0047J	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:19	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:19	7440-48-4	D3
Lithium	0.022J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:19	7439-93-2	D3
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	ND	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:37	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:37	7440-48-4	D3
Lithium, Dissolved	0.021J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:37	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-06LT		Lab ID: 2628600008		Collected: 02/02/20 09:00		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.50	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:24	7440-38-2	
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:24	7440-48-4	D3
Lithium	0.10J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:24	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.50	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:43	7440-38-2	
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:43	7440-48-4	D3
Lithium, Dissolved	0.099J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:43	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-05HT ASHPOND Lab ID: 2628600009 Collected: 02/02/20 14:30 Received: 02/04/20 08:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	ND	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:30	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:30	7440-48-4	D3
Lithium	0.022J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:30	7439-93-2	D3
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.0051J	mg/L	0.050	0.0035	10	02/11/20 15:11	02/12/20 20:48	7440-38-2	D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 20:48	7440-48-4	D3
Lithium, Dissolved	0.021J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 20:48	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-05HT		Lab ID: 2628600010		Collected: 02/02/20 14:46		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:36	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:36	7440-48-4	D3
Lithium	0.022J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:36	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0039J	mg/L	0.050	0.0035	10	02/11/20 12:56	02/12/20 09:55	7440-38-2	B,D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 12:56	02/12/20 09:55	7440-48-4	D3
Lithium, Dissolved	0.023J	mg/L	0.30	0.0078	10	02/11/20 12:56	02/12/20 09:55	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-05LT ASHPOND Lab ID: 2628600011 Collected: 02/03/20 09:45 Received: 02/04/20 08:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic	ND	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:42	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:42	7440-48-4	D3
Lithium	0.022J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:42	7439-93-2	D3
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Arsenic, Dissolved	0.0051J	mg/L	0.050	0.0035	10	02/11/20 12:56	02/12/20 10:01	7440-38-2	B,D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 12:56	02/12/20 10:01	7440-48-4	D3
Lithium, Dissolved	0.022J	mg/L	0.30	0.0078	10	02/11/20 12:56	02/12/20 10:01	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: MCM-05LT		Lab ID: 2628600012		Collected: 02/03/20 09:47		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	ND	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:47	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:47	7440-48-4	D3
Lithium	0.022J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:47	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0041J	mg/L	0.050	0.0035	10	02/11/20 12:56	02/12/20 10:24	7440-38-2	B,D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 12:56	02/12/20 10:24	7440-48-4	D3
Lithium, Dissolved	0.023J	mg/L	0.30	0.0078	10	02/11/20 12:56	02/12/20 10:24	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: DUP-1		Lab ID: 2628600013		Collected: 02/03/20 00:00		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic	0.0054J	mg/L	0.050	0.0035	10	02/06/20 13:10	02/06/20 20:53	7440-38-2	D3
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 20:53	7440-48-4	D3
Lithium	0.082J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 20:53	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Arsenic, Dissolved	0.0078J	mg/L	0.050	0.0035	10	02/11/20 12:56	02/12/20 10:30	7440-38-2	B,D3
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 12:56	02/12/20 10:30	7440-48-4	D3
Lithium, Dissolved	0.081J	mg/L	0.30	0.0078	10	02/11/20 12:56	02/12/20 10:30	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-1HT		Lab ID: 2628600014		Collected: 02/01/20 13:55		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:02	7440-48-4	D3
Lithium	0.055J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:02	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 14:15	7440-48-4	D3
Lithium, Dissolved	0.060J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 14:15	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-2HTS		Lab ID: 2628600015		Collected: 02/01/20 14:28		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:07	7440-48-4	D3
Lithium	0.071J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:07	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 14:20	7440-48-4	D3
Lithium, Dissolved	0.065J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 14:20	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: T2-2HT		Lab ID: 2628600016		Collected: 02/01/20 14:32		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:13	7440-48-4	D3
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:13	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 14:26	7440-48-4	D3
Lithium, Dissolved	0.093J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 14:26	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-3HTS **Lab ID: 2628600017** Collected: 02/01/20 14:46 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A

Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:19	7440-48-4	D3
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:19	7439-93-2	D3

6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A

Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 14:49	7440-48-4	D3
Lithium, Dissolved	0.10J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 14:49	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-3HT		Lab ID: 2628600018		Collected: 02/01/20 14:50		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:24	7440-48-4	D3
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:24	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 14:55	7440-48-4	D3
Lithium, Dissolved	0.11J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 14:55	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-4HTS		Lab ID: 2628600019		Collected: 02/01/20 15:00		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:30	7440-48-4	D3
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:30	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 15:35	7440-48-4	D3
Lithium, Dissolved	0.10J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 15:35	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: T2-4HT		Lab ID: 2628600020		Collected: 02/01/20 15:14		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:36	7440-48-4	D3
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:36	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 15:43	7440-48-4	D3
Lithium, Dissolved	0.11J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 15:43	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-4LT		Lab ID: 2628600021		Collected: 02/02/20 09:46		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:42	7440-48-4	D3
Lithium	0.085J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:42	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 15:49	7440-48-4	D3
Lithium, Dissolved	0.086J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 15:49	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-3LT		Lab ID: 2628600022		Collected: 02/02/20 11:20		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:47	7440-48-4	D3
Lithium	0.046J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:47	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 15:54	7440-48-4	D3
Lithium, Dissolved	0.049J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 15:54	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T2-2LT		Lab ID: 2628600023		Collected: 02/02/20 11:38		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 09:25	02/06/20 12:53	7440-48-4	D3
Lithium	0.066J	mg/L	0.30	0.0078	10	02/04/20 09:25	02/06/20 12:53	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 16:29	7440-48-4	D3
Lithium, Dissolved	0.063J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 16:29	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-1LT **Lab ID: 2628600024** Collected: 02/01/20 09:50 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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6020B MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A

Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 18:26	7440-48-4	
Lithium	0.027J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 18:26	7439-93-2	

6020B MET ICPMS, Lab Filtered

Analytical Method: EPA 6020B Preparation Method: EPA 3005A

Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 16:35	7440-48-4	D3
Lithium, Dissolved	0.025J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 16:35	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-4LT		Lab ID: 2628600025		Collected: 02/01/20 09:56		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 18:49	7440-48-4	
Lithium	0.095J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 18:49	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 16:41	7440-48-4	D3
Lithium, Dissolved	0.099J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 16:41	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-3LT		Lab ID: 2628600026		Collected: 02/01/20 10:06		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 18:55	7440-48-4	
Lithium	0.023J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 18:55	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 16:47	7440-48-4	D3
Lithium, Dissolved	0.025J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 16:47	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-2LT **Lab ID: 2628600027** Collected: 02/01/20 10:16 Received: 02/04/20 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
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6020B MET ICPMS

Analytical Method: EPA 6020B Preparation Method: EPA 3005A

Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:00	7440-48-4	
Lithium	0.029J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:00	7439-93-2	

6020B MET ICPMS, Lab Filtered

Analytical Method: EPA 6020B Preparation Method: EPA 3005A

Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 16:52	7440-48-4	D3
Lithium, Dissolved	0.031J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 16:52	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T1-4HTS Lab ID: 2628600028 Collected: 02/01/20 13:34 Received: 02/04/20 08:00 Matrix: Water									
6020B MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:06	7440-48-4	
Lithium	0.092J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:06	7439-93-2	
6020B MET ICPMS, Lab Filtered Analytical Method: EPA 6020B Preparation Method: EPA 3005A									
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 16:58	7440-48-4	D3
Lithium, Dissolved	0.10J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 16:58	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-4HT		Lab ID: 2628600029		Collected: 02/01/20 13:40		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:23	7440-48-4	
Lithium	0.099J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:23	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 17:15	7440-48-4	D3
Lithium, Dissolved	0.10J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 17:15	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-3HTS		Lab ID: 2628600030		Collected: 02/01/20 13:52		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:29	7440-48-4	
Lithium	0.069J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:29	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 17:21	7440-48-4	D3
Lithium, Dissolved	0.091J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 17:21	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-3HT		Lab ID: 2628600031		Collected: 02/01/20 13:56		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:35	7440-48-4	
Lithium	0.096J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:35	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 17:27	7440-48-4	D3
Lithium, Dissolved	0.11J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 17:27	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-1HT		Lab ID: 2628600032		Collected: 02/01/20 14:08		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:41	7440-48-4	
Lithium	0.039J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:41	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 17:32	7440-48-4	D3
Lithium, Dissolved	0.049J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 17:32	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-2HTS		Lab ID: 2628600033		Collected: 02/01/20 14:16		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:46	7440-48-4	
Lithium	0.066J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:46	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/13/20 17:38	7440-48-4	D3
Lithium, Dissolved	0.070J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/13/20 17:38	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T1-2HT		Lab ID: 2628600034		Collected: 02/01/20 14:20		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:52	7440-48-4	
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:52	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 18:20	7440-48-4	D3
Lithium, Dissolved	0.098J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 18:20	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-4HTS		Lab ID: 2628600035		Collected: 02/02/20 13:44		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 19:58	7440-48-4	
Lithium	0.10J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 19:58	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 18:25	7440-48-4	D3
Lithium, Dissolved	0.097J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 18:25	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-4HT		Lab ID: 2628600036		Collected: 02/02/20 13:50		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:03	7440-48-4	
Lithium	0.097J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:03	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 18:48	7440-48-4	D3
Lithium, Dissolved	0.094J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 18:48	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: T3-3HTS		Lab ID: 2628600037		Collected: 02/02/20 14:08		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:09	7440-48-4	
Lithium	0.087J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:09	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 18:54	7440-48-4	D3
Lithium, Dissolved	0.087J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 18:54	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-3HT		Lab ID: 2628600038		Collected: 02/02/20 14:10		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:15	7440-48-4	
Lithium	0.095J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:15	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:00	7440-48-4	D3
Lithium, Dissolved	0.095J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:00	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-2HTS		Lab ID: 2628600039		Collected: 02/02/20 14:28		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:32	7440-48-4	
Lithium	0.081J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:32	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:17	7440-48-4	D3
Lithium, Dissolved	0.077J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:17	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-2HT		Lab ID: 2628600040		Collected: 02/02/20 14:34		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:38	7440-48-4	
Lithium	0.097J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:38	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:23	7440-48-4	D3
Lithium, Dissolved	0.093J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:23	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-1HT		Lab ID: 2628600041		Collected: 02/02/20 14:35		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:44	7440-48-4	
Lithium	0.086J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:44	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:28	7440-48-4	D3
Lithium, Dissolved	0.084J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:28	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-4LT		Lab ID: 2628600042		Collected: 02/03/20 10:40		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:49	7440-48-4	
Lithium	0.076J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:49	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:34	7440-48-4	D3
Lithium, Dissolved	0.077J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:34	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW

Pace Project No.: 2628600

Sample: T3-3LT		Lab ID: 2628600043		Collected: 02/03/20 12:12		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/04/20 21:50	02/05/20 20:55	7440-48-4	
Lithium	0.081J	mg/L	0.30	0.0078	10	02/04/20 21:50	02/05/20 20:55	7439-93-2	
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:40	7440-48-4	D3
Lithium, Dissolved	0.078J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:40	7439-93-2	D3

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ANALYTICAL RESULTS

Project: Plant McManus SW
 Pace Project No.: 2628600

Sample: T3-2LT		Lab ID: 2628600044		Collected: 02/03/20 13:30		Received: 02/04/20 08:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020B MET ICPMS		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt	ND	mg/L	0.050	0.0030	10	02/06/20 13:10	02/06/20 19:10	7440-48-4	D3
Lithium	0.083J	mg/L	0.30	0.0078	10	02/06/20 13:10	02/06/20 19:10	7439-93-2	D3
6020B MET ICPMS, Lab Filtered		Analytical Method: EPA 6020B Preparation Method: EPA 3005A							
Cobalt, Dissolved	ND	mg/L	0.050	0.0030	10	02/11/20 15:11	02/12/20 19:45	7440-48-4	D3
Lithium, Dissolved	0.087J	mg/L	0.30	0.0078	10	02/11/20 15:11	02/12/20 19:45	7439-93-2	D3

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628600

QC Batch: 42836 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET
 Associated Lab Samples: 2628600024, 2628600025, 2628600026, 2628600027, 2628600028, 2628600029, 2628600030, 2628600031, 2628600032, 2628600033, 2628600034, 2628600035, 2628600036, 2628600037, 2628600038, 2628600039, 2628600040, 2628600041, 2628600042, 2628600043

METHOD BLANK: 195730 Matrix: Water
 Associated Lab Samples: 2628600024, 2628600025, 2628600026, 2628600027, 2628600028, 2628600029, 2628600030, 2628600031, 2628600032, 2628600033, 2628600034, 2628600035, 2628600036, 2628600037, 2628600038, 2628600039, 2628600040, 2628600041, 2628600042, 2628600043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	mg/L	ND	0.0050	0.00030	02/05/20 18:15	
Lithium	mg/L	ND	0.030	0.00078	02/05/20 18:15	

LABORATORY CONTROL SAMPLE: 195731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	mg/L	0.1	0.099	99	80-120	
Lithium	mg/L	0.1	0.099	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 195732 195733

Parameter	Units	2628598001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	mg/L	ND	0.1	0.1	0.10	0.096	101	96	75-125	5	20	
Lithium	mg/L	0.027J	0.1	0.1	0.13J	0.13J	103	99	75-125		20	

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

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628600

QC Batch:	42953	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3005A	Analysis Description:	6020B MET
Associated Lab Samples:	2628600001, 2628600002, 2628600003, 2628600004, 2628600005, 2628600006, 2628600007, 2628600008, 2628600009, 2628600010, 2628600011, 2628600012, 2628600013, 2628600044		

METHOD BLANK:	196325	Matrix:	Water
Associated Lab Samples:	2628600001, 2628600002, 2628600003, 2628600004, 2628600005, 2628600006, 2628600007, 2628600008, 2628600009, 2628600010, 2628600011, 2628600012, 2628600013, 2628600044		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.00035	02/06/20 18:59	
Cobalt	mg/L	ND	0.0050	0.00030	02/06/20 18:59	
Lithium	mg/L	ND	0.030	0.00078	02/06/20 18:59	

LABORATORY CONTROL SAMPLE: 196326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.1	0.10	102	80-120	
Cobalt	mg/L	0.1	0.11	106	80-120	
Lithium	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 196330 196331

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		2628600001	Spike Conc.	Spike Conc.	Result							Result
Arsenic	mg/L	0.0061J	0.1	0.1	0.11	0.11	110	107	75-125	3	20
Cobalt	mg/L	ND	0.1	0.1	0.11	0.10	105	104	75-125	0	20
Lithium	mg/L	0.022J	0.1	0.1	0.13J	0.12J	103	102	75-125		20

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW

Pace Project No.: 2628600

QC Batch: 43169 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628600010, 2628600011, 2628600012, 2628600013

METHOD BLANK: 197290 Matrix: Water
 Associated Lab Samples: 2628600010, 2628600011, 2628600012, 2628600013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/12/20 09:44	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00030	02/12/20 09:44	
Lithium, Dissolved	mg/L	ND	0.030	0.00078	02/12/20 09:44	

LABORATORY CONTROL SAMPLE: 197291

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.11	106	80-120	
Cobalt, Dissolved	mg/L	0.1	0.10	101	80-120	
Lithium, Dissolved	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197292 197293

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		2628600011 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Arsenic, Dissolved	mg/L	0.0051J	0.1	0.1	0.11	0.11	102	104	75-125	1	20		
Cobalt, Dissolved	mg/L	ND	0.1	0.1	0.10	0.10	100	102	75-125	2	20		
Lithium, Dissolved	mg/L	0.022J	0.1	0.1	0.13J	0.13J	105	105	75-125				

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628600

QC Batch: 43170 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628600014, 2628600015, 2628600016, 2628600017, 2628600018, 2628600019, 2628600020, 2628600021, 2628600022, 2628600023, 2628600024, 2628600025, 2628600026, 2628600027, 2628600028, 2628600029, 2628600030, 2628600031, 2628600032, 2628600033

METHOD BLANK: 197294 Matrix: Water
 Associated Lab Samples: 2628600014, 2628600015, 2628600016, 2628600017, 2628600018, 2628600019, 2628600020, 2628600021, 2628600022, 2628600023, 2628600024, 2628600025, 2628600026, 2628600027, 2628600028, 2628600029, 2628600030, 2628600031, 2628600032, 2628600033

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt, Dissolved	mg/L	ND	0.0050	0.00030	02/13/20 14:03	
Lithium, Dissolved	mg/L	ND	0.030	0.00078	02/13/20 14:03	

LABORATORY CONTROL SAMPLE: 197295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt, Dissolved	mg/L	0.1	0.11	105	80-120	
Lithium, Dissolved	mg/L	0.1	0.10	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197296 197297

Parameter	Units	2628595003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt, Dissolved	mg/L	ND	0.1	0.1	0.11	0.12	114	116	75-125	1	20	
Lithium, Dissolved	mg/L	0.093J	0.1	0.1	0.21J	0.22J	118	129	75-125		20 M6	

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

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QUALITY CONTROL DATA

Project: Plant McManus SW
 Pace Project No.: 2628600

QC Batch: 43171 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3005A Analysis Description: 6020B MET Dissolved
 Associated Lab Samples: 2628600001, 2628600002, 2628600003, 2628600004, 2628600005, 2628600006, 2628600007, 2628600008,
 2628600009, 2628600034, 2628600035, 2628600036, 2628600037, 2628600038, 2628600039, 2628600040,
 2628600041, 2628600042, 2628600043, 2628600044

METHOD BLANK: 197298 Matrix: Water
 Associated Lab Samples: 2628600001, 2628600002, 2628600003, 2628600004, 2628600005, 2628600006, 2628600007, 2628600008,
 2628600009, 2628600034, 2628600035, 2628600036, 2628600037, 2628600038, 2628600039, 2628600040,
 2628600041, 2628600042, 2628600043, 2628600044

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0050	0.00035	02/12/20 18:08	
Cobalt, Dissolved	mg/L	ND	0.0050	0.00030	02/12/20 18:08	
Lithium, Dissolved	mg/L	ND	0.030	0.00078	02/12/20 18:08	

LABORATORY CONTROL SAMPLE: 197299

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.1	0.10	101	80-120	
Cobalt, Dissolved	mg/L	0.1	0.10	105	80-120	
Lithium, Dissolved	mg/L	0.1	0.10	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 197300 197301

Parameter	Units	2628599001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0065J	0.1	0.1	0.12	0.11	111	109	75-125	2	20	
Cobalt, Dissolved	mg/L	ND	0.1	0.1	0.10	0.11	101	105	75-125	3	20	
Lithium, Dissolved	mg/L	0.097J	0.1	0.1	0.20J	0.20J	99	99	75-125		20	

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QUALIFIERS

Project: Plant McManus SW
Pace Project No.: 2628600

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW
 Pace Project No.: 2628600

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628600001	MCM-07LT ASHPOND	EPA 3005A	42953	EPA 6020B	42956
2628600002	MCM-07LT	EPA 3005A	42953	EPA 6020B	42956
2628600003	MCM-06HT ASHPOND	EPA 3005A	42953	EPA 6020B	42956
2628600004	MCM-06HT	EPA 3005A	42953	EPA 6020B	42956
2628600005	MCM-07HT ASHPOND	EPA 3005A	42953	EPA 6020B	42956
2628600006	MCM-07HT	EPA 3005A	42953	EPA 6020B	42956
2628600007	MCM-06LT ASHPOND	EPA 3005A	42953	EPA 6020B	42956
2628600008	MCM-06LT	EPA 3005A	42953	EPA 6020B	42956
2628600009	MCM-05HT ASHPOND	EPA 3005A	42953	EPA 6020B	42956
2628600010	MCM-05HT	EPA 3005A	42953	EPA 6020B	42956
2628600011	MCM-05LT ASHPOND	EPA 3005A	42953	EPA 6020B	42956
2628600012	MCM-05LT	EPA 3005A	42953	EPA 6020B	42956
2628600013	DUP-1	EPA 3005A	42953	EPA 6020B	42956
2628600014	T2-1HT	EPA 3005A	42781	EPA 6020B	42798
2628600015	T2-2HTS	EPA 3005A	42781	EPA 6020B	42798
2628600016	T2-2HT	EPA 3005A	42781	EPA 6020B	42798
2628600017	T2-3HTS	EPA 3005A	42781	EPA 6020B	42798
2628600018	T2-3HT	EPA 3005A	42781	EPA 6020B	42798
2628600019	T2-4HTS	EPA 3005A	42781	EPA 6020B	42798
2628600020	T2-4HT	EPA 3005A	42781	EPA 6020B	42798
2628600021	T2-4LT	EPA 3005A	42781	EPA 6020B	42798
2628600022	T2-3LT	EPA 3005A	42781	EPA 6020B	42798
2628600023	T2-2LT	EPA 3005A	42781	EPA 6020B	42798
2628600024	T1-1LT	EPA 3005A	42836	EPA 6020B	42909
2628600025	T1-4LT	EPA 3005A	42836	EPA 6020B	42909
2628600026	T1-3LT	EPA 3005A	42836	EPA 6020B	42909
2628600027	T1-2LT	EPA 3005A	42836	EPA 6020B	42909
2628600028	T1-4HTS	EPA 3005A	42836	EPA 6020B	42909
2628600029	T1-4HT	EPA 3005A	42836	EPA 6020B	42909
2628600030	T1-3HTS	EPA 3005A	42836	EPA 6020B	42909
2628600031	T1-3HT	EPA 3005A	42836	EPA 6020B	42909
2628600032	T1-1HT	EPA 3005A	42836	EPA 6020B	42909
2628600033	T1-2HTS	EPA 3005A	42836	EPA 6020B	42909
2628600034	T1-2HT	EPA 3005A	42836	EPA 6020B	42909
2628600035	T3-4HTS	EPA 3005A	42836	EPA 6020B	42909
2628600036	T3-4HT	EPA 3005A	42836	EPA 6020B	42909
2628600037	T3-3HTS	EPA 3005A	42836	EPA 6020B	42909
2628600038	T3-3HT	EPA 3005A	42836	EPA 6020B	42909
2628600039	T3-2HTS	EPA 3005A	42836	EPA 6020B	42909
2628600040	T3-2HT	EPA 3005A	42836	EPA 6020B	42909
2628600041	T3-1HT	EPA 3005A	42836	EPA 6020B	42909
2628600042	T3-4LT	EPA 3005A	42836	EPA 6020B	42909
2628600043	T3-3LT	EPA 3005A	42836	EPA 6020B	42909
2628600044	T3-2LT	EPA 3005A	42953	EPA 6020B	42956
2628600001	MCM-07LT ASHPOND	EPA 3005A	43171	EPA 6020B	43192
2628600002	MCM-07LT	EPA 3005A	43171	EPA 6020B	43192
2628600003	MCM-06HT ASHPOND	EPA 3005A	43171	EPA 6020B	43192

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Plant McManus SW
 Pace Project No.: 2628600


Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2628600004	MCM-06HT	EPA 3005A	43171	EPA 6020B	43192
2628600005	MCM-07HT ASHPOND	EPA 3005A	43171	EPA 6020B	43192
2628600006	MCM-07HT	EPA 3005A	43171	EPA 6020B	43192
2628600007	MCM-06LT ASHPOND	EPA 3005A	43171	EPA 6020B	43192
2628600008	MCM-06LT	EPA 3005A	43171	EPA 6020B	43192
2628600009	MCM-05HT ASHPOND	EPA 3005A	43171	EPA 6020B	43192
2628600010	MCM-05HT	EPA 3005A	43169	EPA 6020B	43190
2628600011	MCM-05LT ASHPOND	EPA 3005A	43169	EPA 6020B	43190
2628600012	MCM-05LT	EPA 3005A	43169	EPA 6020B	43190
2628600013	DUP-1	EPA 3005A	43169	EPA 6020B	43190
2628600014	T2-1HT	EPA 3005A	43170	EPA 6020B	43193
2628600015	T2-2HTS	EPA 3005A	43170	EPA 6020B	43193
2628600016	T2-2HT	EPA 3005A	43170	EPA 6020B	43193
2628600017	T2-3HTS	EPA 3005A	43170	EPA 6020B	43193
2628600018	T2-3HT	EPA 3005A	43170	EPA 6020B	43193
2628600019	T2-4HTS	EPA 3005A	43170	EPA 6020B	43193
2628600020	T2-4HT	EPA 3005A	43170	EPA 6020B	43193
2628600021	T2-4LT	EPA 3005A	43170	EPA 6020B	43193
2628600022	T2-3LT	EPA 3005A	43170	EPA 6020B	43193
2628600023	T2-2LT	EPA 3005A	43170	EPA 6020B	43193
2628600024	T1-1LT	EPA 3005A	43170	EPA 6020B	43193
2628600025	T1-4LT	EPA 3005A	43170	EPA 6020B	43193
2628600026	T1-3LT	EPA 3005A	43170	EPA 6020B	43193
2628600027	T1-2LT	EPA 3005A	43170	EPA 6020B	43193
2628600028	T1-4HTS	EPA 3005A	43170	EPA 6020B	43193
2628600029	T1-4HT	EPA 3005A	43170	EPA 6020B	43193
2628600030	T1-3HTS	EPA 3005A	43170	EPA 6020B	43193
2628600031	T1-3HT	EPA 3005A	43170	EPA 6020B	43193
2628600032	T1-1HT	EPA 3005A	43170	EPA 6020B	43193
2628600033	T1-2HTS	EPA 3005A	43170	EPA 6020B	43193
2628600034	T1-2HT	EPA 3005A	43171	EPA 6020B	43192
2628600035	T3-4HTS	EPA 3005A	43171	EPA 6020B	43192
2628600036	T3-4HT	EPA 3005A	43171	EPA 6020B	43192
2628600037	T3-3HTS	EPA 3005A	43171	EPA 6020B	43192
2628600038	T3-3HT	EPA 3005A	43171	EPA 6020B	43192
2628600039	T3-2HTS	EPA 3005A	43171	EPA 6020B	43192
2628600040	T3-2HT	EPA 3005A	43171	EPA 6020B	43192
2628600041	T3-1HT	EPA 3005A	43171	EPA 6020B	43192
2628600042	T3-4LT	EPA 3005A	43171	EPA 6020B	43192
2628600043	T3-3LT	EPA 3005A	43171	EPA 6020B	43192
2628600044	T3-2LT	EPA 3005A	43171	EPA 6020B	43192

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CHAIN-OF-CUSTODY (Analytical Request)
THE CHAIN-OF-CUSTODY IS LEGAL DOCUMENT IN WISCONSIN STATE

WO# : 2628600

 2628600

2628600

Requester Name: Date:
 Contact Name: Phone:
 Case Name: State:
 Date of Collection: Time of Collection:
 Location of Collection: Name of Collector:
 Name of Agency: Address:

Item #	Description	Quantity		Weight (g)	Volume (ml)	Temperature (C)		Packaging	Remarks	Initials	Date
		Original	Residual			Before	After				
1	EVIDENCE	1	1	1	1	1	1	1	1	1	1
2	EVIDENCE	1	1	1	1	1	1	1	1	1	1
3	EVIDENCE	1	1	1	1	1	1	1	1	1	1
4	EVIDENCE	1	1	1	1	1	1	1	1	1	1
5	EVIDENCE	1	1	1	1	1	1	1	1	1	1
6	EVIDENCE	1	1	1	1	1	1	1	1	1	1
7	EVIDENCE	1	1	1	1	1	1	1	1	1	1
8	EVIDENCE	1	1	1	1	1	1	1	1	1	1
9	EVIDENCE	1	1	1	1	1	1	1	1	1	1
10	EVIDENCE	1	1	1	1	1	1	1	1	1	1
11	EVIDENCE	1	1	1	1	1	1	1	1	1	1
12	EVIDENCE	1	1	1	1	1	1	1	1	1	1

ANALYST'S SIGNATURE: DATE:

LABORATORY USE ONLY

ANALYSIS	DATE	INITIALS

CHAIN-OF-CUSTODY

NO.	NAME	DATE	INITIALS	REMARKS
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Overall Status:

ANALYST'S SIGNATURE	DATE	INITIALS
<i>Handwritten Signature</i>	<u> </u>	<u> </u>
<i>Handwritten Signature</i>	<u> </u>	<u> </u>

Signature

CHAIN-ON-CUSTOMER Analytical Request ID
 The Office of Science & Technology Support for all requests must be

W04: 2628600
 POC: KJL
 CL: JONT - 24-04 Request
 Date: 02/11/24

Project # _____
 Analytical Request # _____
 Requested by: _____
 Requested on: _____
 Requested for: _____
 Requested by: _____
 Requested for: _____
 Requested by: _____
 Requested for: _____

SAMPLE ID	Description of Sample	Collection Date	Collection Location		Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
			City	State														
1	Sample 1 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
2	Sample 2 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
3	Sample 3 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
4	Sample 4 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
5	Sample 5 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
6	Sample 6 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
7	Sample 7 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
8	Sample 8 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
9	Sample 9 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
10	Sample 10 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
11	Sample 11 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments
12	Sample 12 - Salt	02/11/24	City	State	Requester	Requester Title	Requester Phone	Requester Email	Requester Address	Requester City	Requester State	Requester Zip	Requester Country	Requester Fax	Requester Website	Requester Other	Requester Notes	Requester Comments

Requester Name: _____
 Requester Title: _____
 Requester Phone: _____
 Requester Email: _____
 Requester Address: _____
 Requester City: _____
 Requester State: _____
 Requester Zip: _____
 Requester Country: _____
 Requester Fax: _____
 Requester Website: _____
 Requester Other: _____
 Requester Notes: _____
 Requester Comments: _____

NOTE: When you print this form, the printer will print a copy of this form on the back of the form and you will be able to read the back of the form.

Project Manager Name: _____

Person Contacted: _____
 Organization: _____

Case # _____
 Date _____

Case #	Date	Description
1	01/24/03	Case # of custody present
2	01/24/03	Copy of custody present
3	01/24/03	Case # of custody present
4	01/24/03	Case # of custody present
5	01/24/03	Case # of custody present
6	01/24/03	Case # of custody present
7	01/24/03	Case # of custody present
8	01/24/03	Case # of custody present
9	01/24/03	Case # of custody present
10	01/24/03	Case # of custody present
11	01/24/03	Case # of custody present
12	01/24/03	Case # of custody present
13	01/24/03	Case # of custody present
14	01/24/03	Case # of custody present
15	01/24/03	Case # of custody present
16	01/24/03	Case # of custody present
17	01/24/03	Case # of custody present
18	01/24/03	Case # of custody present
19	01/24/03	Case # of custody present
20	01/24/03	Case # of custody present

Case and nature of custody present: _____

Comments: _____

Case # _____

Date _____

Client Name: _____

Case # _____

Case Date: _____

Case # _____

Case Date: _____

Case # _____

Case Date: _____

APPENDIX C

Resolute Summary of Groundwater Analytical Data – July 2020



Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA

List	Parameter	Well ID & Sample Date							
		MCM-01	MCM-01	MCM-01 resample	MCM-01	MCM-02	MCM-02	MCM-02 resample	MCM-02
		8/27/2019	10/16/2019	11/20/2019	3/26/2020	8/28/2019	10/16/2019	11/19/2019	3/27/2020
APPENDIX III	Boron	--	ND (0.036 J)	--	ND (0.064 J)	--	0.085	--	ND (0.17 J)
	Calcium	--	13.6	--	10.1	--	4.9	--	4.9
	Chloride	--	21.4	--	23.0	--	33.1	--	32.9
	Fluoride	ND	ND (0.046 J)	--	ND	ND	ND (0.044 J)	--	ND
	pH ²	5.58	5.72	5.77	5.45	4.99	4.98	5.11	5.12
	Sulfate	--	31.9	--	36.2	--	24.4	--	28.6
	TDS	--	104	--	114	--	96.0	--	119
APPENDIX IV	Antimony	ND	ND	--	ND	ND	ND	--	ND
	Arsenic	0.0079	0.010	0.0064	0.0069	ND	ND (0.0030 J)	ND (0.00057 J)	ND
	Barium	0.077	0.074	--	0.070	0.10	0.10	--	0.095
	Beryllium	ND (0.000090 J)	ND	--	ND	ND (0.00011 J)	ND (0.00013 J)	--	ND
	Cadmium	ND	--	--	ND	ND	--	--	ND
	Chromium	ND (0.00079 J)	ND	--	ND	ND (0.0035 J)	ND	--	ND
	Cobalt	ND	ND	--	ND	ND (0.00042 J)	ND (0.00037 J)	--	ND
	Fluoride	ND	ND (0.046 J)	--	ND	ND	ND (0.044 J)	--	ND
	Lead	ND	ND	--	ND	ND	ND	--	ND
	Lithium	ND	ND	--	ND	ND	ND	--	ND
	Mercury	ND	--	--	ND	ND	--	--	ND
	Molybdenum	ND	ND	--	ND	ND	ND	--	ND
	Radium	1.20 U	1.40 U	--	1.15U	0.679 U	0.422 U	--	0.838U
	Selenium	ND	ND	--	ND	ND	ND	--	ND
	Thallium	ND	ND	--	ND	ND	ND	--	ND

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

ND (value J) indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number

TDS indicates total dissolved solids

U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated

Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA

List	Parameter	Well ID & Sample Date							
		MCM-04	MCM-04	MCM-04 resample	MCM-04	MCM-05	MCM-05	MCM-05 resample	MCM-05
		8/27/2019	10/15/2019	11/20/2019	3/28/2020	8/28/2019	10/16/2019	11/20/2019	3/28/2020
APPENDIX III	Boron	--	0.068	--	ND (0.067 J)	--	0.49	0.53	ND (0.28 J)
	Calcium	--	15.5	--	15.5	--	55.2	55.8	25.8
	Chloride	--	46.0	--	71.4	--	413	1480	693
	Fluoride	ND	ND (0.095 J)	--	ND	0.36	0.41	0.34	0.34
	pH ²	5.05	4.89	5.03	5.27	6.69	6.64	6.58	6.6
	Sulfate	--	105	--	86.6	--	158	132	63.8
	TDS	--	237	--	284	--	2860	2640	1470
APPENDIX IV	Antimony	ND	ND	--	ND	ND	ND	--	ND
	Arsenic	0.0072	ND (0.0038 J)	--	ND (0.0034 J)	ND (0.0019 J)	ND (0.0047 J)	--	ND
	Barium	0.083	0.082	--	0.039	0.011	0.012	--	ND (0.0041 J)
	Beryllium	ND (0.00032 J)	ND (0.00035 J)	--	ND	ND	ND	--	ND
	Cadmium	ND	--	--	ND	ND	--	--	ND
	Chromium	ND (0.0018 J)	ND (0.0012 J)	--	ND	ND (0.00047 J)	ND (0.00057 J)	--	ND
	Cobalt	0.0078	0.0085	0.0090	ND (0.0041 J)	ND	ND	--	ND
	Fluoride	ND	ND (0.095 J)	--	ND	0.36	0.41	0.34	0.34
	Lead	ND	ND	--	ND	ND	ND	--	ND
	Lithium	ND (0.0020 J)	ND (0.0019 J)	--	ND	ND (0.023 J)	ND (0.021 J)	--	ND (0.014 J)
	Mercury	ND	--	--	ND	ND	--	--	ND
	Molybdenum	ND	ND	--	ND	ND	ND	--	ND
	Radium	4.40	4.92	--	4.16	1.67	1.92	--	1.44U
	Selenium	ND	ND	--	ND	ND	ND	--	ND
	Thallium	ND	ND	--	ND	ND	ND	--	ND

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

ND (value J) indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number

TDS indicates total dissolved solids

U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated

Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

**Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA**

List	Parameter	Well ID & Sample Date						
		MCM-06	MCM-06	MCM-06	MCM-07	MCM-07	MCM-07 resample	MCM-07
		8/28/2019	10/17/2019	3/28/2020	8/28/2019	10/17/2019	11/20/2019	3/28/2020
APPENDIX III	Boron	--	1.30	0.95	--	1.1	1.3	0.79
	Calcium	--	309	286	--	260	308	286
	Chloride	--	9930	9190	--	8210	9810	9070
	Fluoride	ND	ND	ND	ND	ND	ND	ND
	pH ²	6.87	6.86	6.8	6.35	6.40	6.27	6.35
	Sulfate	--	507	701	--	1230	1550	1090
	TDS	--	16100	18800	--	13200	16700	18300
APPENDIX IV	Antimony	ND (0.00098 J)	ND (0.00090 J)	ND (0.0029 J)	ND	ND	--	ND
	Arsenic	0.50	0.34	0.30	0.011	ND (0.0046 J)	--	0.012
	Barium	0.13	0.13	0.12	0.40	0.35	--	0.11
	Beryllium	ND	ND	ND	ND	ND (0.000078 J)	--	ND
	Cadmium	ND	--	ND	ND	--	--	ND
	Chromium	ND (0.00085 J)	ND (0.0015 J)	ND	ND (0.0024 J)	ND (0.0019 J)	--	ND
	Cobalt	ND	ND	ND	ND	ND	--	ND
	Fluoride	ND	ND	ND	ND	ND	ND	ND
	Lead	ND	ND (0.00012 J)	ND	ND (0.00010 J)	ND	--	ND
	Lithium	0.13	0.12	0.064	0.12	0.096	0.12	ND (0.027 J)
	Mercury	ND	--	ND	ND	--	--	ND
	Molybdenum	ND (0.0017 J)	ND (0.0017 J)	ND	ND	ND	--	ND
	Radium	6.86	7.85	11	8.73	7.97	9.80	11.7
	Selenium	ND (0.0014 J)	ND (0.0066 J)	ND	ND (0.0019 J)	ND (0.0049 J)	--	ND
Thallium	ND	ND (0.000076 J)	ND	ND	ND	--	ND	

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

ND (value J) indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number

TDS indicates total dissolved solids

U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated

Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA

List	Parameter	Well ID & Sample Date					
		MCM-08	MCM-08	MCM-08 resample	MCM-11	MCM-11	MCM-11
		8/28/2019	10/16/2019	11/19/2019	8/28/2019	10/16/2019	3/27/2020
APPENDIX III	Boron	--	0.39	--	--	ND (0.032 J)	ND (0.058 J)
	Calcium	--	53.0	--	--	2.2	3.3
	Chloride	--	2150	--	--	12.2	14.5
	Fluoride	ND	ND (0.10 J)	--	ND (0.068 J)	ND (0.10 J)	ND (0.066 J)
	pH ²	5.11	5.23	5.29	4.87	5.05	5.09
	Sulfate	--	423	--	--	17.4	23.4
	TDS	--	4070	--	--	82.0	87.0
APPENDIX IV	Antimony	ND	ND	--	ND	ND	ND
	Arsenic	0.023	0.024	--	ND (0.0050 J)	0.0054	ND (0.0034 J)
	Barium	0.52	0.54	--	0.035	0.036	0.039
	Beryllium	ND (0.00061 J)	ND (0.00059 J)	--	ND (0.000084 J)	ND (0.000090 J)	ND
	Cadmium	ND	--	--	ND	--	ND
	Chromium	ND (0.0095 J)	0.010	--	ND (0.00053 J)	ND (0.00072 J)	ND
	Cobalt	0.0061	0.0063	ND (0.0062 J)	ND	ND	ND
	Fluoride	ND	ND (0.10 J)	--	ND (0.068 J)	ND (0.10 J)	ND (0.066 J)
	Lead	ND	ND	--	ND	ND	ND
	Lithium	ND (0.0031 J)	ND (0.0027 J)	--	ND (0.00082 J)	ND	ND
	Mercury	ND	--	--	ND	--	ND
	Molybdenum	ND (0.0026 J)	ND (0.0026 J)	--	ND	ND	ND
	Radium	20.6	25.3	--	0.434 U	0.923 U	0.609U
	Selenium	ND (0.0048 J)	ND (0.0043 J)	--	ND	ND	ND
	Thallium	ND	ND	--	ND	ND	ND

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

ND (value J) indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number

TDS indicates total dissolved solids

U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated

Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA

List	Parameter	Well ID & Sample Date						
		MCM-12	MCM-12	MCM-12	MCM-14	MCM-14	MCM-14 resample	MCM-14
		8/27/2019	10/15/2019	3/27/2020	8/26/2019	10/15/2019	11/21/2019	3/27/2020
APPENDIX III	Boron	--	1.1	1.5	--	1.0	1.0	1.3
	Calcium	--	7.9	8.3	--	321	305	286
	Chloride	--	744	675	--	9050	8330	7680
	Fluoride	1.1	1.0	1.1	ND	ND	ND	ND
	pH ²	6.24	6.19	6.33	6.62	6.58	6.67	6.59
	Sulfate	--	ND (0.54 J)	ND	--	ND	1070	899
	TDS	--	1730	1970	--	15400	15800	16400
APPENDIX IV	Antimony	ND	ND	ND	ND (0.00040 J)	ND	--	ND
	Arsenic	ND (0.0011 J)	ND (0.0024 J)	ND	ND (0.0022 J)	0.0067	--	ND
	Barium	0.14	0.14	0.12	0.12	0.12	--	0.13
	Beryllium	ND (0.00090 J)	ND (0.00079 J)	ND	ND (0.00010 J)	ND	--	ND
	Cadmium	ND	--	ND	ND	--	--	ND
	Chromium	ND (0.0056 J)	ND (0.0057 J)	ND	ND (0.00071 J)	ND (0.00076 J)	--	ND
	Cobalt	ND (0.00070 J)	ND (0.00054 J)	ND	ND	ND	--	ND
	Fluoride	1.1	1.0	1.1	ND	ND	ND	ND
	Lead	ND (0.00022 J)	ND (0.000056 J)	ND	ND	ND	--	ND
	Lithium	ND (0.012 J)	ND (0.012 J)	ND	0.059	ND (0.056 J)	0.052	0.052
	Mercury	ND	--	ND	ND	--	--	ND
	Molybdenum	ND	ND	ND	ND	ND	--	ND
	Radium	2.91	3.28	2.33	7.68	8.70	7.34	9.63
	Selenium	ND (0.0019 J)	ND	ND	ND (0.0025 J)	ND (0.0030 J)	--	ND
	Thallium	ND	ND	ND	ND	ND	--	ND

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

ND (value J) indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number

TDS indicates total dissolved solids

U indicates the substance was detected below the Minimum Detection Concentration (MDC) and the precision of the laboratory instruments could not produce a reliable value. Therefore, the value followed by U is qualified by the laboratory as estimated

Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA

List	Parameter	Well ID & Sample Date					
		MCM-15	MCM-15	MCM-15	MCM-16	MCM-16	MCM-16
		8/27/2019	10/15/2019	3/27/2020	8/27/2019	10/16/2019	3/27/2020
APPENDIX III	Boron	--	0.046	ND (0.076 J)	--	0.051	0.088 J
	Calcium	--	6.7	5.9	--	4.8	5.4
	Chloride	--	17.1	14.1	--	20.0	23.6
	Fluoride	ND	ND (0.14 J)	ND	ND	ND (0.044 J)	ND
	pH ²	5.35	5.32	5.30	4.88	4.89	5.12
	Sulfate	--	17.9	14.6	--	28.5	31.2
	TDS	--	107	110	--	95.0	110
APPENDIX IV	Antimony	ND	ND	ND	ND	ND	ND
	Arsenic	ND (0.0041 J)	ND (0.0038 J)	ND (0.0018 J)	ND (0.0019 J)	ND (0.0010 J)	ND
	Barium	0.048	0.041	0.041	0.13	0.13	0.13
	Beryllium	ND (0.00042 J)	ND (0.00034 J)	ND	ND (0.00021 J)	ND (0.00014 J)	ND
	Cadmium	ND	--	ND	ND	--	ND
	Chromium	ND (0.0026 J)	ND (0.0026 J)	ND	ND (0.00043 J)	ND	ND
	Cobalt	ND	ND	ND	ND (0.00030 J)	ND	ND
	Fluoride	ND	ND (0.14 J)	ND	ND	ND (0.044 J)	ND
	Lead	ND (0.00011 J)	ND (0.00038 J)	ND	ND	ND	ND
	Lithium	ND (0.0020 J)	ND (0.0016 J)	ND	ND	ND	ND
	Mercury	ND	--	ND	ND	--	ND
	Molybdenum	ND	ND	ND	ND	ND	ND
	Radium	2.33	0.979 U	1.84	1.03 U	1.86	1.51
	Selenium	ND (0.0018 J)	ND	ND	ND	ND	ND
	Thallium	ND	ND	ND	ND (0.000066 J)	ND	ND

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

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TDS indicates total dissolved solids

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Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

Table 5
Summary of Groundwater Analytical Data
Plant McManus
Brunswick, GA

List	Parameter	Well ID & Sample Date						
		MCM-17	MCM-17	MCM-17 resample	MCM-17	MCM-18	MCM-19	MCM-20
		8/27/2019	10/16/2019	11/21/2019	3/27/2020	3/27/2020	3/27/2020	3/27/2020
APPENDIX III	Boron	--	1.6	1.5	1.8	ND (0.24 J)	0.96	0.94
	Calcium	--	118	125	222	23.2	122	113
	Chloride	--	4050	3890	4770	1450	6870	7110
	Fluoride	ND	ND (0.083 J)	ND	ND	ND (0.060 J)	ND	ND
	pH ²	6.23	6.54	6.40	6.93	4.34	5.14	3.81
	Sulfate	--	470	428	504	219	836	700
	TDS	--	7740	7720	10200	3090	14300	14600
APPENDIX IV	Antimony	ND	ND	--	ND	ND	ND	ND
	Arsenic	ND (0.0024 J)	ND (0.0043 J)	ND (0.0031 J)	ND	ND (0.0043 J)	0.017	0.027
	Barium	0.11	0.14	--	0.16	0.076	0.12	0.12
	Beryllium	ND (0.00018 J)	ND (0.00014 J)	--	ND	0.0040	0.011	0.018
	Cadmium	ND	--	--	ND	ND	ND	ND
	Chromium	ND (0.0066 J)	ND (0.0063 J)	--	ND	ND	ND	ND (0.0095 J)
	Cobalt	ND	ND	--	ND	ND	ND	0.036
	Fluoride	ND	ND (0.083 J)	ND	ND	ND (0.060 J)	ND	ND
	Lead	ND (0.00014 J)	ND (0.00034 J)	--	ND	ND	ND	ND
	Lithium	ND (0.023 J)	ND (0.024 J)	--	ND (0.033 J)	ND	ND (0.018 J)	ND (0.024 J)
	Mercury	ND	--	--	ND	ND	ND	ND
	Molybdenum	ND	ND	--	ND	ND	ND	ND
	Radium	5.82	7.50	8.89	9.54	10.2	22.8	47.2
	Selenium	ND (0.0018 J)	ND	--	ND	ND (0.0034 J)	0.013	0.012
	Thallium	ND	ND	--	ND	ND	ND	ND

Notes:

Results for substances are reported in milligrams per liter (mg/L). Radium results are reported in picocuries per liter (pCi/L)

ND (Not Detected) indicates the substance was not detected above the analytical method detection limit (MDL)

ND (value J) indicates the substance was detected at such low levels that the precision of the laboratory instruments could not produce a reliable value. Therefore, the value displayed (value J) is qualified by the laboratory as an estimated number

TDS indicates total dissolved solids

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Appendix III = indicator parameters evaluated during Detection Monitoring; Appendix IV = parameters evaluated during Assessment Monitoring

-- indicates the parameter was not analyzed

Table C.1
 June 2020 ASD Supplemental Sample Results
 Georgia Power Company
 Plant McManus Former Ash Pond 1
 Brunswick, Georgia



Analyte	Surface Water				Groundwater			
	Units	BG-1LT-B 6/16/2020	BG-1LT-S 6/16/2020	BG-2-HT-B 6/16/2020	BG-2-HT-S 6/16/2020	DPZ-2 6/16/2020	MCM-06 6/16/2020	MCM-07 6/16/2020
Boron	mg/L	1.3	1.4	2.4	1.7	2.1	2	1.7
Calcium	mg/L	103	118	177	153	245	234	254
Chloride	mg/L	802	368	8100	6450	7780	7760	7580
Sulfate	mg/L	742	736	1120	864	970	663	961
Lithium	mg/L	0.055	0.055	0.091	0.069	0.096	0.12	0.047
Magnesium (total)	mg/L	301	342	593	496	578	624	640
Potassium (total)	mg/L	125	141	178	157	162	157	156
Sodium (total)	mg/L	3030	3120	5250	4010	4840	4840	4680
Manganese (dissolved)	mg/L	0.084	0.1	0.011	0.03	0.26	0.26	0.19
Alkalinity (bicarbonate)	mg/L	80.3	79.1	98.1	80.6	391	725	276
Alkalinity (carbonate)	mg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Alkalinity (as calcium carbonate [CaCO ₃])	mg/L	80.3	79.1	98.1	80.6	391	725	276

Notes:

-- = not sampled

< = analyte not detected in sample. Laboratory reporting limit provided.

mg/L = milligrams per liter

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APPENDIX D

Surface Water Sampling Laboratory Results, Field Sampling Reports and Calibration Reports for Monitoring Events



November 17, 2020

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

RE: Project: MCMANUS SURFACE WATER
Pace Project No.: 92503105

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Pace Analytical Services Charlotte

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

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

Pace Analytical Services Asheville

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

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

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SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92503105001	T1-1HT	Water	10/28/20 09:55	10/30/20 10:30
92503105002	T1-1LT	Water	10/27/20 16:38	10/30/20 10:30
92503105003	T1-2HT	Water	10/28/20 10:07	10/30/20 10:30
92503105004	T1-2HTS	Water	10/28/20 10:00	10/30/20 10:30
92503105005	T1-2LT	Water	10/27/20 16:30	10/30/20 10:30
92503105006	T1-3HT	Water	10/28/20 10:28	10/30/20 10:30
92503105007	T1-3HTS	Water	10/28/20 10:20	10/30/20 10:30
92503105008	T1-3LT	Water	10/27/20 14:14	10/30/20 10:30
92503105009	T1-4HT	Water	10/28/20 12:06	10/30/20 10:30
92503105010	T1-4HTS	Water	10/28/20 11:52	10/30/20 10:30
92503105011	T1-4HLT	Water	10/27/20 10:50	10/30/20 10:30
92503105012	T2-1HT	Water	10/28/20 09:29	10/30/20 10:30
92503105013	T2-2HT	Water	10/28/20 09:41	10/30/20 10:30
92503105014	T2-2HTS	Water	10/28/20 09:33	10/30/20 10:30
92503105015	T2-2LT	Water	10/27/20 15:38	10/30/20 10:30
92503105016	T2-3HT	Water	10/28/20 10:53	10/30/20 10:30
92503105017	T2-3HTS	Water	10/28/20 10:46	10/30/20 10:30
92503105018	T2-3LT	Water	10/27/20 15:08	10/30/20 10:30
92503105019	T2-4HT	Water	10/28/20 11:38	10/30/20 10:30
92503105020	T2-4HTS	Water	10/28/20 11:30	10/30/20 10:30
92503105021	T2-4LT	Water	10/27/20 11:32	10/30/20 10:30
92503105022	T3-1HT	Water	10/28/20 08:40	10/30/20 10:30
92503105023	T3-2HT	Water	10/28/20 08:54	10/30/20 10:30
92503105024	T3-2HTS	Water	10/28/20 08:45	10/30/20 10:30
92503105025	T3-2LT	Water	10/27/20 16:16	10/30/20 10:30
92503105026	T3-3HT	Water	10/28/20 09:13	10/30/20 10:30
92503105027	T3-3HTS	Water	10/28/20 11:11	10/30/20 10:30
92503105028	T3-3LT	Water	10/27/20 15:58	10/30/20 10:30
92503105029	T3-4HT	Water	10/28/20 11:19	10/30/20 10:30
92503105030	T3-4HTS	Water	10/28/20 11:11	10/30/20 10:30
92503105031	T3-4LT	Water	10/27/20 11:46	10/30/20 10:30
92503105032	T4-1HS	Water	10/29/20 09:14	10/30/20 10:30
92503105033	T4-1HB	Water	10/29/20 09:22	10/30/20 10:30
92503105034	T4-1L	Water	10/28/20 16:16	10/30/20 10:30
92503105035	T4-2HS	Water	10/29/20 09:36	10/30/20 10:30
92503105036	T4-2HB	Water	10/29/20 09:50	10/30/20 10:30
92503105037	T4-2L	Water	10/28/20 15:41	10/30/20 10:30

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SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92503105038	T4-3HS	Water	10/29/20 09:59	10/30/20 10:30
92503105039	T4-3HB	Water	10/29/20 10:06	10/30/20 10:30
92503105040	T4-3L	Water	10/28/20 15:26	10/30/20 10:30
92503105041	T4-4HS	Water	10/29/20 10:25	10/30/20 10:30
92503105042	T4-4HB	Water	10/29/20 10:33	10/30/20 10:30
92503105043	T4-4L	Water	10/28/20 15:03	10/30/20 10:30
92503105044	BG-1LT	Water	10/28/20 12:33	10/30/20 10:30
92503105045	BG-2HT	Water	10/27/20 17:20	10/30/20 10:30
92503105046	DUP-1	Water	10/27/20 00:00	10/30/20 10:30
92503105047	DUP-2	Water	10/28/20 00:00	10/30/20 10:30
92503105048	DUP-3	Water	10/28/20 00:00	10/30/20 10:30
92503105049	DUP-4	Water	10/28/20 00:00	10/30/20 10:30
92503105050	DUP-5	Water	10/29/20 00:00	10/30/20 10:30

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503105001	T1-1HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105002	T1-1LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105003	T1-2HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105004	T1-2HTS	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105005	T1-2LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105006	T1-3HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105007	T1-3HTS	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105008	T1-3LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503105009	T1-4HT	SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105010	T1-4HTS	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105011	T1-4HLT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105012	T2-1HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
92503105013	T2-2HT	EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
92503105014	T2-2HTS	SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105015	T2-2LT	SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503105016	T2-3HT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105017	T2-3HTS	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105018	T2-3LT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92503105019	T2-4HT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105020	T2-4HTS	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105021	T2-4LT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92503105022	T3-1HT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105023	T3-2HT	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503105024	T3-2HTS	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105025	T3-2LT	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105026	T3-3HT	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105027	T3-3HTS	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105028	T3-3LT	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105029	T3-4HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105030	T3-4HTS	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105031	T3-4LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105032	T4-1HS	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105033	T4-1HB	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105034	T4-1L	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503105035	T4-2HS	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105036	T4-2HB	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105037	T4-2L	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
92503105038	T4-3HS	EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
92503105039	T4-3HB	SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105040	T4-3L	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92503105041	T4-4HS	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503105042	T4-4HB	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105043	T4-4L	EPA 6010D	DS, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92503105044	BG-1LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105045	BG-2HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105046	DUP-1	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105047	DUP-2	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105048	DUP-3	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105049	DUP-4	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92503105050	DUP-5	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	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.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105001	T1-1HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.43	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	202	mg/L	2.0	11/03/20 21:47	
EPA 6010D	Magnesium	647	mg/L	2.0	11/03/20 21:47	
EPA 6010D	Potassium	189	mg/L	100	11/03/20 21:47	
EPA 6010D	Sodium	3070	mg/L	500	11/04/20 12:10	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	11/04/20 19:04	
EPA 6020B	Boron	2.4	mg/L	1.2	11/04/20 17:29	
EPA 6020B	Lithium	0.089	mg/L	0.030	11/04/20 19:04	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	103	mg/L	5.0	11/05/20 16:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	103	mg/L	5.0	11/05/20 16:41	
SM 2540C-2011	Total Dissolved Solids	21900	mg/L	2500	10/31/20 14:43	
EPA 300.0 Rev 2.1 1993	Chloride	10300	mg/L	200	11/01/20 23:37	M6, R1
EPA 300.0 Rev 2.1 1993	Sulfate	1460	mg/L	200	11/01/20 23:37	M6, R1
92503105002	T1-1LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.48	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	180	mg/L	2.0	11/03/20 21:50	
EPA 6010D	Magnesium	562	mg/L	2.0	11/03/20 21:50	
EPA 6010D	Potassium	169	mg/L	100	11/03/20 21:50	
EPA 6010D	Sodium	2940	mg/L	500	11/04/20 12:14	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/04/20 19:08	
EPA 6020B	Boron	2.2	mg/L	1.2	11/04/20 17:33	
EPA 6020B	Lithium	0.075	mg/L	0.030	11/04/20 19:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	99.2	mg/L	5.0	11/05/20 16:49	
SM 2320B-2011	Alkalinity, Total as CaCO3	99.2	mg/L	5.0	11/05/20 16:49	
SM 2540C-2011	Total Dissolved Solids	18900	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	9880	mg/L	200	11/02/20 01:14	
EPA 300.0 Rev 2.1 1993	Sulfate	1360	mg/L	200	11/02/20 01:14	
92503105003	T1-2HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.30	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	197	mg/L	2.0	11/03/20 21:54	
EPA 6010D	Magnesium	636	mg/L	2.0	11/03/20 21:54	
EPA 6010D	Potassium	187	mg/L	100	11/03/20 21:54	
EPA 6010D	Sodium	3500	mg/L	500	11/04/20 12:17	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/04/20 19:12	
EPA 6020B	Boron	2.5	mg/L	1.2	11/04/20 17:37	
EPA 6020B	Lithium	0.090	mg/L	0.030	11/04/20 19:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	11/05/20 16:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	110	mg/L	5.0	11/05/20 16:57	
SM 2540C-2011	Total Dissolved Solids	21800	mg/L	2500	10/31/20 14:43	
EPA 300.0 Rev 2.1 1993	Chloride	11700	mg/L	200	11/02/20 01:28	
EPA 300.0 Rev 2.1 1993	Sulfate	1620	mg/L	200	11/02/20 01:28	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105004	T1-2HTS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.37	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	210	mg/L	2.0	11/03/20 21:58	
EPA 6010D	Magnesium	668	mg/L	2.0	11/03/20 21:58	
EPA 6010D	Potassium	199	mg/L	100	11/03/20 21:58	
EPA 6010D	Sodium	3990	mg/L	500	11/04/20 12:21	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/04/20 19:16	
EPA 6020B	Boron	2.5	mg/L	1.2	11/04/20 17:41	
EPA 6020B	Lithium	0.089	mg/L	0.030	11/04/20 19:16	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	11/05/20 17:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	11/05/20 17:05	
SM 2540C-2011	Total Dissolved Solids	20800	mg/L	2500	10/31/20 14:43	
EPA 300.0 Rev 2.1 1993	Chloride	17100	mg/L	200	11/02/20 01:43	
EPA 300.0 Rev 2.1 1993	Sulfate	2480	mg/L	200	11/02/20 01:43	
92503105005	T1-2LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.51	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	182	mg/L	2.0	11/03/20 22:01	
EPA 6010D	Magnesium	560	mg/L	2.0	11/03/20 22:01	
EPA 6010D	Potassium	175	mg/L	100	11/03/20 22:01	
EPA 6010D	Sodium	3870	mg/L	500	11/04/20 12:24	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/04/20 19:19	
EPA 6020B	Boron	2.3	mg/L	1.2	11/04/20 17:45	
EPA 6020B	Lithium	0.083	mg/L	0.030	11/04/20 19:19	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	102	mg/L	5.0	11/05/20 17:13	
SM 2320B-2011	Alkalinity, Total as CaCO3	102	mg/L	5.0	11/05/20 17:13	
SM 2540C-2011	Total Dissolved Solids	18700	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	14500	mg/L	200	11/02/20 02:57	
EPA 300.0 Rev 2.1 1993	Sulfate	2060	mg/L	200	11/02/20 02:57	
92503105006	T1-3HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.26	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	221	mg/L	2.0	11/03/20 22:05	
EPA 6010D	Magnesium	683	mg/L	2.0	11/03/20 22:05	
EPA 6010D	Potassium	214	mg/L	100	11/03/20 22:05	
EPA 6010D	Sodium	4000	mg/L	500	11/04/20 12:28	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/04/20 19:31	
EPA 6020B	Boron	2.5	mg/L	1.2	11/04/20 18:00	
EPA 6020B	Lithium	0.091	mg/L	0.030	11/04/20 19:31	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	109	mg/L	5.0	11/05/20 17:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	109	mg/L	5.0	11/05/20 17:20	
SM 2540C-2011	Total Dissolved Solids	21400	mg/L	2500	11/02/20 18:03	
EPA 300.0 Rev 2.1 1993	Chloride	17300	mg/L	200	11/02/20 03:12	
EPA 300.0 Rev 2.1 1993	Sulfate	1410	mg/L	100	11/01/20 05:57	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105007	T1-3HTS					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.34	Std. Units		11/17/20 08:45	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/04/20 18:41	
EPA 6020B	Boron	2.5	mg/L	1.2	11/05/20 11:44	
EPA 6020B	Lithium	0.096	mg/L	0.030	11/04/20 18:41	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	107	mg/L	5.0	11/05/20 17:28	
SM 2320B-2011	Alkalinity, Total as CaCO3	107	mg/L	5.0	11/05/20 17:28	
SM 2540C-2011	Total Dissolved Solids	20600	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	15400	mg/L	200	11/02/20 03:27	
EPA 300.0 Rev 2.1 1993	Sulfate	2220	mg/L	200	11/02/20 03:27	
92503105008	T1-3LT					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.92	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	66.4	mg/L	2.0	11/03/20 22:12	
EPA 6010D	Magnesium	139	mg/L	2.0	11/03/20 22:12	
EPA 6010D	Sodium	1200	mg/L	100	11/03/20 22:12	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/04/20 18:45	
EPA 6020B	Boron	0.78	mg/L	0.50	11/04/20 18:45	
EPA 6020B	Lithium	0.027J	mg/L	0.030	11/04/20 18:45	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	48.6	mg/L	5.0	11/05/20 17:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	48.6	mg/L	5.0	11/05/20 17:36	
SM 2540C-2011	Total Dissolved Solids	7400	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	2190	mg/L	100	11/01/20 06:26	
EPA 300.0 Rev 2.1 1993	Fluoride	0.32	mg/L	0.10	10/31/20 19:01	
EPA 300.0 Rev 2.1 1993	Sulfate	359	mg/L	100	11/01/20 06:26	
92503105009	T1-4HT					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.39	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	202	mg/L	2.0	11/03/20 22:23	
EPA 6010D	Magnesium	658	mg/L	2.0	11/03/20 22:23	
EPA 6010D	Potassium	187	mg/L	100	11/03/20 22:23	
EPA 6010D	Sodium	4340	mg/L	500	11/04/20 12:32	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/04/20 19:35	
EPA 6020B	Boron	2.6	mg/L	1.2	11/04/20 18:04	
EPA 6020B	Lithium	0.090	mg/L	0.030	11/04/20 19:35	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	5.0	11/05/20 17:44	
SM 2320B-2011	Alkalinity, Total as CaCO3	104	mg/L	5.0	11/05/20 17:44	
SM 2540C-2011	Total Dissolved Solids	19100	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	14700	mg/L	200	11/02/20 03:56	
EPA 300.0 Rev 2.1 1993	Sulfate	2120	mg/L	200	11/02/20 03:56	
92503105010	T1-4HTS					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.36	Std. Units		11/17/20 08:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503105010	T1-4HTS					
EPA 6010D	Calcium	202	mg/L	2.0	11/03/20 22:27	
EPA 6010D	Magnesium	665	mg/L	2.0	11/03/20 22:27	
EPA 6010D	Potassium	186	mg/L	100	11/03/20 22:27	
EPA 6010D	Sodium	3540	mg/L	500	11/04/20 12:35	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/04/20 19:38	
EPA 6020B	Boron	2.6	mg/L	1.2	11/04/20 18:07	
EPA 6020B	Lithium	0.085	mg/L	0.030	11/04/20 19:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/05/20 18:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/05/20 18:01	
SM 2540C-2011	Total Dissolved Solids	19800	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	11200	mg/L	200	11/02/20 04:11	
EPA 300.0 Rev 2.1 1993	Sulfate	1540	mg/L	200	11/02/20 04:11	
92503105011	T1-4HLT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.34	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	203	mg/L	2.0	11/03/20 22:31	
EPA 6010D	Magnesium	671	mg/L	2.0	11/03/20 22:31	
EPA 6010D	Potassium	188	mg/L	100	11/03/20 22:31	
EPA 6010D	Sodium	4650	mg/L	500	11/04/20 12:39	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/04/20 19:50	
EPA 6020B	Boron	2.5	mg/L	1.2	11/04/20 18:11	
EPA 6020B	Lithium	0.090	mg/L	0.030	11/04/20 19:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	5.0	11/05/20 18:27	
SM 2320B-2011	Alkalinity, Total as CaCO3	104	mg/L	5.0	11/05/20 18:27	
SM 2540C-2011	Total Dissolved Solids	22300	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	12600	mg/L	200	11/02/20 04:25	M6, R1
EPA 300.0 Rev 2.1 1993	Sulfate	1800	mg/L	200	11/02/20 04:25	M6, R1
92503105012	T2-1HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.44	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	192	mg/L	2.0	11/03/20 22:34	
EPA 6010D	Magnesium	651	mg/L	2.0	11/03/20 22:34	
EPA 6010D	Potassium	179	mg/L	100	11/03/20 22:34	
EPA 6010D	Sodium	4450	mg/L	500	11/04/20 12:43	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/04/20 19:53	
EPA 6020B	Boron	2.6	mg/L	1.2	11/04/20 18:15	
EPA 6020B	Lithium	0.091	mg/L	0.030	11/04/20 19:53	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 18:38	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 18:38	
SM 2540C-2011	Total Dissolved Solids	19800	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	12800	mg/L	200	11/02/20 06:09	
EPA 300.0 Rev 2.1 1993	Sulfate	1820	mg/L	200	11/02/20 06:09	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105013	T2-2HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.30	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	207	mg/L	2.0	11/03/20 22:38	
EPA 6010D	Magnesium	690	mg/L	2.0	11/03/20 22:38	
EPA 6010D	Potassium	193	mg/L	100	11/03/20 22:38	
EPA 6010D	Sodium	3940	mg/L	500	11/04/20 12:53	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/04/20 19:57	
EPA 6020B	Boron	2.5	mg/L	1.2	11/04/20 18:30	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/04/20 19:57	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	5.0	11/05/20 18:48	
SM 2320B-2011	Alkalinity, Total as CaCO3	108	mg/L	5.0	11/05/20 18:48	
SM 2540C-2011	Total Dissolved Solids	20800	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	11600	mg/L	200	11/02/20 06:23	
EPA 300.0 Rev 2.1 1993	Sulfate	1590	mg/L	200	11/02/20 06:23	
92503105014	T2-2HTS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.38	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	192	mg/L	2.0	11/03/20 22:42	
EPA 6010D	Magnesium	639	mg/L	2.0	11/03/20 22:42	
EPA 6010D	Potassium	179	mg/L	100	11/03/20 22:42	
EPA 6010D	Sodium	3590	mg/L	500	11/04/20 12:57	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/04/20 20:01	
EPA 6020B	Boron	2.6	mg/L	1.2	11/04/20 18:34	
EPA 6020B	Lithium	0.091	mg/L	0.030	11/04/20 20:01	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/05/20 18:59	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/05/20 18:59	
SM 2540C-2011	Total Dissolved Solids	19400	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	11300	mg/L	200	11/02/20 06:38	
EPA 300.0 Rev 2.1 1993	Sulfate	1540	mg/L	200	11/02/20 06:38	
92503105015	T2-2LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.47	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	191	mg/L	2.0	11/03/20 22:45	
EPA 6010D	Magnesium	622	mg/L	2.0	11/03/20 22:45	
EPA 6010D	Potassium	177	mg/L	100	11/03/20 22:45	
EPA 6010D	Sodium	3910	mg/L	500	11/04/20 13:01	
EPA 6020B	Arsenic	0.0033J	mg/L	0.0050	11/04/20 20:05	
EPA 6020B	Boron	2.5	mg/L	1.2	11/04/20 18:38	
EPA 6020B	Lithium	0.087	mg/L	0.030	11/04/20 20:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	11/05/20 19:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	11/05/20 19:10	
SM 2540C-2011	Total Dissolved Solids	20200	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	11000	mg/L	200	11/02/20 06:53	
EPA 300.0 Rev 2.1 1993	Sulfate	1560	mg/L	200	11/02/20 06:53	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105016	T2-3HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.26	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	206	mg/L	2.0	11/03/20 22:49	
EPA 6010D	Magnesium	669	mg/L	2.0	11/03/20 22:49	
EPA 6010D	Potassium	193	mg/L	100	11/03/20 22:49	
EPA 6010D	Sodium	3910	mg/L	500	11/04/20 13:04	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/05/20 16:05	
EPA 6020B	Boron	2.4	mg/L	1.2	11/05/20 12:18	M6
EPA 6020B	Lithium	0.093	mg/L	0.030	11/05/20 16:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 19:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 19:20	
SM 2540C-2011	Total Dissolved Solids	19700	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	11000	mg/L	200	11/02/20 07:07	
EPA 300.0 Rev 2.1 1993	Sulfate	1520	mg/L	200	11/02/20 07:07	
92503105017	T2-3HTS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.37	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	199	mg/L	2.0	11/03/20 22:53	
EPA 6010D	Magnesium	660	mg/L	2.0	11/03/20 22:53	
EPA 6010D	Potassium	187	mg/L	100	11/03/20 22:53	
EPA 6010D	Sodium	4070	mg/L	500	11/04/20 13:08	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/05/20 16:31	
EPA 6020B	Boron	2.5	mg/L	1.2	11/05/20 12:33	
EPA 6020B	Lithium	0.092	mg/L	0.030	11/05/20 16:31	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	5.0	11/05/20 19:31	
SM 2320B-2011	Alkalinity, Total as CaCO3	104	mg/L	5.0	11/05/20 19:31	
SM 2540C-2011	Total Dissolved Solids	19800	mg/L	2500	11/02/20 18:04	
EPA 300.0 Rev 2.1 1993	Chloride	12700	mg/L	200	11/02/20 07:22	
EPA 300.0 Rev 2.1 1993	Sulfate	1870	mg/L	200	11/02/20 07:22	
92503105018	T2-3LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.31	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	153	mg/L	2.0	11/03/20 22:56	
EPA 6010D	Magnesium	535	mg/L	2.0	11/03/20 22:56	
EPA 6010D	Potassium	143	mg/L	100	11/03/20 22:56	
EPA 6010D	Sodium	3120	mg/L	500	11/04/20 13:11	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	11/05/20 16:35	
EPA 6020B	Boron	2.2	mg/L	1.2	11/05/20 12:37	
EPA 6020B	Lithium	0.084	mg/L	0.030	11/05/20 16:35	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	5.0	11/05/20 19:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	104	mg/L	5.0	11/05/20 19:51	
SM 2540C-2011	Total Dissolved Solids	19300	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	9330	mg/L	200	11/02/20 21:26	
EPA 300.0 Rev 2.1 1993	Sulfate	1260	mg/L	200	11/02/20 21:26	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105019	T2-4HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.33	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	205	mg/L	2.0	11/04/20 03:58	
EPA 6010D	Magnesium	654	mg/L	2.0	11/04/20 03:58	
EPA 6010D	Potassium	202	mg/L	100	11/04/20 03:58	
EPA 6010D	Sodium	4200	mg/L	500	11/05/20 00:57	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/05/20 16:39	
EPA 6020B	Boron	2.4	mg/L	1.2	11/05/20 12:40	
EPA 6020B	Lithium	0.092	mg/L	0.030	11/05/20 16:39	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/05/20 20:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/05/20 20:02	
SM 2540C-2011	Total Dissolved Solids	20600	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	9790	mg/L	200	11/02/20 21:40	
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	200	11/02/20 21:40	
92503105020	T2-4HTS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.35	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	198	mg/L	2.0	11/04/20 04:01	
EPA 6010D	Magnesium	635	mg/L	2.0	11/04/20 04:01	
EPA 6010D	Potassium	195	mg/L	100	11/04/20 04:01	
EPA 6010D	Sodium	5200	mg/L	500	11/05/20 01:01	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/05/20 17:05	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 12:44	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/05/20 17:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 20:22	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 20:22	
SM 2540C-2011	Total Dissolved Solids	19900	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	13800	mg/L	200	11/02/20 21:55	
EPA 300.0 Rev 2.1 1993	Sulfate	2150	mg/L	200	11/02/20 21:55	
92503105021	T2-4LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.33	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	196	mg/L	2.0	11/04/20 04:05	
EPA 6010D	Magnesium	618	mg/L	2.0	11/04/20 04:05	
EPA 6010D	Potassium	193	mg/L	100	11/04/20 04:05	
EPA 6010D	Sodium	5270	mg/L	500	11/05/20 01:04	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/05/20 17:09	
EPA 6020B	Boron	2.5	mg/L	1.2	11/05/20 12:48	
EPA 6020B	Lithium	0.089	mg/L	0.030	11/05/20 17:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/05/20 20:50	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/05/20 20:50	
SM 2540C-2011	Total Dissolved Solids	19600	mg/L	2500	10/31/20 14:42	
EPA 300.0 Rev 2.1 1993	Chloride	10300	mg/L	200	11/02/20 22:10	M6
EPA 300.0 Rev 2.1 1993	Sulfate	1430	mg/L	200	11/02/20 22:10	M6

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105022	T3-1HT					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.24	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	187	mg/L	2.0	11/04/20 22:41	M6, R1
EPA 6010D	Magnesium	605	mg/L	2.0	11/04/20 22:41	M6
EPA 6010D	Potassium	182	mg/L	100	11/04/20 22:41	M6, R1
EPA 6010D	Sodium	5770	mg/L	500	11/05/20 18:00	M6
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	11/09/20 16:57	
EPA 6020B	Boron	2.4	mg/L	1.2	11/10/20 11:00	
EPA 6020B	Lithium	0.095	mg/L	0.030	11/09/20 16:57	
SM 2320B-2011	Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 21:00	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 21:00	
92503105023	T3-2HT					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.25	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	228	mg/L	2.0	11/04/20 23:10	
EPA 6010D	Magnesium	704	mg/L	2.0	11/04/20 23:10	
EPA 6010D	Potassium	219	mg/L	100	11/04/20 23:10	
EPA 6010D	Sodium	5790	mg/L	500	11/05/20 18:22	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/09/20 17:01	
EPA 6020B	Boron	2.5	mg/L	1.2	11/10/20 11:04	M6
EPA 6020B	Lithium	0.10	mg/L	0.030	11/09/20 17:01	
SM 2320B-2011	Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 21:11	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 21:11	
92503105024	T3-2HTS					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.17	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	199	mg/L	2.0	11/04/20 23:14	
EPA 6010D	Magnesium	620	mg/L	2.0	11/04/20 23:14	
EPA 6010D	Potassium	191	mg/L	100	11/04/20 23:14	
EPA 6010D	Sodium	5880	mg/L	500	11/05/20 18:26	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/09/20 17:42	
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 11:23	
EPA 6020B	Lithium	0.099	mg/L	0.030	11/09/20 17:42	
SM 2320B-2011	Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 21:30	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 21:30	
92503105025	T3-2LT					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.50	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	190	mg/L	2.0	11/04/20 23:18	
EPA 6010D	Magnesium	588	mg/L	2.0	11/04/20 23:18	
EPA 6010D	Potassium	181	mg/L	100	11/04/20 23:18	
EPA 6010D	Sodium	4660	mg/L	500	11/05/20 18:29	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	11/09/20 17:46	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503105025	T3-2LT					
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 11:27	
EPA 6020B	Lithium	0.095	mg/L	0.030	11/09/20 17:46	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	108	mg/L	5.0	11/05/20 21:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	108	mg/L	5.0	11/05/20 21:41	
92503105026	T3-3HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.29	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	206	mg/L	2.0	11/04/20 23:22	
EPA 6010D	Magnesium	647	mg/L	2.0	11/04/20 23:22	
EPA 6010D	Potassium	199	mg/L	100	11/04/20 23:22	
EPA 6010D	Sodium	3980	mg/L	500	11/05/20 18:33	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/09/20 17:54	
EPA 6020B	Boron	2.7	mg/L	1.2	11/10/20 11:31	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/09/20 17:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	11/05/20 21:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	106	mg/L	5.0	11/05/20 21:51	
92503105027	T3-3HTS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.40	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	188	mg/L	2.0	11/04/20 23:25	
EPA 6010D	Magnesium	586	mg/L	2.0	11/04/20 23:25	
EPA 6010D	Potassium	180	mg/L	100	11/04/20 23:25	
EPA 6010D	Sodium	5610	mg/L	500	11/05/20 18:37	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/09/20 17:58	
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 11:35	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/09/20 17:58	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	107	mg/L	5.0	11/05/20 22:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	107	mg/L	5.0	11/05/20 22:01	
92503105028	T3-3LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.42	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	167	mg/L	2.0	11/04/20 23:29	
EPA 6010D	Magnesium	542	mg/L	2.0	11/04/20 23:29	
EPA 6010D	Potassium	159	mg/L	100	11/04/20 23:29	
EPA 6010D	Sodium	5680	mg/L	500	11/05/20 18:40	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	11/09/20 18:01	
EPA 6020B	Boron	2.4	mg/L	1.2	11/10/20 11:46	
EPA 6020B	Lithium	0.098	mg/L	0.030	11/09/20 18:01	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/05/20 22:11	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/05/20 22:11	
92503105029	T3-4HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105029	T3-4HT					
	pH	7.30	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	172	mg/L	2.0	11/04/20 23:33	
EPA 6010D	Magnesium	570	mg/L	2.0	11/04/20 23:33	
EPA 6010D	Potassium	165	mg/L	100	11/04/20 23:33	
EPA 6010D	Sodium	5480	mg/L	1000	11/06/20 15:25	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/09/20 18:32	
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 11:50	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/09/20 18:32	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	5.0	11/05/20 22:21	
SM 2320B-2011	Alkalinity, Total as CaCO3	104	mg/L	5.0	11/05/20 22:21	
92503105030	T3-4HTS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.39	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	171	mg/L	2.0	11/04/20 23:37	
EPA 6010D	Magnesium	544	mg/L	2.0	11/04/20 23:37	
EPA 6010D	Potassium	163	mg/L	100	11/04/20 23:37	
EPA 6010D	Sodium	5840	mg/L	500	11/05/20 18:47	
EPA 6020B	Arsenic	0.0027J	mg/L	0.0050	11/09/20 18:35	
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 11:54	
EPA 6020B	Lithium	0.095	mg/L	0.030	11/09/20 18:35	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	103	mg/L	5.0	11/05/20 22:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	103	mg/L	5.0	11/05/20 22:32	
92503105031	T3-4LT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.29	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	149	mg/L	2.0	11/04/20 23:40	
EPA 6010D	Magnesium	497	mg/L	2.0	11/04/20 23:40	
EPA 6010D	Potassium	142	mg/L	100	11/04/20 23:40	
EPA 6010D	Sodium	5090	mg/L	500	11/06/20 12:48	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	11/09/20 18:43	
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 11:58	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/09/20 18:43	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	107	mg/L	5.0	11/05/20 22:59	
SM 2320B-2011	Alkalinity, Total as CaCO3	107	mg/L	5.0	11/05/20 22:59	
92503105032	T4-1HS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.19	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	213	mg/L	2.0	11/04/20 04:09	
EPA 6010D	Magnesium	675	mg/L	2.0	11/04/20 04:09	
EPA 6010D	Potassium	213	mg/L	100	11/04/20 04:09	
EPA 6010D	Sodium	5760	mg/L	500	11/05/20 01:08	
EPA 6020B	Arsenic	0.0030J	mg/L	0.0050	11/05/20 17:13	
EPA 6020B	Boron	2.8	mg/L	1.2	11/05/20 12:52	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105032	T4-1HS					
EPA 6020B	Lithium	0.11	mg/L	0.030	11/05/20 17:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/05/20 23:19	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/05/20 23:19	
SM 2540C-2011	Total Dissolved Solids	20300	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	10700	mg/L	200	11/02/20 22:54	
EPA 300.0 Rev 2.1 1993	Sulfate	1480	mg/L	100	11/01/20 11:50	
92503105033	T4-1HB					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.25	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	218	mg/L	2.0	11/04/20 04:12	
EPA 6010D	Magnesium	686	mg/L	2.0	11/04/20 04:12	
EPA 6010D	Potassium	220	mg/L	100	11/04/20 04:12	
EPA 6010D	Sodium	5970	mg/L	500	11/05/20 01:12	
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	11/05/20 17:28	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 13:14	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 17:28	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/05/20 23:30	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/05/20 23:30	
SM 2540C-2011	Total Dissolved Solids	21100	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	14600	mg/L	200	11/02/20 23:08	
EPA 300.0 Rev 2.1 1993	Sulfate	1450	mg/L	100	11/01/20 12:04	
92503105034	T4-1L					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.66	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	199	mg/L	2.0	11/04/20 04:30	
EPA 6010D	Magnesium	667	mg/L	2.0	11/04/20 04:30	
EPA 6010D	Potassium	193	mg/L	100	11/04/20 04:30	
EPA 6010D	Sodium	5870	mg/L	500	11/05/20 13:20	
EPA 6020B	Arsenic	0.0037J	mg/L	0.0050	11/05/20 17:32	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 13:18	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 17:32	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	11/05/20 23:40	
SM 2320B-2011	Alkalinity, Total as CaCO3	110	mg/L	5.0	11/05/20 23:40	
SM 2540C-2011	Total Dissolved Solids	21000	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	11200	mg/L	200	11/02/20 23:23	
EPA 300.0 Rev 2.1 1993	Sulfate	1570	mg/L	200	11/02/20 23:23	
92503105035	T4-2HS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.37	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	190	mg/L	2.0	11/04/20 04:34	
EPA 6010D	Magnesium	667	mg/L	2.0	11/04/20 04:34	
EPA 6010D	Potassium	184	mg/L	100	11/04/20 04:34	
EPA 6010D	Sodium	5140	mg/L	500	11/05/20 13:24	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105035	T4-2HS					
EPA 6020B	Arsenic	0.0029J	mg/L	0.0050	11/05/20 17:35	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 13:22	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 17:35	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/05/20 23:50	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/05/20 23:50	
SM 2540C-2011	Total Dissolved Solids	20200	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	13300	mg/L	200	11/02/20 23:38	
EPA 300.0 Rev 2.1 1993	Sulfate	1440	mg/L	100	11/01/20 12:34	
92503105036	T4-2HB					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.34	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	174	mg/L	2.0	11/04/20 04:38	
EPA 6010D	Magnesium	623	mg/L	2.0	11/04/20 04:38	
EPA 6010D	Potassium	171	mg/L	100	11/04/20 04:38	
EPA 6010D	Sodium	5820	mg/L	500	11/05/20 13:27	
EPA 6020B	Arsenic	0.0028J	mg/L	0.0050	11/05/20 18:02	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 13:26	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 18:02	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	11/06/20 00:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	113	mg/L	5.0	11/06/20 00:01	
SM 2540C-2011	Total Dissolved Solids	22300	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	17100	mg/L	200	11/03/20 00:37	
EPA 300.0 Rev 2.1 1993	Sulfate	1460	mg/L	100	11/01/20 12:49	
92503105037	T4-2L					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.49	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	196	mg/L	2.0	11/04/20 04:41	
EPA 6010D	Magnesium	662	mg/L	2.0	11/04/20 04:41	
EPA 6010D	Potassium	193	mg/L	100	11/04/20 04:41	
EPA 6010D	Sodium	5680	mg/L	500	11/05/20 13:31	
EPA 6020B	Arsenic	0.0034J	mg/L	0.0050	11/05/20 18:06	
EPA 6020B	Boron	2.5	mg/L	1.2	11/05/20 13:45	
EPA 6020B	Lithium	0.098	mg/L	0.030	11/05/20 18:06	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/06/20 00:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/06/20 00:12	
SM 2540C-2011	Total Dissolved Solids	22200	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	13200	mg/L	200	11/03/20 00:52	
EPA 300.0 Rev 2.1 1993	Sulfate	1430	mg/L	100	11/01/20 13:03	
92503105038	T4-3HS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.37	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	170	mg/L	2.0	11/04/20 04:45	
EPA 6010D	Magnesium	579	mg/L	2.0	11/04/20 04:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105038	T4-3HS					
EPA 6010D	Potassium	172	mg/L	100	11/04/20 04:45	
EPA 6010D	Sodium	4650	mg/L	500	11/05/20 13:35	
EPA 6020B	Arsenic	0.0028J	mg/L	0.0050	11/05/20 18:09	
EPA 6020B	Boron	2.7	mg/L	1.2	11/05/20 13:48	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/05/20 18:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	11/06/20 00:22	
SM 2320B-2011	Alkalinity, Total as CaCO3	113	mg/L	5.0	11/06/20 00:22	
SM 2540C-2011	Total Dissolved Solids	22100	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	12700	mg/L	200	11/03/20 01:06	
EPA 300.0 Rev 2.1 1993	Sulfate	1450	mg/L	100	11/01/20 13:18	
92503105039	T4-3HB					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.29	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	199	mg/L	2.0	11/04/20 04:49	
EPA 6010D	Magnesium	650	mg/L	2.0	11/04/20 04:49	
EPA 6010D	Potassium	200	mg/L	100	11/04/20 04:49	
EPA 6010D	Sodium	5370	mg/L	500	11/05/20 13:45	
EPA 6020B	Arsenic	0.0027J	mg/L	0.0050	11/05/20 18:25	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 13:52	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 18:25	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/06/20 00:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/06/20 00:32	
SM 2540C-2011	Total Dissolved Solids	20700	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	13600	mg/L	200	11/03/20 01:21	
EPA 300.0 Rev 2.1 1993	Sulfate	1440	mg/L	100	11/01/20 14:02	
92503105040	T4-3L					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.49	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	206	mg/L	2.0	11/04/20 04:52	
EPA 6010D	Magnesium	668	mg/L	2.0	11/04/20 04:52	
EPA 6010D	Potassium	205	mg/L	100	11/04/20 04:52	
EPA 6010D	Sodium	5020	mg/L	500	11/05/20 13:49	
EPA 6020B	Arsenic	0.0037J	mg/L	0.0050	11/05/20 18:28	
EPA 6020B	Boron	2.7	mg/L	1.2	11/05/20 13:56	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 18:28	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/06/20 11:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/06/20 11:54	
SM 2540C-2011	Total Dissolved Solids	23800	mg/L	2500	11/02/20 18:05	
EPA 300.0 Rev 2.1 1993	Chloride	13600	mg/L	200	11/03/20 01:36	
EPA 300.0 Rev 2.1 1993	Sulfate	1460	mg/L	100	11/01/20 14:17	
92503105041	T4-4HS					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.40	Std. Units		11/17/20 08:45	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105041	T4-4HS					
EPA 6010D	Calcium	207	mg/L	2.0	11/04/20 04:56	
EPA 6010D	Magnesium	670	mg/L	2.0	11/04/20 04:56	
EPA 6010D	Potassium	207	mg/L	100	11/04/20 04:56	
EPA 6010D	Sodium	4770	mg/L	500	11/05/20 13:53	
EPA 6020B	Arsenic	0.0028J	mg/L	0.0050	11/05/20 18:32	
EPA 6020B	Boron	2.7	mg/L	1.2	11/05/20 14:00	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/05/20 18:32	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	11/06/20 12:24	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	11/06/20 12:24	
SM 2540C-2011	Total Dissolved Solids	20700	mg/L	2500	11/03/20 17:09	
EPA 300.0 Rev 2.1 1993	Chloride	14900	mg/L	200	11/03/20 01:51	M6
EPA 300.0 Rev 2.1 1993	Sulfate	1470	mg/L	100	11/01/20 14:32	M6
92503105042	T4-4HB					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.33	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	157	mg/L	2.0	11/04/20 23:44	
EPA 6010D	Magnesium	552	mg/L	2.0	11/04/20 23:44	
EPA 6010D	Potassium	150	mg/L	100	11/04/20 23:44	
EPA 6010D	Sodium	5380	mg/L	500	11/06/20 12:52	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/09/20 18:47	
EPA 6020B	Boron	2.8	mg/L	1.2	11/10/20 12:01	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/09/20 18:47	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	109	mg/L	5.0	11/06/20 12:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	109	mg/L	5.0	11/06/20 12:36	
92503105043	T4-4L					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.53	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	208	mg/L	2.0	11/04/20 05:00	
EPA 6010D	Magnesium	678	mg/L	2.0	11/04/20 05:00	
EPA 6010D	Potassium	208	mg/L	100	11/04/20 05:00	
EPA 6010D	Sodium	5430	mg/L	500	11/05/20 13:56	
EPA 6020B	Arsenic	0.0034J	mg/L	0.0050	11/05/20 18:47	
EPA 6020B	Boron	2.6	mg/L	1.2	11/05/20 14:04	
EPA 6020B	Lithium	0.098	mg/L	0.030	11/05/20 18:47	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/06/20 12:47	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/06/20 12:47	
SM 2540C-2011	Total Dissolved Solids	22300	mg/L	2500	11/03/20 17:09	
EPA 300.0 Rev 2.1 1993	Chloride	11700	mg/L	200	11/03/20 02:35	
EPA 300.0 Rev 2.1 1993	Sulfate	1420	mg/L	100	11/01/20 15:16	
92503105044	BG-1LT					
	Performed by	CUSTOMER			11/17/20 08:45	
	pH	7.33	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	171	mg/L	2.0	11/04/20 23:55	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92503105044	BG-1LT					
EPA 6010D	Magnesium	548	mg/L	2.0	11/04/20 23:55	
EPA 6010D	Potassium	160	mg/L	100	11/04/20 23:55	
EPA 6010D	Sodium	5690	mg/L	500	11/06/20 12:55	
EPA 6020B	Arsenic	0.0021J	mg/L	0.0050	11/09/20 18:51	
EPA 6020B	Boron	2.5	mg/L	1.2	11/10/20 12:16	
EPA 6020B	Lithium	0.095	mg/L	0.030	11/09/20 18:51	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	107	mg/L	5.0	11/06/20 12:59	
SM 2320B-2011	Alkalinity, Total as CaCO3	107	mg/L	5.0	11/06/20 12:59	
92503105045	BG-2HT					
	Performed by	CUSTOME			11/17/20 08:45	
		R				
	pH	7.40	Std. Units		11/17/20 08:45	
EPA 6010D	Calcium	175	mg/L	2.0	11/04/20 23:59	
EPA 6010D	Magnesium	601	mg/L	2.0	11/04/20 23:59	
EPA 6010D	Potassium	168	mg/L	100	11/04/20 23:59	
EPA 6010D	Sodium	6230	mg/L	500	11/06/20 13:06	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/09/20 19:09	
EPA 6020B	Boron	2.9	mg/L	1.2	11/10/20 12:20	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/09/20 19:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	11/06/20 13:11	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	11/06/20 13:11	
92503105046	DUP-1					
EPA 6010D	Calcium	138	mg/L	2.0	11/05/20 00:03	
EPA 6010D	Magnesium	453	mg/L	2.0	11/05/20 00:03	
EPA 6010D	Potassium	130	mg/L	100	11/05/20 00:03	
EPA 6010D	Sodium	5040	mg/L	500	11/06/20 13:10	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/09/20 19:13	
EPA 6020B	Boron	2.4	mg/L	1.2	11/10/20 12:35	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/09/20 19:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/06/20 13:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/06/20 13:32	
92503105047	DUP-2					
EPA 6010D	Calcium	147	mg/L	2.0	11/05/20 00:06	
EPA 6010D	Magnesium	520	mg/L	2.0	11/05/20 00:06	
EPA 6010D	Potassium	138	mg/L	100	11/05/20 00:06	
EPA 6010D	Sodium	5240	mg/L	500	11/06/20 13:13	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/09/20 19:17	
EPA 6020B	Boron	2.5	mg/L	1.2	11/10/20 12:39	
EPA 6020B	Lithium	0.097	mg/L	0.030	11/09/20 19:17	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	104	mg/L	5.0	11/06/20 13:44	
SM 2320B-2011	Alkalinity, Total as CaCO3	104	mg/L	5.0	11/06/20 13:44	
92503105048	DUP-3					
EPA 6010D	Calcium	148	mg/L	2.0	11/05/20 00:10	
EPA 6010D	Magnesium	493	mg/L	2.0	11/05/20 00:10	
EPA 6010D	Potassium	140	mg/L	100	11/05/20 00:10	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503105048	DUP-3					
EPA 6010D	Sodium	5330	mg/L	500	11/06/20 13:17	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/09/20 19:25	
EPA 6020B	Boron	2.6	mg/L	1.2	11/10/20 12:43	
EPA 6020B	Lithium	0.098	mg/L	0.030	11/09/20 19:25	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	11/06/20 13:55	
SM 2320B-2011	Alkalinity, Total as CaCO3	105	mg/L	5.0	11/06/20 13:55	
92503105049	DUP-4					
EPA 6010D	Calcium	167	mg/L	2.0	11/05/20 00:14	
EPA 6010D	Magnesium	567	mg/L	2.0	11/05/20 00:14	
EPA 6010D	Potassium	159	mg/L	100	11/05/20 00:14	
EPA 6010D	Sodium	5620	mg/L	500	11/06/20 13:21	
EPA 6020B	Arsenic	0.0031J	mg/L	0.0050	11/09/20 19:28	
EPA 6020B	Boron	2.8	mg/L	1.2	11/10/20 12:47	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/09/20 19:28	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	11/06/20 14:06	
SM 2320B-2011	Alkalinity, Total as CaCO3	113	mg/L	5.0	11/06/20 14:06	
92503105050	DUP-5					
EPA 6010D	Calcium	170	mg/L	2.0	11/05/20 00:18	
EPA 6010D	Magnesium	578	mg/L	2.0	11/05/20 00:18	
EPA 6010D	Potassium	162	mg/L	100	11/05/20 00:18	
EPA 6010D	Sodium	5180	mg/L	500	11/06/20 13:24	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/09/20 19:32	
EPA 6020B	Boron	2.9	mg/L	1.2	11/10/20 12:50	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/09/20 19:32	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	11/06/20 14:17	
SM 2320B-2011	Alkalinity, Total as CaCO3	113	mg/L	5.0	11/06/20 14:17	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-1HT		Lab ID: 92503105001		Collected: 10/28/20 09:55		Received: 10/30/20 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		11/17/20 08:45		
pH	7.43	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	202	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 21:47	7440-70-2	
Magnesium	647	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 21:47	7439-95-4	
Potassium	189	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 21:47	7440-09-7	
Sodium	3070	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:10	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0022J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 19:04	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 17:29	7440-42-8	
Lithium	0.089	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:04	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	103	mg/L	5.0	5.0	1		11/05/20 16:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 16:41		
Alkalinity, Total as CaCO3	103	mg/L	5.0	5.0	1		11/05/20 16:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	21900	mg/L	2500	2500	1		10/31/20 14:43		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	10300	mg/L	200	120	200		11/01/20 23:37	16887-00-6	M6,R1
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 16:17	16984-48-8	M1
Sulfate	1460	mg/L	200	100	200		11/01/20 23:37	14808-79-8	M6,R1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-1LT **Lab ID:** 92503105002 **Collected:** 10/27/20 16:38 **Received:** 10/30/20 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		11/17/20 08:45		
pH	7.48	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	180	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 21:50	7440-70-2	
Magnesium	562	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 21:50	7439-95-4	
Potassium	169	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 21:50	7440-09-7	
Sodium	2940	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:14	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	11/03/20 01:04	11/04/20 19:08	7440-38-2	
Boron	2.2	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 17:33	7440-42-8	
Lithium	0.075	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:08	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	99.2	mg/L	5.0	5.0	1		11/05/20 16:49		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 16:49		
Alkalinity, Total as CaCO3	99.2	mg/L	5.0	5.0	1		11/05/20 16:49		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18900	mg/L	2500	2500	1		10/31/20 14:42		
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		11/02/20 01:14	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 17:01	16984-48-8	
Sulfate	1360	mg/L	200	100	200		11/02/20 01:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T1-2HT									
Lab ID: 92503105003									
Collected: 10/28/20 10:07									
Received: 10/30/20 10:30									
Matrix: Water									
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/17/20 08:45		
pH	7.30	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	197	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 21:54	7440-70-2	
Magnesium	636	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 21:54	7439-95-4	
Potassium	187	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 21:54	7440-09-7	
Sodium	3500	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:17	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 19:12	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 17:37	7440-42-8	
Lithium	0.090	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:12	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	110	mg/L	5.0	5.0	1		11/05/20 16:57		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 16:57		
Alkalinity, Total as CaCO3	110	mg/L	5.0	5.0	1		11/05/20 16:57		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	21800	mg/L	2500	2500	1		10/31/20 14:43		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	11700	mg/L	200	120	200		11/02/20 01:28	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 17:16	16984-48-8	
Sulfate	1620	mg/L	200	100	200		11/02/20 01:28	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-2HTS **Lab ID: 92503105004** Collected: 10/28/20 10:00 Received: 10/30/20 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		11/17/20 08:45		
pH	7.37	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	210	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 21:58	7440-70-2	
Magnesium	668	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 21:58	7439-95-4	
Potassium	199	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 21:58	7440-09-7	
Sodium	3990	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:21	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 19:16	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 17:41	7440-42-8	
Lithium	0.089	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:16	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		11/05/20 17:05		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 17:05		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		11/05/20 17:05		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20800	mg/L	2500	2500	1		10/31/20 14:43		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	17100	mg/L	200	120	200		11/02/20 01:43	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 17:31	16984-48-8	
Sulfate	2480	mg/L	200	100	200		11/02/20 01:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-2LT **Lab ID:** 92503105005 Collected: 10/27/20 16:30 Received: 10/30/20 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		11/17/20 08:45		
pH	7.51	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	182	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:01	7440-70-2	
Magnesium	560	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:01	7439-95-4	
Potassium	175	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:01	7440-09-7	
Sodium	3870	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:24	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	11/03/20 01:04	11/04/20 19:19	7440-38-2	
Boron	2.3	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 17:45	7440-42-8	
Lithium	0.083	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:19	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	102	mg/L	5.0	5.0	1		11/05/20 17:13		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 17:13		
Alkalinity, Total as CaCO3	102	mg/L	5.0	5.0	1		11/05/20 17:13		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18700	mg/L	2500	2500	1		10/31/20 14:42		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	14500	mg/L	200	120	200		11/02/20 02:57	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 18:16	16984-48-8	
Sulfate	2060	mg/L	200	100	200		11/02/20 02:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-3HT **Lab ID: 92503105006** Collected: 10/28/20 10:28 Received: 10/30/20 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		11/17/20 08:45		
pH	7.26	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	221	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:05	7440-70-2	
Magnesium	683	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:05	7439-95-4	
Potassium	214	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:05	7440-09-7	
Sodium	4000	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:28	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	11/03/20 01:04	11/04/20 19:31	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:00	7440-42-8	
Lithium	0.091	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:31	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	109	mg/L	5.0	5.0	1		11/05/20 17:20		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 17:20		
Alkalinity, Total as CaCO3	109	mg/L	5.0	5.0	1		11/05/20 17:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	21400	mg/L	2500	2500	1		11/02/20 18:03		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	17300	mg/L	200	120	200		11/02/20 03:12	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 18:31	16984-48-8	
Sulfate	1410	mg/L	100	50.0	100		11/01/20 05:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-3HTS **Lab ID: 92503105007** Collected: 10/28/20 10:20 Received: 10/30/20 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		11/17/20 08:45		
pH	7.34	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	ND	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:09	7440-70-2	
Magnesium	ND	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:09	7439-95-4	
Potassium	ND	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:09	7440-09-7	
Sodium	ND	mg/L	100	12.2	20	11/03/20 01:45	11/03/20 22:09	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 18:41	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 11:44	7440-42-8	
Lithium	0.096	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 18:41	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	107	mg/L	5.0	5.0	1		11/05/20 17:28		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 17:28		
Alkalinity, Total as CaCO3	107	mg/L	5.0	5.0	1		11/05/20 17:28		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20600	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	15400	mg/L	200	120	200		11/02/20 03:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 18:46	16984-48-8	
Sulfate	2220	mg/L	200	100	200		11/02/20 03:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-3LT **Lab ID: 92503105008** Collected: 10/27/20 14:14 Received: 10/30/20 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		11/17/20 08:45		
pH	7.92	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	66.4	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:12	7440-70-2	
Magnesium	139	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:12	7439-95-4	
Potassium	ND	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:12	7440-09-7	
Sodium	1200	mg/L	100	12.2	20	11/03/20 01:45	11/03/20 22:12	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	11/03/20 01:04	11/04/20 18:45	7440-38-2	
Boron	0.78	mg/L	0.50	0.12	20	11/03/20 01:04	11/04/20 18:45	7440-42-8	
Lithium	0.027J	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 18:45	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	48.6	mg/L	5.0	5.0	1		11/05/20 17:36		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 17:36		
Alkalinity, Total as CaCO3	48.6	mg/L	5.0	5.0	1		11/05/20 17:36		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	7400	mg/L	2500	2500	1		10/31/20 14:42		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	2190	mg/L	100	60.0	100		11/01/20 06:26	16887-00-6	
Fluoride	0.32	mg/L	0.10	0.050	1		10/31/20 19:01	16984-48-8	
Sulfate	359	mg/L	100	50.0	100		11/01/20 06:26	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-4HT **Lab ID: 92503105009** Collected: 10/28/20 12:06 Received: 10/30/20 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		11/17/20 08:45		
pH	7.39	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	202	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:23	7440-70-2	
Magnesium	658	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:23	7439-95-4	
Potassium	187	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:23	7440-09-7	
Sodium	4340	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:32	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	11/03/20 01:04	11/04/20 19:35	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:04	7440-42-8	
Lithium	0.090	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:35	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	5.0	5.0	1		11/05/20 17:44		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 17:44		
Alkalinity, Total as CaCO3	104	mg/L	5.0	5.0	1		11/05/20 17:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19100	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	14700	mg/L	200	120	200		11/02/20 03:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 19:16	16984-48-8	
Sulfate	2120	mg/L	200	100	200		11/02/20 03:56	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Sample: T1-4HTS **Lab ID: 92503105010** Collected: 10/28/20 11:52 Received: 10/30/20 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		11/17/20 08:45		
pH	7.36	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	202	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:27	7440-70-2	
Magnesium	665	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:27	7439-95-4	
Potassium	186	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:27	7440-09-7	
Sodium	3540	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:35	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 19:38	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:07	7440-42-8	
Lithium	0.085	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:38	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/05/20 18:01		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 18:01		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/05/20 18:01		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19800	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11200	mg/L	200	120	200		11/02/20 04:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 19:31	16984-48-8	
Sulfate	1540	mg/L	200	100	200		11/02/20 04:11	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T1-4HLT **Lab ID: 92503105011** Collected: 10/27/20 10:50 Received: 10/30/20 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		11/17/20 08:45		
pH	7.34	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	203	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:31	7440-70-2	
Magnesium	671	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:31	7439-95-4	
Potassium	188	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:31	7440-09-7	
Sodium	4650	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:39	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	11/03/20 01:04	11/04/20 19:50	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:11	7440-42-8	
Lithium	0.090	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:50	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	5.0	5.0	1		11/05/20 18:27		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 18:27		
Alkalinity, Total as CaCO3	104	mg/L	5.0	5.0	1		11/05/20 18:27		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22300	mg/L	2500	2500	1		10/31/20 14:42		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	12600	mg/L	200	120	200		11/02/20 04:25	16887-00-6	M6,R1
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 19:46	16984-48-8	M1
Sulfate	1800	mg/L	200	100	200		11/02/20 04:25	14808-79-8	M6,R1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-1HT **Lab ID:** 92503105012 Collected: 10/28/20 09:29 Received: 10/30/20 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		11/17/20 08:45		
pH	7.44	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	192	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:34	7440-70-2	
Magnesium	651	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:34	7439-95-4	
Potassium	179	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:34	7440-09-7	
Sodium	4450	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:43	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	11/03/20 01:04	11/04/20 19:53	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:15	7440-42-8	
Lithium	0.091	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:53	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 18:38		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 18:38		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 18:38		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19800	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	12800	mg/L	200	120	200		11/02/20 06:09	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 20:31	16984-48-8	
Sulfate	1820	mg/L	200	100	200		11/02/20 06:09	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-2HT **Lab ID: 92503105013** Collected: 10/28/20 09:41 Received: 10/30/20 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		11/17/20 08:45		
pH	7.30	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	207	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:38	7440-70-2	
Magnesium	690	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:38	7439-95-4	
Potassium	193	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:38	7440-09-7	
Sodium	3940	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:53	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	11/03/20 01:04	11/04/20 19:57	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:30	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 19:57	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		11/05/20 18:48		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 18:48		
Alkalinity, Total as CaCO3	108	mg/L	5.0	5.0	1		11/05/20 18:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20800	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11600	mg/L	200	120	200		11/02/20 06:23	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 21:16	16984-48-8	
Sulfate	1590	mg/L	200	100	200		11/02/20 06:23	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-2HTS **Lab ID: 92503105014** Collected: 10/28/20 09:33 Received: 10/30/20 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		11/17/20 08:45		
pH	7.38	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	192	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:42	7440-70-2	
Magnesium	639	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:42	7439-95-4	
Potassium	179	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:42	7440-09-7	
Sodium	3590	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 12:57	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 20:01	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:34	7440-42-8	
Lithium	0.091	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 20:01	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/05/20 18:59		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 18:59		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/05/20 18:59		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19400	mg/L	2500	2500	1		11/02/20 18:04		
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		11/02/20 06:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 21:31	16984-48-8	
Sulfate	1540	mg/L	200	100	200		11/02/20 06:38	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-2LT **Lab ID:** 92503105015 Collected: 10/27/20 15:38 Received: 10/30/20 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		11/17/20 08:45		
pH	7.47	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	191	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:45	7440-70-2	
Magnesium	622	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:45	7439-95-4	
Potassium	177	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:45	7440-09-7	
Sodium	3910	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 13:01	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0033J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/04/20 20:05	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/04/20 18:38	7440-42-8	
Lithium	0.087	mg/L	0.030	0.0078	20	11/03/20 01:04	11/04/20 20:05	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		11/05/20 19:10		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 19:10		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		11/05/20 19:10		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20200	mg/L	2500	2500	1		10/31/20 14:42		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11000	mg/L	200	120	200		11/02/20 06:53	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 21:46	16984-48-8	
Sulfate	1560	mg/L	200	100	200		11/02/20 06:53	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-3HT **Lab ID: 92503105016** Collected: 10/28/20 10:53 Received: 10/30/20 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		11/17/20 08:45		
pH	7.26	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	206	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:49	7440-70-2	
Magnesium	669	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:49	7439-95-4	
Potassium	193	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:49	7440-09-7	
Sodium	3910	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 13:04	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	11/03/20 01:04	11/05/20 16:05	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:18	7440-42-8	M6
Lithium	0.093	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 16:05	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 19:20		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 19:20		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 19:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19700	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11000	mg/L	200	120	200		11/02/20 07:07	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 22:01	16984-48-8	
Sulfate	1520	mg/L	200	100	200		11/02/20 07:07	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-3HTS		Lab ID: 92503105017		Collected: 10/28/20 10:46	Received: 10/30/20 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		11/17/20 08:45		
pH	7.37	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	199	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:53	7440-70-2	
Magnesium	660	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:53	7439-95-4	
Potassium	187	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:53	7440-09-7	
Sodium	4070	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 13:08	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	11/03/20 01:04	11/05/20 16:31	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:33	7440-42-8	
Lithium	0.092	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 16:31	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	5.0	5.0	1		11/05/20 19:31		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 19:31		
Alkalinity, Total as CaCO3	104	mg/L	5.0	5.0	1		11/05/20 19:31		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	19800	mg/L	2500	2500	1		11/02/20 18:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	12700	mg/L	200	120	200		11/02/20 07:22	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 22:15	16984-48-8	
Sulfate	1870	mg/L	200	100	200		11/02/20 07:22	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-3LT **Lab ID:** 92503105018 Collected: 10/27/20 15:08 Received: 10/30/20 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		11/17/20 08:45		
pH	7.31	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	153	mg/L	2.0	1.9	20	11/03/20 01:45	11/03/20 22:56	7440-70-2	
Magnesium	535	mg/L	2.0	1.4	20	11/03/20 01:45	11/03/20 22:56	7439-95-4	
Potassium	143	mg/L	100	60.8	20	11/03/20 01:45	11/03/20 22:56	7440-09-7	
Sodium	3120	mg/L	500	61.1	100	11/03/20 01:45	11/04/20 13:11	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	11/03/20 01:04	11/05/20 16:35	7440-38-2	
Boron	2.2	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:37	7440-42-8	
Lithium	0.084	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 16:35	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	5.0	5.0	1		11/05/20 19:51		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 19:51		
Alkalinity, Total as CaCO3	104	mg/L	5.0	5.0	1		11/05/20 19:51		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19300	mg/L	2500	2500	1		10/31/20 14:42		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	9330	mg/L	200	120	200		11/02/20 21:26	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 22:30	16984-48-8	
Sulfate	1260	mg/L	200	100	200		11/02/20 21:26	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-4HT **Lab ID: 92503105019** Collected: 10/28/20 11:38 Received: 10/30/20 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		11/17/20 08:45		
pH	7.33	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	205	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 03:58	7440-70-2	
Magnesium	654	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 03:58	7439-95-4	
Potassium	202	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 03:58	7440-09-7	
Sodium	4200	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 00:57	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	11/03/20 01:04	11/05/20 16:39	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:40	7440-42-8	
Lithium	0.092	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 16:39	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/05/20 20:02		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 20:02		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/05/20 20:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20600	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	9790	mg/L	200	120	200		11/02/20 21:40	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 22:45	16984-48-8	
Sulfate	1330	mg/L	200	100	200		11/02/20 21:40	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-4HTS **Lab ID: 92503105020** Collected: 10/28/20 11:30 Received: 10/30/20 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		11/17/20 08:45		
pH	7.35	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	198	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:01	7440-70-2	
Magnesium	635	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:01	7439-95-4	
Potassium	195	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:01	7440-09-7	
Sodium	5200	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 01:01	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/05/20 17:05	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:44	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 17:05	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 20:22		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 20:22		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 20:22		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19900	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13800	mg/L	200	120	200		11/02/20 21:55	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/31/20 23:00	16984-48-8	
Sulfate	2150	mg/L	200	100	200		11/02/20 21:55	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T2-4LT **Lab ID:** 92503105021 Collected: 10/27/20 11:32 Received: 10/30/20 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		11/17/20 08:45		
pH	7.33	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	196	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:05	7440-70-2	
Magnesium	618	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:05	7439-95-4	
Potassium	193	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:05	7440-09-7	
Sodium	5270	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 01:04	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	11/03/20 01:04	11/05/20 17:09	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:48	7440-42-8	
Lithium	0.089	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 17:09	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/05/20 20:50		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 20:50		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/05/20 20:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19600	mg/L	2500	2500	1		10/31/20 14:42		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	10300	mg/L	200	120	200		11/02/20 22:10	16887-00-6	M6
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 00:15	16984-48-8	M1
Sulfate	1430	mg/L	200	100	200		11/02/20 22:10	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T3-1HT		Lab ID: 92503105022		Collected: 10/28/20 08:40		Received: 10/30/20 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		11/17/20 08:45		
pH	7.24	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	187	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 22:41	7440-70-2	M6, R1
Magnesium	605	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 22:41	7439-95-4	M6
Potassium	182	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 22:41	7440-09-7	M6, R1
Sodium	5770	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:00	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0021J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 16:57	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:00	7440-42-8	
Lithium	0.095	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 16:57	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 21:00		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 21:00		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 21:00		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T3-2HT **Lab ID: 92503105023** Collected: 10/28/20 08:54 Received: 10/30/20 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		11/17/20 08:45		
pH	7.25	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	228	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:10	7440-70-2	
Magnesium	704	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:10	7439-95-4	
Potassium	219	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:10	7440-09-7	
Sodium	5790	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:22	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	11/04/20 01:23	11/09/20 17:01	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:04	7440-42-8	M6
Lithium	0.10	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 17:01	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 21:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 21:11		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 21:11		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T3-2HTS									
Lab ID: 92503105024									
Collected: 10/28/20 08:45 Received: 10/30/20 10:30 Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/17/20 08:45		
pH	7.17	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	199	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:14	7440-70-2	
Magnesium	620	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:14	7439-95-4	
Potassium	191	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:14	7440-09-7	
Sodium	5880	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:26	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 17:42	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:23	7440-42-8	
Lithium	0.099	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 17:42	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 21:30		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 21:30		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 21:30		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T3-2LT		Lab ID: 92503105025		Collected: 10/27/20 16:16		Received: 10/30/20 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		11/17/20 08:45		
pH	7.50	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	190	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:18	7440-70-2	
Magnesium	588	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:18	7439-95-4	
Potassium	181	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:18	7440-09-7	
Sodium	4660	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:29	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	11/04/20 01:23	11/09/20 17:46	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:27	7440-42-8	
Lithium	0.095	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 17:46	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	108	mg/L	5.0	5.0	1		11/05/20 21:41		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		11/05/20 21:41		
Alkalinity, Total as CaCO ₃	108	mg/L	5.0	5.0	1		11/05/20 21:41		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T3-3HT									
Lab ID: 92503105026									
Collected: 10/28/20 09:13									
Received: 10/30/20 10:30									
Matrix: Water									
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/17/20 08:45		
pH	7.29	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	206	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:22	7440-70-2	
Magnesium	647	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:22	7439-95-4	
Potassium	199	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:22	7440-09-7	
Sodium	3980	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:33	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	11/04/20 01:23	11/09/20 17:54	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:31	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 17:54	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	106	mg/L	5.0	5.0	1		11/05/20 21:51		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 21:51		
Alkalinity, Total as CaCO3	106	mg/L	5.0	5.0	1		11/05/20 21:51		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T3-3HTS									
Lab ID: 92503105027									
Collected: 10/28/20 11:11									
Received: 10/30/20 10:30									
Matrix: Water									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/17/20 08:45		
pH	7.40	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	188	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:25	7440-70-2	
Magnesium	586	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:25	7439-95-4	
Potassium	180	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:25	7440-09-7	
Sodium	5610	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:37	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	11/04/20 01:23	11/09/20 17:58	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:35	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 17:58	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	107	mg/L	5.0	5.0	1		11/05/20 22:01		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 22:01		
Alkalinity, Total as CaCO3	107	mg/L	5.0	5.0	1		11/05/20 22:01		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T3-3LT									
Lab ID: 92503105028									
Collected: 10/27/20 15:58									
Received: 10/30/20 10:30									
Matrix: Water									
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/17/20 08:45		
pH	7.42	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	167	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:29	7440-70-2	
Magnesium	542	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:29	7439-95-4	
Potassium	159	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:29	7440-09-7	
Sodium	5680	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:40	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0022J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 18:01	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:46	7440-42-8	
Lithium	0.098	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 18:01	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/05/20 22:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 22:11		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/05/20 22:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T3-4HT									
Lab ID: 92503105029									
Collected: 10/28/20 11:19									
Received: 10/30/20 10:30									
Matrix: Water									
Field Data									
Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/17/20 08:45		
pH	7.30	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	172	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:33	7440-70-2	
Magnesium	570	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:33	7439-95-4	
Potassium	165	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:33	7440-09-7	
Sodium	5480	mg/L	1000	122	200	11/04/20 01:51	11/06/20 15:25	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 18:32	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:50	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 18:32	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	5.0	5.0	1		11/05/20 22:21		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 22:21		
Alkalinity, Total as CaCO3	104	mg/L	5.0	5.0	1		11/05/20 22:21		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T3-4HTS		Lab ID: 92503105030		Collected: 10/28/20 11:11		Received: 10/30/20 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		11/17/20 08:45		
pH	7.39	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	171	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:37	7440-70-2	
Magnesium	544	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:37	7439-95-4	
Potassium	163	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:37	7440-09-7	
Sodium	5840	mg/L	500	61.1	100	11/04/20 01:51	11/05/20 18:47	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0027J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 18:35	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:54	7440-42-8	
Lithium	0.095	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 18:35	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	103	mg/L	5.0	5.0	1		11/05/20 22:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 22:32		
Alkalinity, Total as CaCO3	103	mg/L	5.0	5.0	1		11/05/20 22:32		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T3-4LT **Lab ID: 92503105031** Collected: 10/27/20 11:46 Received: 10/30/20 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		11/17/20 08:45		
pH	7.29	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	149	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:40	7440-70-2	
Magnesium	497	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:40	7439-95-4	
Potassium	142	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:40	7440-09-7	
Sodium	5090	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 12:48	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	11/04/20 01:23	11/09/20 18:43	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 11:58	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 18:43	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	107	mg/L	5.0	5.0	1		11/05/20 22:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 22:59		
Alkalinity, Total as CaCO3	107	mg/L	5.0	5.0	1		11/05/20 22:59		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-1HS		Lab ID: 92503105032		Collected: 10/29/20 09:14	Received: 10/30/20 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		11/17/20 08:45		
pH	7.19	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	213	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:09	7440-70-2	
Magnesium	675	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:09	7439-95-4	
Potassium	213	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:09	7440-09-7	
Sodium	5760	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 01:08	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0030J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/05/20 17:13	7440-38-2	
Boron	2.8	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 12:52	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 17:13	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/05/20 23:19		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 23:19		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/05/20 23:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	20300	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	10700	mg/L	200	120	200		11/02/20 22:54	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:00	16984-48-8	
Sulfate	1480	mg/L	100	50.0	100		11/01/20 11:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-1HB **Lab ID: 92503105033** Collected: 10/29/20 09:22 Received: 10/30/20 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		11/17/20 08:45		
pH	7.25	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	218	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:12	7440-70-2	
Magnesium	686	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:12	7439-95-4	
Potassium	220	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:12	7440-09-7	
Sodium	5970	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 01:12	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	11/03/20 01:04	11/05/20 17:28	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:14	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 17:28	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/05/20 23:30		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 23:30		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/05/20 23:30		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	21100	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	14600	mg/L	200	120	200		11/02/20 23:08	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:15	16984-48-8	
Sulfate	1450	mg/L	100	50.0	100		11/01/20 12:04	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-1L **Lab ID: 92503105034** Collected: 10/28/20 16:16 Received: 10/30/20 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		11/17/20 08:45		
pH	7.66	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	199	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:30	7440-70-2	
Magnesium	667	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:30	7439-95-4	
Potassium	193	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:30	7440-09-7	
Sodium	5870	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:20	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0037J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/05/20 17:32	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:18	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 17:32	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	110	mg/L	5.0	5.0	1		11/05/20 23:40		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 23:40		
Alkalinity, Total as CaCO3	110	mg/L	5.0	5.0	1		11/05/20 23:40		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	21000	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11200	mg/L	200	120	200		11/02/20 23:23	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:30	16984-48-8	
Sulfate	1570	mg/L	200	100	200		11/02/20 23:23	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-2HS **Lab ID: 92503105035** Collected: 10/29/20 09:36 Received: 10/30/20 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		11/17/20 08:45		
pH	7.37	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	190	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:34	7440-70-2	
Magnesium	667	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:34	7439-95-4	
Potassium	184	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:34	7440-09-7	
Sodium	5140	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:24	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	11/03/20 01:04	11/05/20 17:35	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:22	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 17:35	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/05/20 23:50		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/05/20 23:50		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/05/20 23:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20200	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13300	mg/L	200	120	200		11/02/20 23:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:45	16984-48-8	
Sulfate	1440	mg/L	100	50.0	100		11/01/20 12:34	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-2HB **Lab ID: 92503105036** Collected: 10/29/20 09:50 Received: 10/30/20 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		11/17/20 08:45		
pH	7.34	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	174	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:38	7440-70-2	
Magnesium	623	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:38	7439-95-4	
Potassium	171	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:38	7440-09-7	
Sodium	5820	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:27	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	11/03/20 01:04	11/05/20 18:02	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:26	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:02	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	113	mg/L	5.0	5.0	1		11/06/20 00:01		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 00:01		
Alkalinity, Total as CaCO3	113	mg/L	5.0	5.0	1		11/06/20 00:01		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22300	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	17100	mg/L	200	120	200		11/03/20 00:37	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:00	16984-48-8	
Sulfate	1460	mg/L	100	50.0	100		11/01/20 12:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-2L **Lab ID: 92503105037** Collected: 10/28/20 15:41 Received: 10/30/20 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		11/17/20 08:45		
pH	7.49	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	196	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:41	7440-70-2	
Magnesium	662	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:41	7439-95-4	
Potassium	193	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:41	7440-09-7	
Sodium	5680	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:31	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0034J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/05/20 18:06	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:45	7440-42-8	
Lithium	0.098	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:06	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/06/20 00:12		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 00:12		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/06/20 00:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22200	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13200	mg/L	200	120	200		11/03/20 00:52	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:15	16984-48-8	
Sulfate	1430	mg/L	100	50.0	100		11/01/20 13:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-3HS **Lab ID: 92503105038** Collected: 10/29/20 09:59 Received: 10/30/20 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		11/17/20 08:45		
pH	7.37	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	170	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:45	7440-70-2	
Magnesium	579	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:45	7439-95-4	
Potassium	172	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:45	7440-09-7	
Sodium	4650	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:35	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	11/03/20 01:04	11/05/20 18:09	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:48	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:09	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	113	mg/L	5.0	5.0	1		11/06/20 00:22		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 00:22		
Alkalinity, Total as CaCO3	113	mg/L	5.0	5.0	1		11/06/20 00:22		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22100	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	12700	mg/L	200	120	200		11/03/20 01:06	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 01:29	16984-48-8	
Sulfate	1450	mg/L	100	50.0	100		11/01/20 13:18	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-3HB **Lab ID: 92503105039** Collected: 10/29/20 10:06 Received: 10/30/20 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		11/17/20 08:45		
pH	7.29	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	199	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:49	7440-70-2	
Magnesium	650	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:49	7439-95-4	
Potassium	200	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:49	7440-09-7	
Sodium	5370	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:45	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	11/03/20 01:04	11/05/20 18:25	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:52	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:25	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/06/20 00:32		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 00:32		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/06/20 00:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20700	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13600	mg/L	200	120	200		11/03/20 01:21	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 02:14	16984-48-8	
Sulfate	1440	mg/L	100	50.0	100		11/01/20 14:02	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-3L **Lab ID: 92503105040** Collected: 10/28/20 15:26 Received: 10/30/20 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		11/17/20 08:45		
pH	7.49	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	206	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:52	7440-70-2	
Magnesium	668	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:52	7439-95-4	
Potassium	205	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:52	7440-09-7	
Sodium	5020	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:49	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0037J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/05/20 18:28	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 13:56	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:28	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/06/20 11:54		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 11:54		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/06/20 11:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	23800	mg/L	2500	2500	1		11/02/20 18:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	13600	mg/L	200	120	200		11/03/20 01:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 02:29	16984-48-8	
Sulfate	1460	mg/L	100	50.0	100		11/01/20 14:17	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-4HS **Lab ID: 92503105041** Collected: 10/29/20 10:25 Received: 10/30/20 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		11/17/20 08:45		
pH	7.40	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	207	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 04:56	7440-70-2	
Magnesium	670	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 04:56	7439-95-4	
Potassium	207	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 04:56	7440-09-7	
Sodium	4770	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:53	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	11/03/20 01:04	11/05/20 18:32	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 14:00	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:32	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		11/06/20 12:24		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 12:24		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		11/06/20 12:24		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20700	mg/L	2500	2500	1		11/03/20 17:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	14900	mg/L	200	120	200		11/03/20 01:51	16887-00-6	M6
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 02:44	16984-48-8	M1
Sulfate	1470	mg/L	100	50.0	100		11/01/20 14:32	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-4HB **Lab ID: 92503105042** Collected: 10/29/20 10:33 Received: 10/30/20 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		11/17/20 08:45		
pH	7.33	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	157	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:44	7440-70-2	
Magnesium	552	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:44	7439-95-4	
Potassium	150	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:44	7440-09-7	
Sodium	5380	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 12:52	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 18:47	7440-38-2	
Boron	2.8	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:01	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 18:47	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	109	mg/L	5.0	5.0	1		11/06/20 12:36		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 12:36		
Alkalinity, Total as CaCO3	109	mg/L	5.0	5.0	1		11/06/20 12:36		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: T4-4L **Lab ID: 92503105043** Collected: 10/28/20 15:03 Received: 10/30/20 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		11/17/20 08:45		
pH	7.53	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	208	mg/L	2.0	1.9	20	11/03/20 01:45	11/04/20 05:00	7440-70-2	
Magnesium	678	mg/L	2.0	1.4	20	11/03/20 01:45	11/04/20 05:00	7439-95-4	
Potassium	208	mg/L	100	60.8	20	11/03/20 01:45	11/04/20 05:00	7440-09-7	
Sodium	5430	mg/L	500	61.1	100	11/03/20 01:45	11/05/20 13:56	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0034J	mg/L	0.0050	0.0017	20	11/03/20 01:04	11/05/20 18:47	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/03/20 01:04	11/05/20 14:04	7440-42-8	
Lithium	0.098	mg/L	0.030	0.0078	20	11/03/20 01:04	11/05/20 18:47	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/06/20 12:47		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 12:47		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/06/20 12:47		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22300	mg/L	2500	2500	1		11/03/20 17:09		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11700	mg/L	200	120	200		11/03/20 02:35	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/01/20 03:29	16984-48-8	
Sulfate	1420	mg/L	100	50.0	100		11/01/20 15:16	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: BG-1LT		Lab ID: 92503105044		Collected: 10/28/20 12:33		Received: 10/30/20 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		11/17/20 08:45		
pH	7.33	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	171	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:55	7440-70-2	
Magnesium	548	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:55	7439-95-4	
Potassium	160	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:55	7440-09-7	
Sodium	5690	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 12:55	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0021J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 18:51	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:16	7440-42-8	
Lithium	0.095	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 18:51	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	107	mg/L	5.0	5.0	1		11/06/20 12:59		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 12:59		
Alkalinity, Total as CaCO3	107	mg/L	5.0	5.0	1		11/06/20 12:59		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: BG-2HT		Lab ID: 92503105045		Collected: 10/27/20 17:20		Received: 10/30/20 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		11/17/20 08:45		
pH	7.40	Std. Units			1		11/17/20 08:45		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	175	mg/L	2.0	1.9	20	11/04/20 01:51	11/04/20 23:59	7440-70-2	
Magnesium	601	mg/L	2.0	1.4	20	11/04/20 01:51	11/04/20 23:59	7439-95-4	
Potassium	168	mg/L	100	60.8	20	11/04/20 01:51	11/04/20 23:59	7440-09-7	
Sodium	6230	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 13:06	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 19:09	7440-38-2	
Boron	2.9	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:20	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 19:09	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		11/06/20 13:11		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 13:11		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		11/06/20 13:11		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: DUP-1 **Lab ID:** 92503105046 Collected: 10/27/20 00:00 Received: 10/30/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	138	mg/L	2.0	1.9	20	11/04/20 01:51	11/05/20 00:03	7440-70-2	
Magnesium	453	mg/L	2.0	1.4	20	11/04/20 01:51	11/05/20 00:03	7439-95-4	
Potassium	130	mg/L	100	60.8	20	11/04/20 01:51	11/05/20 00:03	7440-09-7	
Sodium	5040	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 13:10	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 19:13	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:35	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 19:13	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/06/20 13:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 13:32		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/06/20 13:32		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: DUP-2 Lab ID: 92503105047 Collected: 10/28/20 00:00 Received: 10/30/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	147	mg/L	2.0	1.9	20	11/04/20 01:51	11/05/20 00:06	7440-70-2	
Magnesium	520	mg/L	2.0	1.4	20	11/04/20 01:51	11/05/20 00:06	7439-95-4	
Potassium	138	mg/L	100	60.8	20	11/04/20 01:51	11/05/20 00:06	7440-09-7	
Sodium	5240	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 13:13	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 19:17	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:39	7440-42-8	
Lithium	0.097	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 19:17	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	104	mg/L	5.0	5.0	1		11/06/20 13:44		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 13:44		
Alkalinity, Total as CaCO3	104	mg/L	5.0	5.0	1		11/06/20 13:44		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: DUP-3 Lab ID: 92503105048 Collected: 10/28/20 00:00 Received: 10/30/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	148	mg/L	2.0	1.9	20	11/04/20 01:51	11/05/20 00:10	7440-70-2	
Magnesium	493	mg/L	2.0	1.4	20	11/04/20 01:51	11/05/20 00:10	7439-95-4	
Potassium	140	mg/L	100	60.8	20	11/04/20 01:51	11/05/20 00:10	7440-09-7	
Sodium	5330	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 13:17	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	11/04/20 01:23	11/09/20 19:25	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:43	7440-42-8	
Lithium	0.098	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 19:25	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	105	mg/L	5.0	5.0	1		11/06/20 13:55		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 13:55		
Alkalinity, Total as CaCO3	105	mg/L	5.0	5.0	1		11/06/20 13:55		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: DUP-4 **Lab ID: 92503105049** Collected: 10/28/20 00:00 Received: 10/30/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	167	mg/L	2.0	1.9	20	11/04/20 01:51	11/05/20 00:14	7440-70-2	
Magnesium	567	mg/L	2.0	1.4	20	11/04/20 01:51	11/05/20 00:14	7439-95-4	
Potassium	159	mg/L	100	60.8	20	11/04/20 01:51	11/05/20 00:14	7440-09-7	
Sodium	5620	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 13:21	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0031J	mg/L	0.0050	0.0017	20	11/04/20 01:23	11/09/20 19:28	7440-38-2	
Boron	2.8	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:47	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 19:28	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	5.0	1		11/06/20 14:06		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 14:06		
Alkalinity, Total as CaCO3	113	mg/L	5.0	5.0	1		11/06/20 14:06		

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Sample: DUP-5 Lab ID: 92503105050 Collected: 10/29/20 00:00 Received: 10/30/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	170	mg/L	2.0	1.9	20	11/04/20 01:51	11/05/20 00:18	7440-70-2	
Magnesium	578	mg/L	2.0	1.4	20	11/04/20 01:51	11/05/20 00:18	7439-95-4	
Potassium	162	mg/L	100	60.8	20	11/04/20 01:51	11/05/20 00:18	7440-09-7	
Sodium	5180	mg/L	500	61.1	100	11/04/20 01:51	11/06/20 13:24	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	11/04/20 01:23	11/09/20 19:32	7440-38-2	
Boron	2.9	mg/L	1.2	0.31	50	11/04/20 01:23	11/10/20 12:50	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/04/20 01:23	11/09/20 19:32	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	5.0	1		11/06/20 14:17		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/06/20 14:17		
Alkalinity, Total as CaCO3	113	mg/L	5.0	5.0	1		11/06/20 14:17		

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577480 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015, 92503105016, 92503105017, 92503105018

METHOD BLANK: 3055574 Matrix: Water
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015, 92503105016, 92503105017, 92503105018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	11/03/20 20:45	
Magnesium	mg/L	ND	0.10	0.068	11/03/20 20:45	
Potassium	mg/L	ND	5.0	3.0	11/03/20 20:45	
Sodium	mg/L	ND	5.0	0.61	11/03/20 20:45	

LABORATORY CONTROL SAMPLE: 3055575

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	101	80-120	
Potassium	mg/L	5	5.3	106	80-120	
Sodium	mg/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3055576 3055577

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92502221014 Result	Spike Conc.	Spike Conc.	Result						
Calcium	mg/L	15500 ug/L	5	5	20.9	20.5	108	100	75-125	2	20
Magnesium	mg/L	3480 ug/L	5	5	8.6	8.5	103	101	75-125	1	20
Potassium	mg/L	ND	5	5	8.1	8.1	104	103	75-125	0	20
Sodium	mg/L	8150 ug/L	5	5	13.5	13.3	108	102	75-125	2	20

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

QC Batch: 577481

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92503105019, 92503105020, 92503105021, 92503105032, 92503105033, 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040, 92503105041, 92503105043

METHOD BLANK: 3055578

Matrix: Water

Associated Lab Samples: 92503105019, 92503105020, 92503105021, 92503105032, 92503105033, 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040, 92503105041, 92503105043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	11/04/20 03:25	
Magnesium	mg/L	ND	0.10	0.068	11/04/20 03:25	
Potassium	mg/L	ND	5.0	3.0	11/04/20 03:25	
Sodium	mg/L	2.0J	5.0	0.61	11/04/20 03:25	

LABORATORY CONTROL SAMPLE: 3055579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.7	95	80-120	
Magnesium	mg/L	5	5.2	104	80-120	
Potassium	mg/L	5	5.7	115	80-120	
Sodium	mg/L	5	5.6	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3055580 3055581

Parameter	Units	3055580		3055581		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92502798003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	336	5	5	342	336	124	8	75-125	2	20 E,M1
Magnesium	mg/L	60.0	5	5	63.7	63.6	74	72	75-125	0	20 M1
Potassium	mg/L	11.1	5	5	16.5	16.3	107	103	75-125	1	20
Sodium	mg/L	131	5	5	137	137	134	122	75-125	0	20 E,M1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

QC Batch: 577750 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105022, 92503105023, 92503105024, 92503105025, 92503105026, 92503105027, 92503105028, 92503105029, 92503105030, 92503105031, 92503105042, 92503105044, 92503105045, 92503105046, 92503105047, 92503105048, 92503105049, 92503105050

METHOD BLANK: 3056914 Matrix: Water
 Associated Lab Samples: 92503105022, 92503105023, 92503105024, 92503105025, 92503105026, 92503105027, 92503105028, 92503105029, 92503105030, 92503105031, 92503105042, 92503105044, 92503105045, 92503105046, 92503105047, 92503105048, 92503105049, 92503105050

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	11/04/20 22:34	
Magnesium	mg/L	ND	0.10	0.068	11/04/20 22:34	
Potassium	mg/L	ND	5.0	3.0	11/04/20 22:34	
Sodium	mg/L	ND	5.0	0.61	11/04/20 22:34	

LABORATORY CONTROL SAMPLE: 3056915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	100	80-120	
Magnesium	mg/L	5	5.2	104	80-120	
Potassium	mg/L	5	5.1	101	80-120	
Sodium	mg/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3056916 3056917

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92503105022 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Calcium	mg/L	187	5	5	174	215	-266	554	75-125	21	20	M6, R1	
Magnesium	mg/L	605	5	5	564	642	-816	732	75-125	13	20	M6	
Potassium	mg/L	182	5	5	170	209	-238	541	75-125	21	20	M6, R1	
Sodium	mg/L	5770	5	5	6090	5740	6280	-660	75-125	6	20	M6	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577484 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015

METHOD BLANK: 3055590 Matrix: Water
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	11/04/20 14:24	
Boron	mg/L	ND	0.025	0.0062	11/04/20 14:24	
Lithium	mg/L	ND	0.030	0.00039	11/04/20 14:24	

LABORATORY CONTROL SAMPLE: 3055591

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	0.053	107	80-120	
Lithium	mg/L	0.05	0.053	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3055592 3055593

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92502427001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.52 ug/L	0.01	0.01	0.010	0.0098	96	93	75-125	3	20
Boron	mg/L	ND	0.05	0.05	0.056	0.056	103	102	75-125	0	20
Lithium	mg/L	0.79J ug/L	0.05	0.05	0.054	0.053	107	104	75-125	3	20

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577485 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105016, 92503105017, 92503105018, 92503105019, 92503105020, 92503105021, 92503105032, 92503105033, 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040, 92503105041, 92503105043

METHOD BLANK: 3055594 Matrix: Water
 Associated Lab Samples: 92503105016, 92503105017, 92503105018, 92503105019, 92503105020, 92503105021, 92503105032, 92503105033, 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040, 92503105041, 92503105043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	11/04/20 16:02	
Boron	mg/L	ND	0.025	0.0062	11/04/20 16:02	
Lithium	mg/L	ND	0.030	0.00039	11/04/20 16:02	

LABORATORY CONTROL SAMPLE: 3055595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	102	80-120	
Boron	mg/L	0.05	0.054	108	80-120	
Lithium	mg/L	0.05	0.053	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3055596 3055597

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92503105016 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0024J	0.01	0.01	0.014	0.014	117	120	75-125	2	20
Boron	mg/L	2.4	0.05	0.05	2.5	2.5	241	306	75-125	1	20 M6
Lithium	mg/L	0.093	0.05	0.05	0.15	0.15	107	105	75-125	1	20

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577753 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105022, 92503105023, 92503105024, 92503105025, 92503105026, 92503105027, 92503105028, 92503105029, 92503105030, 92503105031, 92503105042, 92503105044, 92503105045, 92503105046, 92503105047, 92503105048, 92503105049, 92503105050

METHOD BLANK: 3056926 Matrix: Water
 Associated Lab Samples: 92503105022, 92503105023, 92503105024, 92503105025, 92503105026, 92503105027, 92503105028, 92503105029, 92503105030, 92503105031, 92503105042, 92503105044, 92503105045, 92503105046, 92503105047, 92503105048, 92503105049, 92503105050

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	11/04/20 15:55	
Boron	mg/L	ND	0.025	0.0062	11/04/20 15:55	
Lithium	mg/L	ND	0.030	0.00039	11/04/20 15:55	

LABORATORY CONTROL SAMPLE: 3056927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	103	80-120	
Boron	mg/L	0.05	0.054	108	80-120	
Lithium	mg/L	0.05	0.054	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3056928 3056929

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92503105023 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0024J	0.01	0.01	0.013	0.013	110	111	75-125	1	20
Boron	mg/L	2.5	0.05	0.05	2.5	2.6	-11	58	75-125	1	20 M6
Lithium	mg/L	0.10	0.05	0.05	0.16	0.16	109	109	75-125	0	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 578191 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015, 92503105016, 92503105017, 92503105018, 92503105019

METHOD BLANK: 3058784 Matrix: Water
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015, 92503105016, 92503105017, 92503105018, 92503105019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	11/05/20 15:54	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	11/05/20 15:54	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	11/05/20 15:54	

LABORATORY CONTROL SAMPLE: 3058785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.3	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3058786 3058787

Parameter	Units	92503097001 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	116	50	50	162	163	93	93	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3058788 3058789

Parameter	Units	92503105010 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	105	50	50	152	155	93	100	80-120	2	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 578192 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105020, 92503105021, 92503105022, 92503105023, 92503105024, 92503105025, 92503105026,
 92503105027, 92503105028, 92503105029, 92503105030, 92503105031, 92503105032, 92503105033,
 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039

METHOD BLANK: 3058793 Matrix: Water
 Associated Lab Samples: 92503105020, 92503105021, 92503105022, 92503105023, 92503105024, 92503105025, 92503105026,
 92503105027, 92503105028, 92503105029, 92503105030, 92503105031, 92503105032, 92503105033,
 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	11/05/20 20:12	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	11/05/20 20:12	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	11/05/20 20:12	

LABORATORY CONTROL SAMPLE: 3058794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.0	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3058795 3058796

Parameter	Units	92503105020 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	106	50	50	153	157	94	102	80-120	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3058797 3058798

Parameter	Units	92503105030 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	154	155	101	103	80-120	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

QC Batch: 578505 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105040, 92503105041, 92503105042, 92503105043, 92503105044, 92503105045, 92503105046, 92503105047, 92503105048, 92503105049, 92503105050

METHOD BLANK: 3060593 Matrix: Water
 Associated Lab Samples: 92503105040, 92503105041, 92503105042, 92503105043, 92503105044, 92503105045, 92503105046, 92503105047, 92503105048, 92503105049, 92503105050

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	11/06/20 11:43	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	11/06/20 11:43	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	11/06/20 11:43	

LABORATORY CONTROL SAMPLE: 3060594

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.4	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3060595 3060596

Parameter	Units	3060595		3060596		% Rec	MSD	% Rec	MSD	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.									
Alkalinity, Total as CaCO3	mg/L	114	50	160	50	91	89	80-120	1	25				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3060597 3060598

Parameter	Units	3060597		3060598		% Rec	MSD	% Rec	MSD	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.									
Alkalinity, Total as CaCO3	mg/L	113	50	162	50	98	96	80-120	1	25				

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577170 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: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105008, 92503105011, 92503105015, 92503105018, 92503105021

METHOD BLANK: 3054185 Matrix: Water
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105008, 92503105011, 92503105015, 92503105018, 92503105021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	10/31/20 14:41	

LABORATORY CONTROL SAMPLE: 3054186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	246	98	90-110	

SAMPLE DUPLICATE: 3054187

Parameter	Units	92502500004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	558	573	3	25	

SAMPLE DUPLICATE: 3054188

Parameter	Units	92503105015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	20200	20200	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577417 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: 92503105006, 92503105007, 92503105009, 92503105010, 92503105012, 92503105013, 92503105014,
 92503105016, 92503105017, 92503105019, 92503105020, 92503105032, 92503105033, 92503105034,
 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040

METHOD BLANK: 3055349 Matrix: Water
 Associated Lab Samples: 92503105006, 92503105007, 92503105009, 92503105010, 92503105012, 92503105013, 92503105014,
 92503105016, 92503105017, 92503105019, 92503105020, 92503105032, 92503105033, 92503105034,
 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/02/20 18:03	

LABORATORY CONTROL SAMPLE: 3055350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	260	104	90-110	

SAMPLE DUPLICATE: 3055426

Parameter	Units	92503105006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	21400	20100	6	25	

SAMPLE DUPLICATE: 3055427

Parameter	Units	92503105020 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	19900	19800	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577709 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: 92503105041, 92503105043

METHOD BLANK: 3056702 Matrix: Water
 Associated Lab Samples: 92503105041, 92503105043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/03/20 17:09	

LABORATORY CONTROL SAMPLE: 3056703

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

SAMPLE DUPLICATE: 3056704

Parameter	Units	92503105043 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	22300	21500	4	25	

SAMPLE DUPLICATE: 3056705

Parameter	Units	92503186007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	266000 ug/L	280	5	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

QC Batch: 577108 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015, 92503105016, 92503105017, 92503105018, 92503105019, 92503105020

METHOD BLANK: 3053865 Matrix: Water
 Associated Lab Samples: 92503105001, 92503105002, 92503105003, 92503105004, 92503105005, 92503105006, 92503105007, 92503105008, 92503105009, 92503105010, 92503105011, 92503105012, 92503105013, 92503105014, 92503105015, 92503105016, 92503105017, 92503105018, 92503105019, 92503105020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	10/31/20 15:17	
Fluoride	mg/L	ND	0.10	0.050	10/31/20 15:17	
Sulfate	mg/L	ND	1.0	0.50	10/31/20 15:17	

LABORATORY CONTROL SAMPLE: 3053866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	53.7	107	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	54.1	108	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3053867 3053868

Parameter	Units	92503105001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		
										RPD	RPD	Qual
Chloride	mg/L	10300	50	50	10200	12100	-26	3750	90-110	17	10	M6,R1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	1460	50	50	1450	1750	-24	594	90-110	19	10	M6,R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3053869 3053870

Parameter	Units	92503105011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		
										RPD	RPD	Qual
Chloride	mg/L	12600	50	50	14500	10100	3820	-5120	90-110	36	10	M6,R1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	1800	50	50	2210	1410	818	-782	90-110	44	10	M6,R1

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

QC Batch: 577113 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92503105021, 92503105032, 92503105033, 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040, 92503105041, 92503105043

METHOD BLANK: 3053914 Matrix: Water
 Associated Lab Samples: 92503105021, 92503105032, 92503105033, 92503105034, 92503105035, 92503105036, 92503105037, 92503105038, 92503105039, 92503105040, 92503105041, 92503105043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/01/20 22:52	
Fluoride	mg/L	ND	0.10	0.050	11/01/20 22:52	
Sulfate	mg/L	ND	1.0	0.50	11/01/20 22:52	

LABORATORY CONTROL SAMPLE: 3053915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	54.9	110	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	54.8	110	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3053916 3053917

Parameter	Units	3053916		3053917		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	10300	50	10500	9820	529	-934	90-110	7	10	M6
Fluoride	mg/L	ND	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	1430	50	1450	1400	33	-50	90-110	3	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3053918 3053919

Parameter	Units	3053918		3053919		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Chloride	mg/L	14900	50	11300	11800	-7300	-6160	90-110	5	10	M6
Fluoride	mg/L	ND	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	1470	50	1550	1670	158	391	90-110	7	10	M6

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QUALIFIERS

Project: MCMANUS SURFACE WATER
Pace Project No.: 92503105

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

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER
 Pace Project No.: 92503105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503105001	T1-1HT				
92503105002	T1-1LT				
92503105003	T1-2HT				
92503105004	T1-2HTS				
92503105005	T1-2LT				
92503105006	T1-3HT				
92503105007	T1-3HTS				
92503105008	T1-3LT				
92503105009	T1-4HT				
92503105010	T1-4HTS				
92503105011	T1-4HLT				
92503105012	T2-1HT				
92503105013	T2-2HT				
92503105014	T2-2HTS				
92503105015	T2-2LT				
92503105016	T2-3HT				
92503105017	T2-3HTS				
92503105018	T2-3LT				
92503105019	T2-4HT				
92503105020	T2-4HTS				
92503105021	T2-4LT				
92503105022	T3-1HT				
92503105023	T3-2HT				
92503105024	T3-2HTS				
92503105025	T3-2LT				
92503105026	T3-3HT				
92503105027	T3-3HTS				
92503105028	T3-3LT				
92503105029	T3-4HT				
92503105030	T3-4HTS				
92503105031	T3-4LT				
92503105032	T4-1HS				
92503105033	T4-1HB				
92503105034	T4-1L				
92503105035	T4-2HS				
92503105036	T4-2HB				
92503105037	T4-2L				
92503105038	T4-3HS				
92503105039	T4-3HB				
92503105040	T4-3L				
92503105041	T4-4HS				
92503105042	T4-4HB				
92503105043	T4-4L				
92503105044	BG-1LT				
92503105045	BG-2HT				
92503105001	T1-1HT	EPA 3010A	577480	EPA 6010D	577493
92503105002	T1-1LT	EPA 3010A	577480	EPA 6010D	577493
92503105003	T1-2HT	EPA 3010A	577480	EPA 6010D	577493

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503105004	T1-2HTS	EPA 3010A	577480	EPA 6010D	577493
92503105005	T1-2LT	EPA 3010A	577480	EPA 6010D	577493
92503105006	T1-3HT	EPA 3010A	577480	EPA 6010D	577493
92503105007	T1-3HTS	EPA 3010A	577480	EPA 6010D	577493
92503105008	T1-3LT	EPA 3010A	577480	EPA 6010D	577493
92503105009	T1-4HT	EPA 3010A	577480	EPA 6010D	577493
92503105010	T1-4HTS	EPA 3010A	577480	EPA 6010D	577493
92503105011	T1-4HLT	EPA 3010A	577480	EPA 6010D	577493
92503105012	T2-1HT	EPA 3010A	577480	EPA 6010D	577493
92503105013	T2-2HT	EPA 3010A	577480	EPA 6010D	577493
92503105014	T2-2HTS	EPA 3010A	577480	EPA 6010D	577493
92503105015	T2-2LT	EPA 3010A	577480	EPA 6010D	577493
92503105016	T2-3HT	EPA 3010A	577480	EPA 6010D	577493
92503105017	T2-3HTS	EPA 3010A	577480	EPA 6010D	577493
92503105018	T2-3LT	EPA 3010A	577480	EPA 6010D	577493
92503105019	T2-4HT	EPA 3010A	577481	EPA 6010D	577492
92503105020	T2-4HTS	EPA 3010A	577481	EPA 6010D	577492
92503105021	T2-4LT	EPA 3010A	577481	EPA 6010D	577492
92503105022	T3-1HT	EPA 3010A	577750	EPA 6010D	577772
92503105023	T3-2HT	EPA 3010A	577750	EPA 6010D	577772
92503105024	T3-2HTS	EPA 3010A	577750	EPA 6010D	577772
92503105025	T3-2LT	EPA 3010A	577750	EPA 6010D	577772
92503105026	T3-3HT	EPA 3010A	577750	EPA 6010D	577772
92503105027	T3-3HTS	EPA 3010A	577750	EPA 6010D	577772
92503105028	T3-3LT	EPA 3010A	577750	EPA 6010D	577772
92503105029	T3-4HT	EPA 3010A	577750	EPA 6010D	577772
92503105030	T3-4HTS	EPA 3010A	577750	EPA 6010D	577772
92503105031	T3-4LT	EPA 3010A	577750	EPA 6010D	577772
92503105032	T4-1HS	EPA 3010A	577481	EPA 6010D	577492
92503105033	T4-1HB	EPA 3010A	577481	EPA 6010D	577492
92503105034	T4-1L	EPA 3010A	577481	EPA 6010D	577492
92503105035	T4-2HS	EPA 3010A	577481	EPA 6010D	577492
92503105036	T4-2HB	EPA 3010A	577481	EPA 6010D	577492
92503105037	T4-2L	EPA 3010A	577481	EPA 6010D	577492
92503105038	T4-3HS	EPA 3010A	577481	EPA 6010D	577492
92503105039	T4-3HB	EPA 3010A	577481	EPA 6010D	577492
92503105040	T4-3L	EPA 3010A	577481	EPA 6010D	577492
92503105041	T4-4HS	EPA 3010A	577481	EPA 6010D	577492
92503105042	T4-4HB	EPA 3010A	577750	EPA 6010D	577772
92503105043	T4-4L	EPA 3010A	577481	EPA 6010D	577492
92503105044	BG-1LT	EPA 3010A	577750	EPA 6010D	577772
92503105045	BG-2HT	EPA 3010A	577750	EPA 6010D	577772
92503105046	DUP-1	EPA 3010A	577750	EPA 6010D	577772
92503105047	DUP-2	EPA 3010A	577750	EPA 6010D	577772
92503105048	DUP-3	EPA 3010A	577750	EPA 6010D	577772
92503105049	DUP-4	EPA 3010A	577750	EPA 6010D	577772

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503105050	DUP-5	EPA 3010A	577750	EPA 6010D	577772
92503105001	T1-1HT	EPA 3010A	577484	EPA 6020B	577499
92503105002	T1-1LT	EPA 3010A	577484	EPA 6020B	577499
92503105003	T1-2HT	EPA 3010A	577484	EPA 6020B	577499
92503105004	T1-2HTS	EPA 3010A	577484	EPA 6020B	577499
92503105005	T1-2LT	EPA 3010A	577484	EPA 6020B	577499
92503105006	T1-3HT	EPA 3010A	577484	EPA 6020B	577499
92503105007	T1-3HTS	EPA 3010A	577484	EPA 6020B	577499
92503105008	T1-3LT	EPA 3010A	577484	EPA 6020B	577499
92503105009	T1-4HT	EPA 3010A	577484	EPA 6020B	577499
92503105010	T1-4HTS	EPA 3010A	577484	EPA 6020B	577499
92503105011	T1-4HLT	EPA 3010A	577484	EPA 6020B	577499
92503105012	T2-1HT	EPA 3010A	577484	EPA 6020B	577499
92503105013	T2-2HT	EPA 3010A	577484	EPA 6020B	577499
92503105014	T2-2HTS	EPA 3010A	577484	EPA 6020B	577499
92503105015	T2-2LT	EPA 3010A	577484	EPA 6020B	577499
92503105016	T2-3HT	EPA 3010A	577485	EPA 6020B	577498
92503105017	T2-3HTS	EPA 3010A	577485	EPA 6020B	577498
92503105018	T2-3LT	EPA 3010A	577485	EPA 6020B	577498
92503105019	T2-4HT	EPA 3010A	577485	EPA 6020B	577498
92503105020	T2-4HTS	EPA 3010A	577485	EPA 6020B	577498
92503105021	T2-4LT	EPA 3010A	577485	EPA 6020B	577498
92503105022	T3-1HT	EPA 3010A	577753	EPA 6020B	577771
92503105023	T3-2HT	EPA 3010A	577753	EPA 6020B	577771
92503105024	T3-2HTS	EPA 3010A	577753	EPA 6020B	577771
92503105025	T3-2LT	EPA 3010A	577753	EPA 6020B	577771
92503105026	T3-3HT	EPA 3010A	577753	EPA 6020B	577771
92503105027	T3-3HTS	EPA 3010A	577753	EPA 6020B	577771
92503105028	T3-3LT	EPA 3010A	577753	EPA 6020B	577771
92503105029	T3-4HT	EPA 3010A	577753	EPA 6020B	577771
92503105030	T3-4HTS	EPA 3010A	577753	EPA 6020B	577771
92503105031	T3-4LT	EPA 3010A	577753	EPA 6020B	577771
92503105032	T4-1HS	EPA 3010A	577485	EPA 6020B	577498
92503105033	T4-1HB	EPA 3010A	577485	EPA 6020B	577498
92503105034	T4-1L	EPA 3010A	577485	EPA 6020B	577498
92503105035	T4-2HS	EPA 3010A	577485	EPA 6020B	577498
92503105036	T4-2HB	EPA 3010A	577485	EPA 6020B	577498
92503105037	T4-2L	EPA 3010A	577485	EPA 6020B	577498
92503105038	T4-3HS	EPA 3010A	577485	EPA 6020B	577498
92503105039	T4-3HB	EPA 3010A	577485	EPA 6020B	577498
92503105040	T4-3L	EPA 3010A	577485	EPA 6020B	577498
92503105041	T4-4HS	EPA 3010A	577485	EPA 6020B	577498
92503105042	T4-4HB	EPA 3010A	577753	EPA 6020B	577771
92503105043	T4-4L	EPA 3010A	577485	EPA 6020B	577498
92503105044	BG-1LT	EPA 3010A	577753	EPA 6020B	577771

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503105045	BG-2HT	EPA 3010A	577753	EPA 6020B	577771
92503105046	DUP-1	EPA 3010A	577753	EPA 6020B	577771
92503105047	DUP-2	EPA 3010A	577753	EPA 6020B	577771
92503105048	DUP-3	EPA 3010A	577753	EPA 6020B	577771
92503105049	DUP-4	EPA 3010A	577753	EPA 6020B	577771
92503105050	DUP-5	EPA 3010A	577753	EPA 6020B	577771
92503105001	T1-1HT	SM 2320B-2011	578191		
92503105002	T1-1LT	SM 2320B-2011	578191		
92503105003	T1-2HT	SM 2320B-2011	578191		
92503105004	T1-2HTS	SM 2320B-2011	578191		
92503105005	T1-2LT	SM 2320B-2011	578191		
92503105006	T1-3HT	SM 2320B-2011	578191		
92503105007	T1-3HTS	SM 2320B-2011	578191		
92503105008	T1-3LT	SM 2320B-2011	578191		
92503105009	T1-4HT	SM 2320B-2011	578191		
92503105010	T1-4HTS	SM 2320B-2011	578191		
92503105011	T1-4HLT	SM 2320B-2011	578191		
92503105012	T2-1HT	SM 2320B-2011	578191		
92503105013	T2-2HT	SM 2320B-2011	578191		
92503105014	T2-2HTS	SM 2320B-2011	578191		
92503105015	T2-2LT	SM 2320B-2011	578191		
92503105016	T2-3HT	SM 2320B-2011	578191		
92503105017	T2-3HTS	SM 2320B-2011	578191		
92503105018	T2-3LT	SM 2320B-2011	578191		
92503105019	T2-4HT	SM 2320B-2011	578191		
92503105020	T2-4HTS	SM 2320B-2011	578192		
92503105021	T2-4LT	SM 2320B-2011	578192		
92503105022	T3-1HT	SM 2320B-2011	578192		
92503105023	T3-2HT	SM 2320B-2011	578192		
92503105024	T3-2HTS	SM 2320B-2011	578192		
92503105025	T3-2LT	SM 2320B-2011	578192		
92503105026	T3-3HT	SM 2320B-2011	578192		
92503105027	T3-3HTS	SM 2320B-2011	578192		
92503105028	T3-3LT	SM 2320B-2011	578192		
92503105029	T3-4HT	SM 2320B-2011	578192		
92503105030	T3-4HTS	SM 2320B-2011	578192		
92503105031	T3-4LT	SM 2320B-2011	578192		
92503105032	T4-1HS	SM 2320B-2011	578192		
92503105033	T4-1HB	SM 2320B-2011	578192		
92503105034	T4-1L	SM 2320B-2011	578192		
92503105035	T4-2HS	SM 2320B-2011	578192		
92503105036	T4-2HB	SM 2320B-2011	578192		
92503105037	T4-2L	SM 2320B-2011	578192		
92503105038	T4-3HS	SM 2320B-2011	578192		
92503105039	T4-3HB	SM 2320B-2011	578192		
92503105040	T4-3L	SM 2320B-2011	578505		
92503105041	T4-4HS	SM 2320B-2011	578505		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503105042	T4-4HB	SM 2320B-2011	578505		
92503105043	T4-4L	SM 2320B-2011	578505		
92503105044	BG-1LT	SM 2320B-2011	578505		
92503105045	BG-2HT	SM 2320B-2011	578505		
92503105046	DUP-1	SM 2320B-2011	578505		
92503105047	DUP-2	SM 2320B-2011	578505		
92503105048	DUP-3	SM 2320B-2011	578505		
92503105049	DUP-4	SM 2320B-2011	578505		
92503105050	DUP-5	SM 2320B-2011	578505		
92503105001	T1-1HT	SM 2540C-2011	577170		
92503105002	T1-1LT	SM 2540C-2011	577170		
92503105003	T1-2HT	SM 2540C-2011	577170		
92503105004	T1-2HTS	SM 2540C-2011	577170		
92503105005	T1-2LT	SM 2540C-2011	577170		
92503105006	T1-3HT	SM 2540C-2011	577417		
92503105007	T1-3HTS	SM 2540C-2011	577417		
92503105008	T1-3LT	SM 2540C-2011	577170		
92503105009	T1-4HT	SM 2540C-2011	577417		
92503105010	T1-4HTS	SM 2540C-2011	577417		
92503105011	T1-4HLT	SM 2540C-2011	577170		
92503105012	T2-1HT	SM 2540C-2011	577417		
92503105013	T2-2HT	SM 2540C-2011	577417		
92503105014	T2-2HTS	SM 2540C-2011	577417		
92503105015	T2-2LT	SM 2540C-2011	577170		
92503105016	T2-3HT	SM 2540C-2011	577417		
92503105017	T2-3HTS	SM 2540C-2011	577417		
92503105018	T2-3LT	SM 2540C-2011	577170		
92503105019	T2-4HT	SM 2540C-2011	577417		
92503105020	T2-4HTS	SM 2540C-2011	577417		
92503105021	T2-4LT	SM 2540C-2011	577170		
92503105032	T4-1HS	SM 2540C-2011	577417		
92503105033	T4-1HB	SM 2540C-2011	577417		
92503105034	T4-1L	SM 2540C-2011	577417		
92503105035	T4-2HS	SM 2540C-2011	577417		
92503105036	T4-2HB	SM 2540C-2011	577417		
92503105037	T4-2L	SM 2540C-2011	577417		
92503105038	T4-3HS	SM 2540C-2011	577417		
92503105039	T4-3HB	SM 2540C-2011	577417		
92503105040	T4-3L	SM 2540C-2011	577417		
92503105041	T4-4HS	SM 2540C-2011	577709		
92503105043	T4-4L	SM 2540C-2011	577709		
92503105001	T1-1HT	EPA 300.0 Rev 2.1 1993	577108		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER

Pace Project No.: 92503105

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503105002	T1-1LT	EPA 300.0 Rev 2.1 1993	577108		
92503105003	T1-2HT	EPA 300.0 Rev 2.1 1993	577108		
92503105004	T1-2HTS	EPA 300.0 Rev 2.1 1993	577108		
92503105005	T1-2LT	EPA 300.0 Rev 2.1 1993	577108		
92503105006	T1-3HT	EPA 300.0 Rev 2.1 1993	577108		
92503105007	T1-3HTS	EPA 300.0 Rev 2.1 1993	577108		
92503105008	T1-3LT	EPA 300.0 Rev 2.1 1993	577108		
92503105009	T1-4HT	EPA 300.0 Rev 2.1 1993	577108		
92503105010	T1-4HTS	EPA 300.0 Rev 2.1 1993	577108		
92503105011	T1-4HLT	EPA 300.0 Rev 2.1 1993	577108		
92503105012	T2-1HT	EPA 300.0 Rev 2.1 1993	577108		
92503105013	T2-2HT	EPA 300.0 Rev 2.1 1993	577108		
92503105014	T2-2HTS	EPA 300.0 Rev 2.1 1993	577108		
92503105015	T2-2LT	EPA 300.0 Rev 2.1 1993	577108		
92503105016	T2-3HT	EPA 300.0 Rev 2.1 1993	577108		
92503105017	T2-3HTS	EPA 300.0 Rev 2.1 1993	577108		
92503105018	T2-3LT	EPA 300.0 Rev 2.1 1993	577108		
92503105019	T2-4HT	EPA 300.0 Rev 2.1 1993	577108		
92503105020	T2-4HTS	EPA 300.0 Rev 2.1 1993	577108		
92503105021	T2-4LT	EPA 300.0 Rev 2.1 1993	577113		
92503105032	T4-1HS	EPA 300.0 Rev 2.1 1993	577113		
92503105033	T4-1HB	EPA 300.0 Rev 2.1 1993	577113		
92503105034	T4-1L	EPA 300.0 Rev 2.1 1993	577113		
92503105035	T4-2HS	EPA 300.0 Rev 2.1 1993	577113		
92503105036	T4-2HB	EPA 300.0 Rev 2.1 1993	577113		
92503105037	T4-2L	EPA 300.0 Rev 2.1 1993	577113		
92503105038	T4-3HS	EPA 300.0 Rev 2.1 1993	577113		
92503105039	T4-3HB	EPA 300.0 Rev 2.1 1993	577113		
92503105040	T4-3L	EPA 300.0 Rev 2.1 1993	577113		
92503105041	T4-4HS	EPA 300.0 Rev 2.1 1993	577113		
92503105043	T4-4L	EPA 300.0 Rev 2.1 1993	577113		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mooresville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name: Georgia Power

Project #: **W0# : 92503105**

Cooler: Commercial Dry Ice Dry Ice Dry Ice Other



Custody Seal Present? Yes No Seal Intact? Yes No

Material from Packaging System: SG

Packing Material: Bubble Wrap Bubble Bags Foam Other

Biological Tissue Inoculated? Yes No No

Thermometry: In-line 4.370(w) Type of Use: Yes No Other

Cooler Temp: 4.8, 3.2, 5.3 Correction Factor: 0

Temp should be stored (keeping to 4°C) Sampled at temp (maintain samples on ice, cooling process, no heat)

Cooler Temp Corrected (°C): 4.8, 3.2, 5.3

USDA Regulated Soil? Yes (i.e., water sample) Did samples originate in a quarantine zone within the United States, CA, HI, or NC (check map)? Yes No

Did samples originate from a quarantine zone internationally (including South and Puerto Rico)? Yes No

			Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	1	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	2	
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No	3	
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No	4	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	5	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	6	
Free Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	7	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	8	
Revised analysis/ Samples Field Filtered?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No	9	
Sample Labels Match DOC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> No	10	3 Samples missing from page 3 + 5, + one on 4.
Includes Date/Time/ID/Analysis Matrix	<u>Kit</u>		
Repackaging in USDA Bags (>5-liters)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	11	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No	12	
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No		

COMMENTS/ISSUES/ DISCREPANCY

Total Discrepancy? Yes No

Lot ID of supply containers:

CLIENT NOTIFICATION/REASONING

Person contacted:

Date/Time:

Project Manager SCUR Review:

Date:

Project Manager SRF Review:

Date:

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

Project # **WO#: 92503105**

PR: KLH1 Due Date: 11/08/20

CLIENT: GR-GR Four

Exception: VOA, Culture, HPC, CR and Gross. TRO/TOC (water DOC) only
**Bottom half of box is to list number of bottle

Sample	1000-010 ml. Phos. (preserved) (P)	1000-020 ml. Phos. (preserved) (P)	1000-030 ml. Phos. (preserved) (P)	1000-040 ml. Phos. (preserved) (P)	1000-050 ml. Phos. (preserved) (P)	1000-060 ml. Phos. (preserved) (P)	1000-070 ml. Phos. (preserved) (P)	1000-080 ml. Phos. (preserved) (P)	1000-090 ml. Phos. (preserved) (P)	1000-100 ml. Phos. (preserved) (P)	1000-110 ml. Phos. (preserved) (P)	1000-120 ml. Phos. (preserved) (P)	1000-130 ml. Phos. (preserved) (P)	1000-140 ml. Phos. (preserved) (P)	1000-150 ml. Phos. (preserved) (P)	1000-160 ml. Phos. (preserved) (P)	1000-170 ml. Phos. (preserved) (P)	1000-180 ml. Phos. (preserved) (P)	1000-190 ml. Phos. (preserved) (P)	1000-200 ml. Phos. (preserved) (P)
1000-010																				
1000-020																				
1000-030																				
1000-040																				
1000-050																				
1000-060																				
1000-070																				
1000-080																				
1000-090																				
1000-100																				
1000-110																				
1000-120																				
1000-130																				
1000-140																				
1000-150																				
1000-160																				
1000-170																				
1000-180																				
1000-190																				
1000-200																				

Page 2 of COC

Sample ID	Type of Preservation	pH upon receipt	Date preservation adjusted	Name preservation adjuster	Amount of Preservation adjust	Lot #

Note: Whenever there is a pH adjustment, the sample should be analyzed within 24 hours of adjustment. The pH should be recorded on the Sample Condition Open Bottle (SCUB) form. Do not use this form for other types of preservation.

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

Exception: VOA, Coliform, NOC, OI and Gross, TNO/RTS (not) DOC, etc.

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

Project **WO# : 92503105**
 PM: KLM Due Date: 11/06/28
 CLIENT: GA-GA Power

Sample ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
9100-125 mL Filtrate Unpreserved (NOA) (01)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/
9100-125 mL Filtrate Unpreserved (NOA)	/	/	/	/	/	/	/	/	/	/	/	/

Page 4 of CCO

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Type preservative added	Amount of preservative added	L.S.#

Note: All samples must be thoroughly preserved using 100% certified preservation samples, amount of this item will be reported. Each Certified Sample Certification Office is a part of total, successful preservation, not of sample, individual variations.

Laboratory receiving samples:

Acheyville Eden Greenwood Huntersville Raleigh Mechanicsville

Laboratory Condition Upon Receipt

Client Name: Georgan Power Project # **WO# : 92503105**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

PH: KLH1 Due Date: 11/08/20
 CLIENT: GR-GR Power

Custody Seal Present? Yes No Seal Intact? Yes No

Date/Initial Person Examining Contents: 11/11/20

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen? Yes No N/A

Thermometer: In Situ ID: 92T061 Type of Ice: Wet Dry None

Cooler Temp (°C): 11.4, 12 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 0°C
 Sample out of temp range. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 11.4, 12

USDA Regulated Soil N/A, water sample

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

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

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
SHIP/NOTICE/DELIVERY (PZ) or IT?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Batch Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Inefficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analyte: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
<u>WFI</u>			
-Includes Date/Time/NO/Analysis Matrix			
Headspace in VOA Vials (10-dmm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY Field Data Required? Yes No

Inc melted in Reich Allot page 3 and page 5.
Rec'd T4-4HR from page 4

Lot ID of split containers: _____

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager IRF Review: _____ Date: _____



Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 7, 2008 Page 1 of 2
Document No.: I-CAR-CS-013-Rev.04	Issuing Authority: North Carolina 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/RODS (water) DOC, UHQ

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

Project # **W0# : 92503105**

PR: KLH1

Due Date: 11/06/08

CLIENT: CR-CR Four

Item #	Description	1	2	3	4	5	6	7	8	9	10	11	12
BP40-125 ml Plastic Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP30-125 ml Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP20-500 ml Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-1 liter Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP45-125 ml Plastic H2SO4 (pH < 2) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP35-500 ml plastic HNO3 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP42-125 ml Plastic 20 Acetic & NaOH (pH)		/	/	/	/	/	/	/	/	/	/	/	/
BP45-125 ml Plastic NaOH (pH > 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
Weight-weigh-measured Glass Jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
A010-1 liter Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
A010-1 liter Amber HCl (pH < 1)		/	/	/	/	/	/	/	/	/	/	/	/
A020-150 ml Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
A020-1 liter Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A020-150 ml Amber H2SO4 (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A030(003M)-250 ml Amber HNO3 (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
DO30-60 ml VOA HCl (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO30-60 ml VOA H2SO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO30-60 ml VOA HNO3 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DO30-60 ml VOA H2PO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO30-60 ml VOA HCl (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO30-60 ml VOA H2SO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO30-60 ml VOA HNO3 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO30-60 ml VOA H2PO4 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
SP20-125 ml Borosil Plastic (N/A - 100)		/	/	/	/	/	/	/	/	/	/	/	/
SP20-125 ml Borosil Plastic (N/A - 100)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-250 ml Plastic (N/A) (D- 3-5-7)		/	/	/	/	/	/	/	/	/	/	/	/
A050-500 ml Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO50-50 ml Scintillation vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DO50-60 ml Amber Unpreserved vials (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

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 DHEM Certification Office (O-C). Out of field, 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/SDCS (water) DOC, UMG

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

Project #

WO#: 92503105

PM: KLH

Due Date: 11/08/20

CLIENT: GR-GR Power

Sample ID	Preservative	1	2	3	4	5	6	7	8	9	10	11	12
BP10-100 ml, Plastic Unpreserved (P)(U) (C)		/	/	/	/	/	/	/	/	/	/	/	/
BP10-250 ml, Plastic Unpreserved (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
BP20-500 ml, Plastic Unpreserved (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
BP11-1 Liter Plastic Unpreserved (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
BP16-1.5 ml, Phoric (1500) (pH < 2) (D)		/	/	/	/	/	/	/	/	/	/	/	/
BP16-250 ml, phoric (1500) (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP16-125 ml, Phoric (1500) & NaOH (pH)		/	/	/	/	/	/	/	/	/	/	/	/
BP16-125 ml, Phoric NaOH (pH < 12) (C)		/	/	/	/	/	/	/	/	/	/	/	/
V6011 Water-saturated Gas (pH Unpreserved)		/	/	/	/	/	/	/	/	/	/	/	/
A6111-1 Liter Amber Unpreserved (P)(U) (C)		/	/	/	/	/	/	/	/	/	/	/	/
A6111-1 Liter Amber (C) (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A6111-150 ml, Amber Unpreserved (P)(U) (C)		/	/	/	/	/	/	/	/	/	/	/	/
A6111-1 Liter Amber (1500) (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A6111-250 ml, Amber (1500) (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
A6111-100 ml, Amber (1500) (P)(U) (C)		/	/	/	/	/	/	/	/	/	/	/	/
D5011-40 ml, VOA (C) (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
V6011-40 ml, VOA (1500) (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
V6011-40 ml, VOA (100) (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
D5011-40 ml, VOA (100) (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
V6011 (4 vials per set) (100) (pH)		/	/	/	/	/	/	/	/	/	/	/	/
V6011 (4 vials per set) (100) (pH)		/	/	/	/	/	/	/	/	/	/	/	/
BP11-125 ml, Boric Phoric (pH < 12)		/	/	/	/	/	/	/	/	/	/	/	/
BP11-125 ml, Boric Phoric (pH < 12)		/	/	/	/	/	/	/	/	/	/	/	/
BP16-150 ml, Phoric (1500) (P)(U) (C)		/	/	/	/	/	/	/	/	/	/	/	/
A6011-100 ml, Amber Unpreserved (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
V6011-20 ml, Synthesis vials (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/
D5011-40 ml, Amber Unpreserved vials (P)(U)		/	/	/	/	/	/	/	/	/	/	/	/

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 District Compliance Office (i.e. Out of State, incorrect preservative, out of temp, incorrect containers).

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

Section I: Sample Information

Requester: State of Michigan
 Requester Address: 1000 W. Washington Ave, Lansing, MI 48906
 Requester Phone: 517-373-3000
 Requester Email: forensic@state.michigan.gov

Section II: Analytical Request Information

Requester Name: Michigan State Police
 Requester Address: 1000 W. Washington Ave, Lansing, MI 48906
 Requester Phone: 517-373-3000
 Requester Email: forensic@state.michigan.gov

Section III: Sample & Submission

Sample ID: 92503105
 Sample Description: TI-1 HT
 Submission Date: 10/28/20

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	LOCATION	OFFICER	AGENCY	COLLECTOR		ANALYSE TEST	ANALYST	DATE	TIME	REMARKS
						NAME	PHONE					
TI-1 HT	10/28/20	10:00	1000 W. Washington Ave, Lansing, MI 48906	Officer [Signature]	Michigan State Police	[Signature]	[Signature]	MI-1	[Signature]	10/28/20	10:00	MI-1 HT
TI-2 HT	10/28/20	10:00	1000 W. Washington Ave, Lansing, MI 48906	Officer [Signature]	Michigan State Police	[Signature]	[Signature]	MI-2	[Signature]	10/28/20	10:00	MI-2 HT
TI-3 HT	10/28/20	10:00	1000 W. Washington Ave, Lansing, MI 48906	Officer [Signature]	Michigan State Police	[Signature]	[Signature]	MI-3	[Signature]	10/28/20	10:00	MI-3 HT
TI-4 HT	10/28/20	10:00	1000 W. Washington Ave, Lansing, MI 48906	Officer [Signature]	Michigan State Police	[Signature]	[Signature]	MI-4	[Signature]	10/28/20	10:00	MI-4 HT
TI-5 HT	10/28/20	10:00	1000 W. Washington Ave, Lansing, MI 48906	Officer [Signature]	Michigan State Police	[Signature]	[Signature]	MI-5	[Signature]	10/28/20	10:00	MI-5 HT

Section IV: Laboratory Information

Requester Name: Michigan State Police
 Requester Address: 1000 W. Washington Ave, Lansing, MI 48906
 Requester Phone: 517-373-3000
 Requester Email: forensic@state.michigan.gov

Section V: Signatures

Requester Signature: [Signature]
 Date: 10/28/20

Analyst Signature: [Signature]
 Date: 10/28/20



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A: Requesting Agency Information		Section B: Requesting Agency Information	
Agency Name: Parsippany Police Dept	Request For: Forensic Lab	Agency Name: Parsippany Police Dept	Request For: Forensic Lab
Address: 1000 Livingston Avenue, Parsippany, NJ 07054	Case No: 15-1114	Agency Name: Parsippany Police Dept	Request For: Forensic Lab
Contact: Sgt. [Name]	Officer: [Name]	Agency Name: Parsippany Police Dept	Request For: Forensic Lab
Phone: [Number]	Case No: 15-1114	Agency Name: Parsippany Police Dept	Request For: Forensic Lab
Request Date: [Date]	Request Date: [Date]	Agency Name: Parsippany Police Dept	Request For: Forensic Lab

Sample ID	Description	Quantity	Unit	Date/Time	Collection		Preservation		Analysis Test		Requesting Agency
					By	Where	Method	Media	Yield	Notes	
022	TR-1HT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
023	TR-2HT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
024	TR-3HT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
025	TR-4HT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
026	TR-1LT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
027	TR-2LT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
028	TR-3LT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
029	TR-4LT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
030	TR-1HT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept
031	TR-2HT	2	g	08/21/14	Police	1514	Sealed	Sealed	GC/MS	GC/MS	Parsippany Police Dept

Requesting Agency: Parsippany Police Dept	Request For: Forensic Lab	Request Date: 08/21/14	Requester: Sgt. [Name]
Requesting Agency: Parsippany Police Dept	Request For: Forensic Lab	Request Date: 08/21/14	Requester: Sgt. [Name]
Requesting Agency: Parsippany Police Dept	Request For: Forensic Lab	Request Date: 08/21/14	Requester: Sgt. [Name]
Requesting Agency: Parsippany Police Dept	Request For: Forensic Lab	Request Date: 08/21/14	Requester: Sgt. [Name]

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



Section 1 General Information	Section 2 Detailed Project Information	Section 3 Media Information	Section 4 Regulatory Agency
Project Name: [Blank] Client: [Blank] Project Number: [Blank] Project Name: [Blank] Project #:	Project Name: [Blank] Client: [Blank] Project Number: [Blank] Project Name: [Blank] Project #:	Media Information: Media Type: [Blank] Media Count: [Blank] Media Storage: [Blank] Media #:	Regulatory Agency: Agency Name: [Blank] Agency Address: [Blank] Agency Phone: [Blank] Agency Email: [Blank]

SAMPLE ID (See Chapter 10 for details) Sample for separate analysis	DATE COLLECTED	LOCATION	DEPTH	TIME	DEPTH	TIME	SAMPLE MEDIA COLLECTION		PRESERVATION							ANALYSIS TEST	REMARKS (Date, Time)	
							NO. OF CONTAINERS	CONTAINER TYPE	COOLING	FREEZE	NO. OF CONTAINERS	CONTAINER TYPE	COOLING	FREEZE	NO. OF CONTAINERS			CONTAINER TYPE	COOLING	FREEZE
TD-1HS	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:15
TD-1HB	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:25
TD-1L	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:46
TD-2HS	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:37
TD-2HB	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:34
TD-2L	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:49
TD-3HS	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:37
TD-3HB	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:38
TD-3L	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:49
TD-4HS	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:49
TD-4HB	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:49
TD-4L	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:33
TD-4L	7/15/10	0510	0510	0510	0510	0510	1	1	1	1	1	1	1	1	1	1	04	7:53

032
033
034
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042
043

APPROVED: [Signature]
 DATE: [Blank]

PROJECT STATUS: [Blank]	PROJECT NUMBER: [Blank]	PROJECT DATE: [Blank]	PROJECT TIME: [Blank]	PROJECT LOCATION: [Blank]
ANALYST: [Blank]	LABORATORY: [Blank]	DATE: [Blank]	TIME: [Blank]	LOCATION: [Blank]



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a USDOJ DOCUMENT. All relevant boxes must be completed accurately.

Section A: General Case Information Agency: <u>Missouri State Highway Patrol</u> Division: <u>OS 2118</u> State: <u>MO</u> Case Number: <u>10120138</u> Report Date: <u>10/26/18</u>	Section B: Analytical Request Information Request ID: <u>10120138</u> Report To: <u>OS 2118</u> Request Date: <u>10/26/18</u>	Section C: Sample Information Analytical Request Number: <u>10120138</u> Requestor Name: <u>Missouri State Highway Patrol</u>	Section D: Sample Collection Collection Date: <u>10/26/18</u> Collection Location: <u>10120138</u> Collector Name: <u>OS 2118</u>
---	--	---	--

SAMPLE ID (See Chain of Custody for list, only, not for analysis)	Quantity	Date	Time	Type	Analyst	Documentation										Signature										
						Original	10120138	10120138	10120138	10120138	10120138	10120138	10120138	10120138	10120138		10120138	10120138	10120138							
1	1	10/26	13:35	10120138	OS 2118	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2	1	10/26	13:40	10120138	OS 2118	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3	1	10/26	13:42	10120138	OS 2118	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4	1	10/26	13:44	10120138	OS 2118	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
5	1	10/26	13:45	10120138	OS 2118	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

044
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Section E: Laboratory Information Laboratory Name: <u>Missouri State Highway Patrol</u> Laboratory Address: <u>10120138</u> Laboratory Phone: <u>10120138</u> Laboratory Fax: <u>10120138</u>	Section F: Additional Comments <u>10120138</u>
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Section G: Sample Used and Analytical Project Name: <u>10120138</u> Sample Type: <u>10120138</u> Date of Sample: <u>10/26/18</u>	Section H: Analyst Information Analyst Name: <u>OS 2118</u> Analyst Signature: <u>10120138</u>
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November 30, 2020

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

RE: Project: MCMANUS RESAMPLING
Pace Project No.: 92507147

Dear Joju Abraham:

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

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Charlotte

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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CERTIFICATIONS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: MCMANUS RESAMPLING
Pace Project No.: 92507147

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92507147001	T3-1HT	Water	11/17/20 10:44	11/19/20 10:30
92507147002	T3-2HT	Water	11/17/20 10:55	11/19/20 10:30
92507147003	T3-2HTS	Water	11/17/20 10:04	11/19/20 10:30
92507147004	T3-2LT	Water	11/18/20 09:24	11/19/20 10:30
92507147005	T3-3HT	Water	11/17/20 10:30	11/19/20 10:30
92507147006	T3-3HTS	Water	11/17/20 10:21	11/19/20 10:30
92507147007	T3-3LT	Water	11/18/20 09:12	11/19/20 10:30
92507147008	T3-4HT	Water	11/17/20 11:18	11/19/20 10:30
92507147009	T3-4HTS	Water	11/17/20 11:08	11/19/20 10:30
92507147010	T3-4LT	Water	11/18/20 08:58	11/19/20 10:30
92507147011	T4-4HB	Water	11/17/20 11:58	11/19/20 10:30
92507147012	BG-1LT	Water	11/18/20 08:38	11/19/20 10:30
92507147013	BG-2HT	Water	11/17/20 13:37	11/19/20 10:30
92507147014	DUP-1	Water	11/17/20 00:00	11/19/20 10:30
92507147015	DUP-2	Water	11/18/20 00:00	11/19/20 10:30
92507147016	FBL111820	Water	11/18/20 11:42	11/19/20 10:30
92507147017	EQBL111820	Water	11/18/20 11:45	11/19/20 10:30

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SAMPLE ANALYTE COUNT

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92507147001	T3-1HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92507147002	T3-2HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92507147003	T3-2HTS	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92507147004	T3-2LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92507147005	T3-3HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92507147006	T3-3HTS	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
92507147007	T3-3LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92507147008	T3-4HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92507147009	T3-4HTS	SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
92507147010	T3-4LT	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
92507147011	T4-4HB	EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92507147012	BG-1LT	SM 2540C-2011	MJP	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92507147013	BG-2HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
92507147014	DUP-1	SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92507147015	DUP-2	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92507147016	FBL111820	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	MJP	1	PASI-A
92507147017	EQBL111820	EPA 300.0 Rev 2.1 1993	CDC	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	ALP	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 RESAMPLING
 Pace Project No.: 92507147

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92507147001	T3-1HT					
	Performed by	CUSTOME			11/19/20 14:07	
		R				
	pH	7.43	Std. Units		11/19/20 14:07	
EPA 6010D	Calcium	17.5	mg/L	0.10	11/24/20 06:08	
EPA 6010D	Magnesium	57.4	mg/L	0.10	11/24/20 06:08	
EPA 6010D	Potassium	17.4	mg/L	5.0	11/24/20 06:08	
EPA 6010D	Sodium	6760	mg/L	2500	11/24/20 04:53	
EPA 6020B	Arsenic	0.0019J	mg/L	0.0050	11/20/20 13:40	
EPA 6020B	Boron	2.4	mg/L	1.2	11/20/20 10:43	M6
EPA 6020B	Lithium	0.093	mg/L	0.030	11/20/20 13:40	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	11/25/20 14:46	
SM 2320B-2011	Alkalinity, Total as CaCO3	110	mg/L	5.0	11/25/20 14:46	
SM 2540C-2011	Total Dissolved Solids	20900	mg/L	2500	11/23/20 15:51	
EPA 300.0 Rev 2.1 1993	Chloride	10600	mg/L	200	11/21/20 07:08	M6, R1
EPA 300.0 Rev 2.1 1993	Sulfate	1330	mg/L	200	11/21/20 07:08	M6, R1
92507147002	T3-2HT					
	Performed by	CUSTOME			11/19/20 14:07	
		R				
	pH	7.39	Std. Units		11/19/20 14:07	
EPA 6010D	Calcium	183	mg/L	1.0	11/24/20 06:11	
EPA 6010D	Magnesium	633	mg/L	1.0	11/24/20 06:11	
EPA 6010D	Potassium	181	mg/L	50.0	11/24/20 06:11	
EPA 6010D	Sodium	6800	mg/L	2500	11/24/20 04:56	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	11/20/20 14:00	
EPA 6020B	Boron	2.6	mg/L	1.2	11/20/20 10:58	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/20/20 14:00	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	11/25/20 15:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	110	mg/L	5.0	11/25/20 15:16	
SM 2540C-2011	Total Dissolved Solids	20300	mg/L	2500	11/23/20 15:51	
EPA 300.0 Rev 2.1 1993	Chloride	10900	mg/L	200	11/20/20 14:31	
EPA 300.0 Rev 2.1 1993	Sulfate	1400	mg/L	200	11/20/20 14:31	
92507147003	T3-2HTS					
	Performed by	CUSTOME			11/19/20 14:08	
		R				
	pH	7.43	Std. Units		11/19/20 14:08	
EPA 6010D	Calcium	178	mg/L	1.0	11/24/20 06:15	
EPA 6010D	Magnesium	585	mg/L	1.0	11/24/20 06:15	
EPA 6010D	Potassium	176	mg/L	50.0	11/24/20 06:15	
EPA 6010D	Sodium	6900	mg/L	2500	11/24/20 05:12	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/20/20 14:04	
EPA 6020B	Boron	2.7	mg/L	1.2	11/20/20 11:02	
EPA 6020B	Lithium	0.099	mg/L	0.030	11/20/20 14:04	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	11/25/20 15:29	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	11/25/20 15:29	
SM 2540C-2011	Total Dissolved Solids	22000	mg/L	2500	11/23/20 15:51	
EPA 300.0 Rev 2.1 1993	Chloride	10800	mg/L	200	11/20/20 14:53	
EPA 300.0 Rev 2.1 1993	Sulfate	1370	mg/L	200	11/20/20 14:53	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92507147004	T3-2LT					
	Performed by	CUSTOME			11/19/20 14:08	
		R				
	pH	7.60	Std. Units		11/19/20 14:08	
EPA 6010D	Calcium	157	mg/L	1.0	11/24/20 06:18	
EPA 6010D	Magnesium	545	mg/L	1.0	11/24/20 06:18	
EPA 6010D	Potassium	158	mg/L	50.0	11/24/20 06:18	
EPA 6010D	Sodium	6800	mg/L	2500	11/24/20 05:15	
EPA 6020B	Arsenic	0.0023J	mg/L	0.0050	11/20/20 15:25	
EPA 6020B	Boron	2.5	mg/L	1.2	11/20/20 11:06	
EPA 6020B	Lithium	0.095	mg/L	0.030	11/20/20 15:25	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	112	mg/L	5.0	11/25/20 15:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	112	mg/L	5.0	11/25/20 15:41	
SM 2540C-2011	Total Dissolved Solids	24000	mg/L	2500	11/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	11000	mg/L	200	11/20/20 15:15	
EPA 300.0 Rev 2.1 1993	Sulfate	1420	mg/L	200	11/20/20 15:15	
92507147005	T3-3HT					
	Performed by	CUSTOME			11/19/20 14:08	
		R				
	pH	7.37	Std. Units		11/19/20 14:08	
EPA 6010D	Calcium	171	mg/L	1.0	11/24/20 06:21	
EPA 6010D	Magnesium	571	mg/L	1.0	11/24/20 06:21	
EPA 6010D	Potassium	172	mg/L	50.0	11/24/20 06:21	
EPA 6010D	Sodium	6800	mg/L	2500	11/24/20 05:19	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	11/20/20 15:28	
EPA 6020B	Boron	2.7	mg/L	1.2	11/20/20 11:10	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/20/20 15:28	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	11/25/20 15:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	111	mg/L	5.0	11/25/20 15:53	
SM 2540C-2011	Total Dissolved Solids	21900	mg/L	2500	11/23/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	11200	mg/L	200	11/20/20 15:37	
EPA 300.0 Rev 2.1 1993	Sulfate	1430	mg/L	200	11/20/20 15:37	
92507147006	T3-3HTS					
	Performed by	CUSTOME			11/19/20 14:08	
		R				
	pH	7.50	Std. Units		11/19/20 14:08	
EPA 6010D	Calcium	153	mg/L	1.0	11/24/20 06:31	
EPA 6010D	Magnesium	529	mg/L	1.0	11/24/20 06:31	
EPA 6010D	Potassium	154	mg/L	50.0	11/24/20 06:31	
EPA 6010D	Sodium	6710	mg/L	2500	11/24/20 05:22	
EPA 6020B	Arsenic	0.0020J	mg/L	0.0050	11/20/20 15:32	
EPA 6020B	Boron	2.5	mg/L	1.2	11/20/20 11:21	
EPA 6020B	Lithium	0.090	mg/L	0.030	11/20/20 15:32	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	11/25/20 16:05	
SM 2320B-2011	Alkalinity, Total as CaCO3	113	mg/L	5.0	11/25/20 16:05	
SM 2540C-2011	Total Dissolved Solids	20400	mg/L	2500	11/23/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	11000	mg/L	200	11/20/20 15:58	
EPA 300.0 Rev 2.1 1993	Sulfate	1400	mg/L	200	11/20/20 15:58	

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SUMMARY OF DETECTION

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92507147007	T3-3LT					
	Performed by	CUSTOME			11/19/20 14:08	
		R				
	pH	7.58	Std. Units		11/19/20 14:08	
EPA 6010D	Calcium	154	mg/L	1.0	11/24/20 06:35	
EPA 6010D	Magnesium	514	mg/L	1.0	11/24/20 06:35	
EPA 6010D	Potassium	157	mg/L	50.0	11/24/20 06:35	
EPA 6010D	Sodium	6580	mg/L	2500	11/24/20 05:25	
EPA 6020B	Arsenic	0.0020J	mg/L	0.0050	11/20/20 15:36	
EPA 6020B	Boron	2.4	mg/L	1.2	11/20/20 11:25	
EPA 6020B	Lithium	0.093	mg/L	0.030	11/20/20 15:36	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	11/30/20 10:26	
SM 2320B-2011	Alkalinity, Total as CaCO3	110	mg/L	5.0	11/30/20 10:26	
SM 2540C-2011	Total Dissolved Solids	26100	mg/L	2500	11/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	11000	mg/L	200	11/20/20 16:48	
EPA 300.0 Rev 2.1 1993	Sulfate	1370	mg/L	200	11/20/20 16:48	
92507147008	T3-4HT					
	Performed by	CUSTOME			11/19/20 14:09	
		R				
	pH	7.42	Std. Units		11/19/20 14:09	
EPA 6010D	Calcium	161	mg/L	1.0	11/24/20 06:38	
EPA 6010D	Magnesium	560	mg/L	1.0	11/24/20 06:38	
EPA 6010D	Potassium	165	mg/L	50.0	11/24/20 06:38	
EPA 6010D	Sodium	6850	mg/L	2500	11/24/20 05:29	
EPA 6020B	Arsenic	0.0024J	mg/L	0.0050	11/20/20 15:40	
EPA 6020B	Boron	2.8	mg/L	1.2	11/20/20 11:29	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/20/20 15:40	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/30/20 10:39	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/30/20 10:39	
SM 2540C-2011	Total Dissolved Solids	22700	mg/L	2500	11/23/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	11300	mg/L	200	11/20/20 17:10	
EPA 300.0 Rev 2.1 1993	Sulfate	1480	mg/L	200	11/20/20 17:10	
92507147009	T3-4HTS					
	Performed by	CUSTOME			11/19/20 14:09	
		R				
	pH	7.48	Std. Units		11/19/20 14:09	
EPA 6010D	Calcium	167	mg/L	1.0	11/24/20 06:41	
EPA 6010D	Magnesium	561	mg/L	1.0	11/24/20 06:41	
EPA 6010D	Potassium	170	mg/L	50.0	11/24/20 06:41	
EPA 6010D	Sodium	7080	mg/L	2500	11/24/20 05:32	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/20/20 15:44	
EPA 6020B	Boron	2.7	mg/L	1.2	11/20/20 11:33	
EPA 6020B	Lithium	0.10	mg/L	0.030	11/20/20 15:44	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/30/20 10:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/30/20 10:51	
SM 2540C-2011	Total Dissolved Solids	21900	mg/L	2500	11/23/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	11500	mg/L	200	11/20/20 17:32	
EPA 300.0 Rev 2.1 1993	Sulfate	1500	mg/L	200	11/20/20 17:32	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92507147010	T3-4LT					
	Performed by	CUSTOME			11/19/20 14:09	
		R				
	pH	7.54	Std. Units		11/19/20 14:09	
EPA 6010D	Calcium	156	mg/L	1.0	11/24/20 06:45	
EPA 6010D	Magnesium	524	mg/L	1.0	11/24/20 06:45	
EPA 6010D	Potassium	160	mg/L	50.0	11/24/20 06:45	
EPA 6010D	Sodium	6680	mg/L	2500	11/24/20 05:35	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/20/20 15:48	
EPA 6020B	Boron	2.7	mg/L	1.2	11/20/20 11:37	
EPA 6020B	Lithium	0.099	mg/L	0.030	11/20/20 15:48	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	112	mg/L	5.0	11/30/20 11:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	112	mg/L	5.0	11/30/20 11:02	
SM 2540C-2011	Total Dissolved Solids	32200	mg/L	2500	11/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	11300	mg/L	200	11/20/20 17:54	
EPA 300.0 Rev 2.1 1993	Sulfate	1490	mg/L	200	11/20/20 17:54	
92507147011	T4-4HB					
	Performed by	CUSTOME			11/19/20 14:09	
		R				
	pH	7.49	Std. Units		11/19/20 14:09	
EPA 6010D	Calcium	164	mg/L	1.0	11/24/20 06:48	
EPA 6010D	Magnesium	567	mg/L	1.0	11/24/20 06:48	
EPA 6010D	Potassium	171	mg/L	50.0	11/24/20 06:48	
EPA 6010D	Sodium	7080	mg/L	2500	11/24/20 05:38	
EPA 6020B	Arsenic	0.0025J	mg/L	0.0050	11/20/20 15:52	
EPA 6020B	Boron	2.9	mg/L	1.2	11/20/20 11:41	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/20/20 15:52	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	117	mg/L	5.0	11/30/20 11:14	
SM 2320B-2011	Alkalinity, Total as CaCO3	117	mg/L	5.0	11/30/20 11:14	
SM 2540C-2011	Total Dissolved Solids	23900	mg/L	2500	11/23/20 15:52	
EPA 300.0 Rev 2.1 1993	Chloride	12400	mg/L	200	11/20/20 18:16	M6
EPA 300.0 Rev 2.1 1993	Sulfate	1650	mg/L	200	11/20/20 18:16	M6
92507147012	BG-1LT					
	Performed by	CUSTOME			11/19/20 14:10	
		R				
	pH	7.45	Std. Units		11/19/20 14:10	
EPA 6010D	Calcium	138	mg/L	1.0	11/24/20 06:52	
EPA 6010D	Magnesium	492	mg/L	1.0	11/24/20 06:52	
EPA 6010D	Potassium	145	mg/L	50.0	11/24/20 06:52	
EPA 6010D	Sodium	6810	mg/L	2500	11/24/20 05:42	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/20/20 15:55	
EPA 6020B	Boron	2.7	mg/L	1.2	11/20/20 11:45	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/20/20 15:55	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	11/30/20 11:47	
SM 2320B-2011	Alkalinity, Total as CaCO3	114	mg/L	5.0	11/30/20 11:47	
SM 2540C-2011	Total Dissolved Solids	27100	mg/L	2500	11/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	11500	mg/L	200	11/20/20 19:22	
EPA 300.0 Rev 2.1 1993	Sulfate	1530	mg/L	200	11/20/20 19:22	

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SUMMARY OF DETECTION

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92507147013	BG-2HT					
	Performed by	CUSTOME R			11/19/20 14:10	
	pH	7.49	Std. Units		11/19/20 14:10	
EPA 6010D	Calcium	154	mg/L	1.0	11/24/20 06:55	
EPA 6010D	Magnesium	553	mg/L	1.0	11/24/20 06:55	
EPA 6010D	Potassium	161	mg/L	50.0	11/24/20 06:55	
EPA 6010D	Sodium	7310	mg/L	2500	11/24/20 05:51	
EPA 6020B	Arsenic	0.0033J	mg/L	0.0050	11/20/20 15:59	
EPA 6020B	Boron	2.9	mg/L	1.2	11/20/20 11:48	
EPA 6020B	Lithium	0.11	mg/L	0.030	11/20/20 15:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	11/30/20 11:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	116	mg/L	5.0	11/30/20 11:57	
SM 2540C-2011	Total Dissolved Solids	23800	mg/L	2500	11/23/20 16:33	
EPA 300.0 Rev 2.1 1993	Chloride	12300	mg/L	200	11/20/20 19:44	
EPA 300.0 Rev 2.1 1993	Sulfate	1630	mg/L	200	11/20/20 19:44	
92507147014	DUP-1					
EPA 6010D	Calcium	174	mg/L	1.0	11/24/20 06:58	
EPA 6010D	Magnesium	602	mg/L	1.0	11/24/20 06:58	
EPA 6010D	Potassium	177	mg/L	50.0	11/24/20 06:58	
EPA 6010D	Sodium	6880	mg/L	2500	11/24/20 05:55	
EPA 6020B	Arsenic	0.0022J	mg/L	0.0050	11/20/20 18:41	
EPA 6020B	Boron	2.8	mg/L	1.2	11/20/20 11:52	
EPA 6020B	Lithium	0.11J	mg/L	0.030	11/20/20 11:52	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	112	mg/L	5.0	11/30/20 12:08	
SM 2320B-2011	Alkalinity, Total as CaCO3	112	mg/L	5.0	11/30/20 12:08	
SM 2540C-2011	Total Dissolved Solids	22300	mg/L	2500	11/23/20 16:33	
EPA 300.0 Rev 2.1 1993	Chloride	11500	mg/L	200	11/20/20 20:06	
EPA 300.0 Rev 2.1 1993	Sulfate	1510	mg/L	200	11/20/20 20:06	
92507147015	DUP-2					
EPA 6010D	Calcium	159	mg/L	1.0	11/24/20 07:02	
EPA 6010D	Magnesium	549	mg/L	1.0	11/24/20 07:02	
EPA 6010D	Potassium	164	mg/L	50.0	11/24/20 07:02	
EPA 6010D	Sodium	6600	mg/L	2500	11/24/20 05:58	
EPA 6020B	Arsenic	0.0026J	mg/L	0.0050	11/20/20 18:45	
EPA 6020B	Boron	2.6	mg/L	1.2	11/20/20 11:56	
EPA 6020B	Lithium	0.095J	mg/L	0.030	11/20/20 11:56	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	11/30/20 12:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	113	mg/L	5.0	11/30/20 12:32	
SM 2540C-2011	Total Dissolved Solids	31500	mg/L	2500	11/24/20 10:28	
EPA 300.0 Rev 2.1 1993	Chloride	11200	mg/L	200	11/20/20 20:56	
EPA 300.0 Rev 2.1 1993	Sulfate	1410	mg/L	200	11/20/20 20:56	
92507147016	FBL111820					
SM 2540C-2011	Total Dissolved Solids	41.0	mg/L	25.0	11/24/20 10:28	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-1HT **Lab ID:** 92507147001 Collected: 11/17/20 10:44 Received: 11/19/20 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		11/19/20 14:07		
pH	7.43	Std. Units			1		11/19/20 14:07		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	17.5	mg/L	0.10	0.094	1	11/20/20 01:59	11/24/20 06:08	7440-70-2	
Magnesium	57.4	mg/L	0.10	0.068	1	11/20/20 01:59	11/24/20 06:08	7439-95-4	
Potassium	17.4	mg/L	5.0	3.0	1	11/20/20 01:59	11/24/20 06:08	7440-09-7	
Sodium	6760	mg/L	2500	305	500	11/20/20 01:59	11/24/20 04:53	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0019J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 13:40	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 10:43	7440-42-8	M6
Lithium	0.093	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 13:40	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	5.0	1		11/25/20 14:46		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/25/20 14:46		
Alkalinity, Total as CaCO3	110	mg/L	5.0	5.0	1		11/25/20 14:46		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20900	mg/L	2500	2500	1		11/23/20 15:51		
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		11/21/20 07:08	16887-00-6	M6,R1
Fluoride	ND	mg/L	0.10	0.050	1		11/20/20 13:18	16984-48-8	M1,M6
Sulfate	1330	mg/L	200	100	200		11/21/20 07:08	14808-79-8	M6,R1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-2HT **Lab ID: 92507147002** Collected: 11/17/20 10:55 Received: 11/19/20 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		11/19/20 14:07		
pH	7.39	Std. Units			1		11/19/20 14:07		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	183	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:11	7440-70-2	
Magnesium	633	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:11	7439-95-4	
Potassium	181	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:11	7440-09-7	
Sodium	6800	mg/L	2500	305	500	11/20/20 01:59	11/24/20 04:56	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0022J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 14:00	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 10:58	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 14:00	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	110	mg/L	5.0	5.0	1		11/25/20 15:16		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/25/20 15:16		
Alkalinity, Total as CaCO3	110	mg/L	5.0	5.0	1		11/25/20 15:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20300	mg/L	2500	2500	1		11/23/20 15:51		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	10900	mg/L	200	120	200		11/20/20 14:31	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 14:31	16984-48-8	D3
Sulfate	1400	mg/L	200	100	200		11/20/20 14:31	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: T3-2HTS Lab ID: 92507147003 Collected: 11/17/20 10:04 Received: 11/19/20 10:30 Matrix: Water									
Field Data Analytical Method: Pace Analytical Services - Charlotte									
Performed by	CUSTOMER				1		11/19/20 14:08		
pH	7.43	Std. Units			1		11/19/20 14:08		
6010 MET ICP Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	178	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:15	7440-70-2	
Magnesium	585	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:15	7439-95-4	
Potassium	176	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:15	7440-09-7	
Sodium	6900	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:12	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	11/20/20 01:40	11/20/20 14:04	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:02	7440-42-8	
Lithium	0.099	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 14:04	7439-93-2	
2320B Alkalinity Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		11/25/20 15:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/25/20 15:29		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		11/25/20 15:29		
2540C Total Dissolved Solids Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22000	mg/L	2500	2500	1		11/23/20 15:51		
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		11/20/20 14:53	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 14:53	16984-48-8	D3
Sulfate	1370	mg/L	200	100	200		11/20/20 14:53	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-2LT		Lab ID: 92507147004		Collected: 11/18/20 09:24	Received: 11/19/20 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		11/19/20 14:08		
pH	7.60	Std. Units			1		11/19/20 14:08		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	157	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:18	7440-70-2	
Magnesium	545	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:18	7439-95-4	
Potassium	158	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:18	7440-09-7	
Sodium	6800	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:15	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0023J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:25	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:06	7440-42-8	
Lithium	0.095	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:25	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	112	mg/L	5.0	5.0	1		11/25/20 15:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/25/20 15:41		
Alkalinity, Total as CaCO3	112	mg/L	5.0	5.0	1		11/25/20 15:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	24000	mg/L	2500	2500	1		11/24/20 10:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11000	mg/L	200	120	200		11/20/20 15:15	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 15:15	16984-48-8	D3
Sulfate	1420	mg/L	200	100	200		11/20/20 15:15	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample:	T3-3HT	Lab ID:	92507147005	Collected:	11/17/20 10:30	Received:	11/19/20 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		11/19/20 14:08		
pH	7.37	Std. Units			1		11/19/20 14:08		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	171	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:21	7440-70-2	
Magnesium	571	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:21	7439-95-4	
Potassium	172	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:21	7440-09-7	
Sodium	6800	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:19	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0022J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:28	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:10	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:28	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		11/25/20 15:53		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/25/20 15:53		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		11/25/20 15:53		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	21900	mg/L	2500	2500	1		11/23/20 15:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	11200	mg/L	200	120	200		11/20/20 15:37	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 15:37	16984-48-8	D3
Sulfate	1430	mg/L	200	100	200		11/20/20 15:37	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-3HTS **Lab ID: 92507147006** Collected: 11/17/20 10:21 Received: 11/19/20 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		11/19/20 14:08		
pH	7.50	Std. Units			1		11/19/20 14:08		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	153	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:31	7440-70-2	
Magnesium	529	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:31	7439-95-4	
Potassium	154	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:31	7440-09-7	
Sodium	6710	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:22	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0020J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:32	7440-38-2	
Boron	2.5	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:21	7440-42-8	
Lithium	0.090	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:32	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	5.0	1		11/25/20 16:05		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/25/20 16:05		
Alkalinity, Total as CaCO3	113	mg/L	5.0	5.0	1		11/25/20 16:05		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20400	mg/L	2500	2500	1		11/23/20 15:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11000	mg/L	200	120	200		11/20/20 15:58	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 15:58	16984-48-8	D3
Sulfate	1400	mg/L	200	100	200		11/20/20 15:58	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-3LT **Lab ID:** 92507147007 Collected: 11/18/20 09:12 Received: 11/19/20 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		11/19/20 14:08		
pH	7.58	Std. Units			1		11/19/20 14:08		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	154	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:35	7440-70-2	
Magnesium	514	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:35	7439-95-4	
Potassium	157	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:35	7440-09-7	
Sodium	6580	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:25	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0020J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:36	7440-38-2	
Boron	2.4	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:25	7440-42-8	
Lithium	0.093	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:36	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	110	mg/L	5.0	5.0	1		11/30/20 10:26		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 10:26		
Alkalinity, Total as CaCO3	110	mg/L	5.0	5.0	1		11/30/20 10:26		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	26100	mg/L	2500	2500	1		11/24/20 10:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11000	mg/L	200	120	200		11/20/20 16:48	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 16:48	16984-48-8	D3
Sulfate	1370	mg/L	200	100	200		11/20/20 16:48	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-4HT **Lab ID:** 92507147008 Collected: 11/17/20 11:18 Received: 11/19/20 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		11/19/20 14:09		
pH	7.42	Std. Units			1		11/19/20 14:09		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	161	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:38	7440-70-2	
Magnesium	560	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:38	7439-95-4	
Potassium	165	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:38	7440-09-7	
Sodium	6850	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:29	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	11/20/20 01:40	11/20/20 15:40	7440-38-2	
Boron	2.8	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:29	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:40	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/30/20 10:39		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 10:39		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/30/20 10:39		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22700	mg/L	2500	2500	1		11/23/20 15:52		
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		11/20/20 17:10	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 17:10	16984-48-8	D3
Sulfate	1480	mg/L	200	100	200		11/20/20 17:10	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T3-4HTS		Lab ID: 92507147009		Collected: 11/17/20 11:08		Received: 11/19/20 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		11/19/20 14:09		
pH	7.48	Std. Units			1		11/19/20 14:09		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	167	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:41	7440-70-2	
Magnesium	561	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:41	7439-95-4	
Potassium	170	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:41	7440-09-7	
Sodium	7080	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:32	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:44	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:33	7440-42-8	
Lithium	0.10	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:44	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/30/20 10:51		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 10:51		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/30/20 10:51		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	21900	mg/L	2500	2500	1		11/23/20 15:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	11500	mg/L	200	120	200		11/20/20 17:32	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 17:32	16984-48-8	D3
Sulfate	1500	mg/L	200	100	200		11/20/20 17:32	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample:	Lab ID:	Collected:	Received:	Matrix:					
T3-4LT	92507147010	11/18/20 08:58	11/19/20 10:30	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		11/19/20 14:09		
pH	7.54	Std. Units			1		11/19/20 14:09		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	156	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:45	7440-70-2	
Magnesium	524	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:45	7439-95-4	
Potassium	160	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:45	7440-09-7	
Sodium	6680	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:35	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	11/20/20 01:40	11/20/20 15:48	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:37	7440-42-8	
Lithium	0.099	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:48	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	112	mg/L	5.0	5.0	1		11/30/20 11:02		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 11:02		
Alkalinity, Total as CaCO3	112	mg/L	5.0	5.0	1		11/30/20 11:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	32200	mg/L	2500	2500	1		11/24/20 10:28		
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		11/20/20 17:54	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 17:54	16984-48-8	D3
Sulfate	1490	mg/L	200	100	200		11/20/20 17:54	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: T4-4HB		Lab ID: 92507147011		Collected: 11/17/20 11:58		Received: 11/19/20 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		11/19/20 14:09		
pH	7.49	Std. Units			1		11/19/20 14:09		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	164	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:48	7440-70-2	
Magnesium	567	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:48	7439-95-4	
Potassium	171	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:48	7440-09-7	
Sodium	7080	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:38	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0025J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:52	7440-38-2	
Boron	2.9	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:41	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:52	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	117	mg/L	5.0	5.0	1		11/30/20 11:14		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 11:14		
Alkalinity, Total as CaCO3	117	mg/L	5.0	5.0	1		11/30/20 11:14		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	23900	mg/L	2500	2500	1		11/23/20 15:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	12400	mg/L	200	120	200		11/20/20 18:16	16887-00-6	M6
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 18:16	16984-48-8	D3,M6
Sulfate	1650	mg/L	200	100	200		11/20/20 18:16	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: BG-1LT **Lab ID: 92507147012** Collected: 11/18/20 08:38 Received: 11/19/20 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		11/19/20 14:10		
pH	7.45	Std. Units			1		11/19/20 14:10		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	138	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:52	7440-70-2	
Magnesium	492	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:52	7439-95-4	
Potassium	145	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:52	7440-09-7	
Sodium	6810	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:42	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	11/20/20 01:40	11/20/20 15:55	7440-38-2	
Boron	2.7	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:45	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:55	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	114	mg/L	5.0	5.0	1		11/30/20 11:47		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 11:47		
Alkalinity, Total as CaCO3	114	mg/L	5.0	5.0	1		11/30/20 11:47		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	27100	mg/L	2500	2500	1		11/24/20 10:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	11500	mg/L	200	120	200		11/20/20 19:22	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 19:22	16984-48-8	D3
Sulfate	1530	mg/L	200	100	200		11/20/20 19:22	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: BG-2HT **Lab ID: 92507147013** Collected: 11/17/20 13:37 Received: 11/19/20 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		11/19/20 14:10		
pH	7.49	Std. Units			1		11/19/20 14:10		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	154	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:55	7440-70-2	
Magnesium	553	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:55	7439-95-4	
Potassium	161	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:55	7440-09-7	
Sodium	7310	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:51	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0033J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 15:59	7440-38-2	
Boron	2.9	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:48	7440-42-8	
Lithium	0.11	mg/L	0.030	0.0078	20	11/20/20 01:40	11/20/20 15:59	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	116	mg/L	5.0	5.0	1		11/30/20 11:57		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 11:57		
Alkalinity, Total as CaCO3	116	mg/L	5.0	5.0	1		11/30/20 11:57		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	23800	mg/L	2500	2500	1		11/23/20 16:33		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	12300	mg/L	200	120	200		11/20/20 19:44	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 19:44	16984-48-8	D3
Sulfate	1630	mg/L	200	100	200		11/20/20 19:44	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: DUP-1 **Lab ID:** 92507147014 Collected: 11/17/20 00:00 Received: 11/19/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	174	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 06:58	7440-70-2	
Magnesium	602	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 06:58	7439-95-4	
Potassium	177	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 06:58	7440-09-7	
Sodium	6880	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:55	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.0022J	mg/L	0.0050	0.0017	20	11/20/20 01:40	11/20/20 18:41	7440-38-2	
Boron	2.8	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:52	7440-42-8	
Lithium	0.11J	mg/L	0.030	0.020	50	11/20/20 01:40	11/20/20 11:52	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	112	mg/L	5.0	5.0	1		11/30/20 12:08		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 12:08		
Alkalinity, Total as CaCO3	112	mg/L	5.0	5.0	1		11/30/20 12:08		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	22300	mg/L	2500	2500	1		11/23/20 16:33		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	11500	mg/L	200	120	200		11/20/20 20:06	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 20:06	16984-48-8	D3
Sulfate	1510	mg/L	200	100	200		11/20/20 20:06	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: DUP-2 **Lab ID: 92507147015** Collected: 11/18/20 00:00 Received: 11/19/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	159	mg/L	1.0	0.94	10	11/20/20 01:59	11/24/20 07:02	7440-70-2	
Magnesium	549	mg/L	1.0	0.68	10	11/20/20 01:59	11/24/20 07:02	7439-95-4	
Potassium	164	mg/L	50.0	30.4	10	11/20/20 01:59	11/24/20 07:02	7440-09-7	
Sodium	6600	mg/L	2500	305	500	11/20/20 01:59	11/24/20 05:58	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	11/20/20 01:40	11/20/20 18:45	7440-38-2	
Boron	2.6	mg/L	1.2	0.31	50	11/20/20 01:40	11/20/20 11:56	7440-42-8	
Lithium	0.095J	mg/L	0.030	0.020	50	11/20/20 01:40	11/20/20 11:56	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	113	mg/L	5.0	5.0	1		11/30/20 12:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 12:32		
Alkalinity, Total as CaCO3	113	mg/L	5.0	5.0	1		11/30/20 12:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	31500	mg/L	2500	2500	1		11/24/20 10:28		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	11200	mg/L	200	120	200		11/20/20 20:56	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		11/20/20 20:56	16984-48-8	D3
Sulfate	1410	mg/L	200	100	200		11/20/20 20:56	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: **FBL111820** Lab ID: **92507147016** Collected: 11/18/20 11:42 Received: 11/19/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	ND	mg/L	0.10	0.094	1	11/20/20 01:59	11/24/20 06:01	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	11/20/20 01:59	11/24/20 06:01	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	11/20/20 01:59	11/24/20 06:01	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	11/20/20 01:59	11/24/20 06:01	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	11/20/20 01:40	11/20/20 12:16	7440-38-2	
Boron	ND	mg/L	0.025	0.0062	1	11/20/20 01:40	11/20/20 12:16	7440-42-8	
Lithium	ND	mg/L	0.030	0.00039	1	11/20/20 01:40	11/20/20 12:16	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		11/30/20 12:43		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		11/30/20 12:43		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		11/30/20 12:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	41.0	mg/L	25.0	25.0	1		11/24/20 10:28		
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		11/20/20 21:14	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/20/20 21:14	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/20/20 21:14	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Sample: EQBL111820 **Lab ID: 92507147017** Collected: 11/18/20 11:45 Received: 11/19/20 10:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	ND	mg/L	0.10	0.094	1	11/20/20 01:59	11/24/20 06:05	7440-70-2	
Magnesium	ND	mg/L	0.10	0.068	1	11/20/20 01:59	11/24/20 06:05	7439-95-4	
Potassium	ND	mg/L	5.0	3.0	1	11/20/20 01:59	11/24/20 06:05	7440-09-7	
Sodium	ND	mg/L	5.0	0.61	1	11/20/20 01:59	11/24/20 06:05	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	11/20/20 01:40	11/20/20 12:19	7440-38-2	
Boron	ND	mg/L	0.025	0.0062	1	11/20/20 01:40	11/20/20 12:19	7440-42-8	
Lithium	ND	mg/L	0.030	0.00039	1	11/20/20 01:40	11/20/20 12:19	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		11/30/20 12:47		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		11/30/20 12:47		
Alkalinity, Total as CaCO ₃	ND	mg/L	5.0	5.0	1		11/30/20 12:47		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		11/29/20 15:19		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		11/21/20 09:47	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/21/20 09:47	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/21/20 09:47	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

QC Batch: 581776

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

METHOD BLANK: 3077151

Matrix: Water

Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	11/24/20 04:49	
Magnesium	mg/L	ND	0.10	0.068	11/24/20 04:49	
Potassium	mg/L	ND	5.0	3.0	11/21/20 18:20	
Sodium	mg/L	ND	5.0	0.61	11/21/20 18:20	

LABORATORY CONTROL SAMPLE: 3077152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.4	87	80-120	
Magnesium	mg/L	5	4.9	98	80-120	
Potassium	mg/L	5	4.3J	86	80-120	
Sodium	mg/L	5	4.4J	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3077153 3077154

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92507018009 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Calcium	mg/L	1170 ug/L	2.5	2.5	3.5	3.5	94	95	75-125	1	20		
Magnesium	mg/L	778 ug/L	2.5	2.5	3.3	3.4	103	103	75-125	0	20		
Potassium	mg/L	ND	2.5	2.5	3.1J	3.1J	90	90	75-125		20		
Sodium	mg/L	1250J ug/L	2.5	2.5	3.6J	3.6J	94	93	75-125		20		

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

QC Batch: 581778 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

METHOD BLANK: 3077159 Matrix: Water
 Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0050	0.000087	11/20/20 10:35	
Boron	mg/L	ND	0.025	0.0062	11/20/20 10:35	
Lithium	mg/L	ND	0.030	0.00039	11/20/20 10:35	

LABORATORY CONTROL SAMPLE: 3077160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.011	106	80-120	
Boron	mg/L	0.05	0.051	103	80-120	
Lithium	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3077161 3077162

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92507147001 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	0.0019J	0.01	0.01	0.013	0.013	110	108	75-125	1	20
Boron	mg/L	2.4	0.05	0.05	2.5	2.5	182	130	75-125	1	20 M6
Lithium	mg/L	0.093	0.05	0.05	0.15	0.14	108	100	75-125	3	20

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

QC Batch: 582912 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

METHOD BLANK: 3082345 Matrix: Water
 Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	11/25/20 14:33	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	11/25/20 14:33	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	11/25/20 14:33	

LABORATORY CONTROL SAMPLE: 3082346

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	54.5	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3082347 3082348

Parameter	Units	92507147001 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	110	50	50	161	161	102	102	80-120	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3082349 3082350

Parameter	Units	92507147011 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	117	50	50	166	173	99	114	80-120	4	25	

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

QC Batch: 582312

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: 92507147001, 92507147002, 92507147003, 92507147005, 92507147006, 92507147008, 92507147009, 92507147011

METHOD BLANK: 3079504

Matrix: Water

Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147005, 92507147006, 92507147008, 92507147009, 92507147011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/23/20 15:47	

LABORATORY CONTROL SAMPLE: 3079505

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

SAMPLE DUPLICATE: 3079506

Parameter	Units	92506695007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	281	283	1	25	

SAMPLE DUPLICATE: 3079507

Parameter	Units	92506817007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	109	118	8	25	

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

QC Batch: 582419 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: 92507147013, 92507147014

METHOD BLANK: 3080043 Matrix: Water
 Associated Lab Samples: 92507147013, 92507147014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/23/20 16:32	

LABORATORY CONTROL SAMPLE: 3080044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	246	98	90-110	

SAMPLE DUPLICATE: 3080045

Parameter	Units	92507147013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	23800	23600	1	25	

SAMPLE DUPLICATE: 3080046

Parameter	Units	92507030008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	68.0	80.0	16	25	

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

QC Batch: 582606 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: 92507147004, 92507147007, 92507147010, 92507147012, 92507147015, 92507147016

METHOD BLANK: 3080740 Matrix: Water
 Associated Lab Samples: 92507147004, 92507147007, 92507147010, 92507147012, 92507147015, 92507147016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/24/20 10:26	

LABORATORY CONTROL SAMPLE: 3080741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	242	97	90-110	

SAMPLE DUPLICATE: 3080742

Parameter	Units	92507030018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	217	225	4	25	

SAMPLE DUPLICATE: 3080743

Parameter	Units	92507033008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	217	7	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

QC Batch: 582607 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: 92507147017

METHOD BLANK: 3080746 Matrix: Water
 Associated Lab Samples: 92507147017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/29/20 15:19	

LABORATORY CONTROL SAMPLE: 3080747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	246	99	90-110	

SAMPLE DUPLICATE: 3080748

Parameter	Units	92507147017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	H1

SAMPLE DUPLICATE: 3080749

Parameter	Units	92507351002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	47900	50900	6	25	

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QUALITY CONTROL DATA

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

QC Batch: 581827 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

METHOD BLANK: 3077236 Matrix: Water
 Associated Lab Samples: 92507147001, 92507147002, 92507147003, 92507147004, 92507147005, 92507147006, 92507147007, 92507147008, 92507147009, 92507147010, 92507147011, 92507147012, 92507147013, 92507147014, 92507147015, 92507147016, 92507147017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/20/20 12:51	
Fluoride	mg/L	ND	0.10	0.050	11/20/20 12:51	
Sulfate	mg/L	ND	1.0	0.50	11/20/20 12:51	

LABORATORY CONTROL SAMPLE: 3077237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Fluoride	mg/L	2.5	2.3	90	90-110	
Sulfate	mg/L	50	50.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3077238 3077239

Parameter	Units	92507147001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Chloride	mg/L	10600	50	50	3170	11000	-14800	852	90-110	111	10	M6, R1
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	32	90-110		10	M1, M6
Sulfate	mg/L	1330	50	50	378	1450	-1890	245	90-110	117	10	M6, R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3077240 3077241

Parameter	Units	92507147011 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Chloride	mg/L	12400	50	50	12300	12400	-313	-79	90-110	1	10	M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	48	0	90-110		10	M6
Sulfate	mg/L	1650	50	50	1670	1710	43	126	90-110	2	10	M6

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QUALIFIERS

Project: MCMANUS RESAMPLING
Pace Project No.: 92507147

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.

H1 Analysis conducted outside the EPA method holding time.

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

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

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92507147001	T3-1HT				
92507147002	T3-2HT				
92507147003	T3-2HTS				
92507147004	T3-2LT				
92507147005	T3-3HT				
92507147006	T3-3HTS				
92507147007	T3-3LT				
92507147008	T3-4HT				
92507147009	T3-4HTS				
92507147010	T3-4LT				
92507147011	T4-4HB				
92507147012	BG-1LT				
92507147013	BG-2HT				
92507147001	T3-1HT	EPA 3010A	581776	EPA 6010D	581787
92507147002	T3-2HT	EPA 3010A	581776	EPA 6010D	581787
92507147003	T3-2HTS	EPA 3010A	581776	EPA 6010D	581787
92507147004	T3-2LT	EPA 3010A	581776	EPA 6010D	581787
92507147005	T3-3HT	EPA 3010A	581776	EPA 6010D	581787
92507147006	T3-3HTS	EPA 3010A	581776	EPA 6010D	581787
92507147007	T3-3LT	EPA 3010A	581776	EPA 6010D	581787
92507147008	T3-4HT	EPA 3010A	581776	EPA 6010D	581787
92507147009	T3-4HTS	EPA 3010A	581776	EPA 6010D	581787
92507147010	T3-4LT	EPA 3010A	581776	EPA 6010D	581787
92507147011	T4-4HB	EPA 3010A	581776	EPA 6010D	581787
92507147012	BG-1LT	EPA 3010A	581776	EPA 6010D	581787
92507147013	BG-2HT	EPA 3010A	581776	EPA 6010D	581787
92507147014	DUP-1	EPA 3010A	581776	EPA 6010D	581787
92507147015	DUP-2	EPA 3010A	581776	EPA 6010D	581787
92507147016	FBL111820	EPA 3010A	581776	EPA 6010D	581787
92507147017	EQBL111820	EPA 3010A	581776	EPA 6010D	581787
92507147001	T3-1HT	EPA 3010A	581778	EPA 6020B	581786
92507147002	T3-2HT	EPA 3010A	581778	EPA 6020B	581786
92507147003	T3-2HTS	EPA 3010A	581778	EPA 6020B	581786
92507147004	T3-2LT	EPA 3010A	581778	EPA 6020B	581786
92507147005	T3-3HT	EPA 3010A	581778	EPA 6020B	581786
92507147006	T3-3HTS	EPA 3010A	581778	EPA 6020B	581786
92507147007	T3-3LT	EPA 3010A	581778	EPA 6020B	581786
92507147008	T3-4HT	EPA 3010A	581778	EPA 6020B	581786
92507147009	T3-4HTS	EPA 3010A	581778	EPA 6020B	581786
92507147010	T3-4LT	EPA 3010A	581778	EPA 6020B	581786
92507147011	T4-4HB	EPA 3010A	581778	EPA 6020B	581786
92507147012	BG-1LT	EPA 3010A	581778	EPA 6020B	581786
92507147013	BG-2HT	EPA 3010A	581778	EPA 6020B	581786
92507147014	DUP-1	EPA 3010A	581778	EPA 6020B	581786
92507147015	DUP-2	EPA 3010A	581778	EPA 6020B	581786
92507147016	FBL111820	EPA 3010A	581778	EPA 6020B	581786
92507147017	EQBL111820	EPA 3010A	581778	EPA 6020B	581786

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS RESAMPLING
 Pace Project No.: 92507147

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92507147001	T3-1HT	SM 2320B-2011	582912		
92507147002	T3-2HT	SM 2320B-2011	582912		
92507147003	T3-2HTS	SM 2320B-2011	582912		
92507147004	T3-2LT	SM 2320B-2011	582912		
92507147005	T3-3HT	SM 2320B-2011	582912		
92507147006	T3-3HTS	SM 2320B-2011	582912		
92507147007	T3-3LT	SM 2320B-2011	582912		
92507147008	T3-4HT	SM 2320B-2011	582912		
92507147009	T3-4HTS	SM 2320B-2011	582912		
92507147010	T3-4LT	SM 2320B-2011	582912		
92507147011	T4-4HB	SM 2320B-2011	582912		
92507147012	BG-1LT	SM 2320B-2011	582912		
92507147013	BG-2HT	SM 2320B-2011	582912		
92507147014	DUP-1	SM 2320B-2011	582912		
92507147015	DUP-2	SM 2320B-2011	582912		
92507147016	FBL111820	SM 2320B-2011	582912		
92507147017	EQBL111820	SM 2320B-2011	582912		
92507147001	T3-1HT	SM 2540C-2011	582312		
92507147002	T3-2HT	SM 2540C-2011	582312		
92507147003	T3-2HTS	SM 2540C-2011	582312		
92507147004	T3-2LT	SM 2540C-2011	582606		
92507147005	T3-3HT	SM 2540C-2011	582312		
92507147006	T3-3HTS	SM 2540C-2011	582312		
92507147007	T3-3LT	SM 2540C-2011	582606		
92507147008	T3-4HT	SM 2540C-2011	582312		
92507147009	T3-4HTS	SM 2540C-2011	582312		
92507147010	T3-4LT	SM 2540C-2011	582606		
92507147011	T4-4HB	SM 2540C-2011	582312		
92507147012	BG-1LT	SM 2540C-2011	582606		
92507147013	BG-2HT	SM 2540C-2011	582419		
92507147014	DUP-1	SM 2540C-2011	582419		
92507147015	DUP-2	SM 2540C-2011	582606		
92507147016	FBL111820	SM 2540C-2011	582606		
92507147017	EQBL111820	SM 2540C-2011	582607		
92507147001	T3-1HT	EPA 300.0 Rev 2.1 1993	581827		
92507147002	T3-2HT	EPA 300.0 Rev 2.1 1993	581827		
92507147003	T3-2HTS	EPA 300.0 Rev 2.1 1993	581827		
92507147004	T3-2LT	EPA 300.0 Rev 2.1 1993	581827		
92507147005	T3-3HT	EPA 300.0 Rev 2.1 1993	581827		
92507147006	T3-3HTS	EPA 300.0 Rev 2.1 1993	581827		
92507147007	T3-3LT	EPA 300.0 Rev 2.1 1993	581827		
92507147008	T3-4HT	EPA 300.0 Rev 2.1 1993	581827		
92507147009	T3-4HTS	EPA 300.0 Rev 2.1 1993	581827		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS RESAMPLING

Pace Project No.: 92507147

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92507147010	T3-4LT	EPA 300.0 Rev 2.1 1993	581827		
92507147011	T4-4HB	EPA 300.0 Rev 2.1 1993	581827		
92507147012	BG-1LT	EPA 300.0 Rev 2.1 1993	581827		
92507147013	BG-2HT	EPA 300.0 Rev 2.1 1993	581827		
92507147014	DUP-1	EPA 300.0 Rev 2.1 1993	581827		
92507147015	DUP-2	EPA 300.0 Rev 2.1 1993	581827		
92507147016	FBL111820	EPA 300.0 Rev 2.1 1993	581827		
92507147017	EQBL111820	EPA 300.0 Rev 2.1 1993	581827		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name: GA Douses

Project #: **WO#: 92507147**

Counter: Fed Ex UPS USPS Client
 Commercial Pace Other: _____



92507147

Custody Seal Present? Yes No Seals Intact? Yes No

Responsible Person (Signing Capacity): SG
11-19-20

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Present? Yes No N/A

Thermometer: In Container 9-3120 Type of Ice: None Dry Other

Cooler Temp: 1.24 Correction Factor: 0
Add/Subtract (°C) 0

Temp should be above freezing to 4°C
 Complies w/ all temp criteria. Samples on ice, cooling process complete

Cooler Temp Corrected (°C): 1.24 + 0.00

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, HI, or DC (check one)? Yes No
 Did samples originate from a foreign source (internationally, including travel and reunification)? Yes No

				Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Short Hold Time Analysis (+22 hr)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Sufficient Volume?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	6.
-Pac Containers Used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Disruptive analysis Samples held filtered?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Made:	<u>WT</u>			
Refrigerate in USDA Vials (+5 items)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Trip Blank Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	11.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NO FRICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRP Review: _____ Date: _____



Document Name:
Sample Condition Upon Receipt (SCUR)
 Document No.:
F-CAR-CI-003-Rev-07

Document Revised: October 26, 2020
 Page 1 of 2
 Issuing Authority:
 Pace Carolina Quality Office

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

Project #

WO# : 92507147

PH: KLH1 Due Date: 11/30/20
 CLIENT: GR-GA Power

Exceptions: VOA, Cellulose, TOC, Oil and Grease, OMO/ROIS (water) DOC, UTM
 **Bottom half of box is to list number of bottles

Sample	1	2	3	4	5	6	7	8	9	10	11	12	13
SP10-125 ml, Plastic Unpreserved (P/U) (D-I)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-150 ml, Plastic Unpreserved (P/U)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP20-500 ml, Plastic Unpreserved (P/U)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP20-1 liter Plastic Unpreserved (P/U)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-125 ml, Plastic w/2004 (pH = 2) (D-I)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-150 ml, plastic w/2004 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-125 ml, Plastic (In Accordance & Acetate) (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-125 ml, Plastic w/04 (pH = 2) (D-I)	/	/	/	/	/	/	/	/	/	/	/	/	/
w/04-w/04-acetated Glass per preservation	/	/	/	/	/	/	/	/	/	/	/	/	/
ACTM-1 liter Amber Unpreserved (P/U) (D-I)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD10-1 liter Amber w/04 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD10-150 ml, Amber Unpreserved (P/U) (D-I)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD10-1 liter Amber w/04 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD10-150 ml, Amber w/04 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD10-500ml-150 ml, Amber (P/R) (P/R) (D-I)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-60 ml, VOA w/04 (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10-60 ml, VOA w/04 (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10-60 ml, VOA (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10-60 ml, VOA w/04 (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10 (6 vials per lot) (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10 (12 vials per lot) (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-125 ml, Sealed Plastic (P/R - 100)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-200 ml, Sealed Plastic (P/R - 100)	/	/	/	/	/	/	/	/	/	/	/	/	/
SP10-250 ml, Plastic (P/R - 10)	/	/	/	/	/	/	/	/	/	/	/	/	/
AD10-150 ml, Amber Unpreserved vials (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10-60 ml, Dechlorination vials (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/
VO10-60 ml, Amber Unpreserved vials (P/R)	/	/	/	/	/	/	/	/	/	/	/	/	/

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 District Certification Office (N-DCO) Out of field, 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.

Exception: Y0A, Cellulose, DOC, Oil and Grease, (Mg)(BPE) (value) DOC, MSU

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

Project:

WO#: 92507147

PH: KLW1

Due Date: 11/30/20

CLIENT: GR-GR Power

Sample ID	Type of Preservative	g/L	pH	DO	Temperature	Time	Date	Operator
92507147-01	Y0A	500						
92507147-02	Y0A	500						
92507147-03	Y0A	500						
92507147-04	Y0A	500						
92507147-05	Y0A	500						
92507147-06	Y0A	500						
92507147-07	Y0A	500						
92507147-08	Y0A	500						
92507147-09	Y0A	500						
92507147-10	Y0A	500						
92507147-11	Y0A	500						
92507147-12	Y0A	500						
92507147-13	Y0A	500						
92507147-14	Y0A	500						
92507147-15	Y0A	500						
92507147-16	Y0A	500						
92507147-17	Y0A	500						
92507147-18	Y0A	500						
92507147-19	Y0A	500						
92507147-20	Y0A	500						
92507147-21	Y0A	500						
92507147-22	Y0A	500						
92507147-23	Y0A	500						
92507147-24	Y0A	500						
92507147-25	Y0A	500						
92507147-26	Y0A	500						
92507147-27	Y0A	500						
92507147-28	Y0A	500						
92507147-29	Y0A	500						
92507147-30	Y0A	500						
92507147-31	Y0A	500						
92507147-32	Y0A	500						
92507147-33	Y0A	500						
92507147-34	Y0A	500						
92507147-35	Y0A	500						
92507147-36	Y0A	500						
92507147-37	Y0A	500						
92507147-38	Y0A	500						
92507147-39	Y0A	500						
92507147-40	Y0A	500						
92507147-41	Y0A	500						
92507147-42	Y0A	500						
92507147-43	Y0A	500						
92507147-44	Y0A	500						
92507147-45	Y0A	500						
92507147-46	Y0A	500						
92507147-47	Y0A	500						
92507147-48	Y0A	500						
92507147-49	Y0A	500						
92507147-50	Y0A	500						

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

Note: Whenever there is a discrepancy affecting the Carleton compliance samples, a copy of this form will be sent to Carol Carleton, Compliance Officer at 4085 West 17th, Fort Collins, CO 80501.



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 I Applied Project Information Project Name: <u>Veritas TX</u> Client: <u>Veritas TX</u> Project Location: <u>San Antonio, Texas</u> Project Start Date: <u>01/15/2013</u>		Section II Sample Information Sample Name: <u>TS-1HT</u> Sample ID: <u>92501147</u> Sample Type: <u>HT</u> Sample Location: <u>HT</u> Sample Date: <u>01/15/2013</u>	
Section III Analytical Information Analytical Method: <u>GC/MS</u> Analytical Instrument: <u>6890N</u> Analytical Software: <u>ChemStation</u> Analytical Laboratory: <u>Veritas TX</u> Analytical Personnel: <u>Veritas TX</u> Analytical Date: <u>01/15/2013</u>		Section IV Chain-of-Custody Information Chain-of-Custody Number: <u>92501147</u> Chain-of-Custody Date: <u>01/15/2013</u> Chain-of-Custody Location: <u>Veritas TX</u> Chain-of-Custody Personnel: <u>Veritas TX</u> Chain-of-Custody Date: <u>01/15/2013</u>	

SAMPLE ID	Description	Date	Time	Location	Collector	Witness	Analysis		Analysis Date	Analysis Time	Analysis Location	Analysis Personnel
							HT	HT				
TS-1HT	Sample to be analyzed	01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-2HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-3HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-4HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-5HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-6HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-7HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-8HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-9HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX
TS-10HT		01/15/2013	08:00	Veritas TX	Veritas TX	Veritas TX	HT	HT	01/15/2013	08:00	Veritas TX	Veritas TX

Section V Analytical Results and Observations Analytical Results: <u>Veritas TX</u> Analytical Observations: <u>Veritas TX</u> Analytical Date: <u>01/15/2013</u>		Section VI Chain-of-Custody Signatures Collector: <u>Veritas TX</u> Witness: <u>Veritas TX</u> Date: <u>01/15/2013</u>	
Section VII Chain-of-Custody Information Chain-of-Custody Number: <u>92501147</u> Chain-of-Custody Date: <u>01/15/2013</u> Chain-of-Custody Location: <u>Veritas TX</u> Chain-of-Custody Personnel: <u>Veritas TX</u>		Section VIII Chain-of-Custody Signatures Collector: <u>Veritas TX</u> Witness: <u>Veritas TX</u> Date: <u>01/15/2013</u>	



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section 1: Project Information Project Name: <u>2020 Construction Project</u> Project No.: <u>2020-01</u> Project Location: <u>2000 Peachtree St NE, Atlanta, GA 30309</u> Project Start: <u>01/15/2020</u> Project End: <u>01/15/2020</u> Project Manager: <u>[Signature]</u>		Section 2: Analytical Information Analytical Agency: <u>[Signature]</u> Analytical Method: <u>[Signature]</u> Analytical Date: <u>[Signature]</u> Analytical Location: <u>[Signature]</u>	
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Sample ID	Sample Description	Container	Volume	Date/Time	Collector	Project/Client	Analysis Test		Remarks
							Y/N	Remarks	
BG-LHT	Background Soil	100 mL	1	1/15/20	100 mL	1	X	X	62507147
DUP-1	Duplicate	100 mL	1	1/15/20	100 mL	1	X	X	
DUP-2	Duplicate	100 mL	1	1/15/20	100 mL	1	X	X	
Finalists	Finalists	100 mL	1	1/15/20	100 mL	1	X	X	
Backgrounds	Backgrounds	100 mL	1	1/15/20	100 mL	1	X	X	

Section 3: Chain of Custody Project Name: <u>2020 Construction Project</u> Project Location: <u>2000 Peachtree St NE, Atlanta, GA 30309</u> Project Manager: <u>[Signature]</u>		Section 4: Laboratory Information Analytical Agency: <u>[Signature]</u> Analytical Method: <u>[Signature]</u> Analytical Date: <u>[Signature]</u> Analytical Location: <u>[Signature]</u>	
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March 15, 2021

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

RE: Project: MCMANUS SURFACE WATER SAMPLING
Pace Project No.: 92526014

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on March 05, 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: 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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CERTIFICATIONS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Pace Analytical Services Charlotte

9800 Kinsey Ave. Ste 100, Huntersville, NC 28078

Louisiana/NELAP Certification # LA170028

North Carolina Drinking Water Certification #: 37706

North Carolina Field Services Certification #: 5342

North Carolina Wastewater Certification #: 12

South Carolina Certification #: 99006001

Florida/NELAP Certification #: E87627

Kentucky UST Certification #: 84

Virginia/VELAP Certification #: 460221

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526014001	T2-1HT	Water	03/02/21 12:05	03/05/21 10:15
92526014002	T2-2HT	Water	03/02/21 12:23	03/05/21 10:15
92526014003	T2-2HTS	Water	03/02/21 12:12	03/05/21 10:15
92526014004	T2-2LT	Water	03/04/21 11:17	03/05/21 10:15
92526014005	T2-3HT	Water	03/02/21 12:40	03/05/21 10:15
92526014006	T2-3HTS	Water	03/02/21 12:34	03/05/21 10:15
92526014007	T2-3LT	Water	03/04/21 11:11	03/05/21 10:15
92526014008	T2-4HT	Water	03/02/21 14:30	03/05/21 10:15
92526014009	T2-4HTS	Water	03/02/21 14:20	03/05/21 10:15
92526014010	T2-4LT	Water	03/04/21 10:28	03/05/21 10:15
92526014011	T3-1HT	Water	03/02/21 11:05	03/05/21 10:15
92526014012	T3-2HT	Water	03/02/21 11:25	03/05/21 10:15
92526014013	T3-2HTS	Water	03/02/21 11:12	03/05/21 10:15
92526014014	T3-2LT	Water	03/04/21 10:51	03/05/21 10:15
92526014015	T3-3HT	Water	03/02/21 11:49	03/05/21 10:15
92526014016	T3-3HTS	Water	03/02/21 11:38	03/05/21 10:15
92526014017	T3-3LT	Water	03/04/21 10:44	03/05/21 10:15
92526014018	T3-4HT	Water	03/02/21 13:58	03/05/21 10:15
92526014019	T3-4HTS	Water	03/02/21 13:51	03/05/21 10:15
92526014020	T3-4LT	Water	03/04/21 10:35	03/05/21 10:15
92526014021	T4-1HB	Water	03/03/21 12:34	03/05/21 10:15
92526014022	T4-1HS	Water	03/03/21 12:24	03/05/21 10:15
92526014023	T4-1L	Water	03/03/21 10:03	03/05/21 10:15
92526014024	T4-2HB	Water	03/03/21 12:56	03/05/21 10:15
92526014025	T4-2HS	Water	03/03/21 12:51	03/05/21 10:15
92526014026	T4-2L	Water	03/03/21 09:54	03/05/21 10:15
92526014027	T4-3HB	Water	03/03/21 13:15	03/05/21 10:15
92526014028	T4-3HS	Water	03/03/21 13:10	03/05/21 10:15
92526014029	T4-3L	Water	03/03/21 09:41	03/05/21 10:15
92526014030	T4-4HB	Water	03/03/21 13:37	03/05/21 10:15
92526014031	T4-4HS	Water	03/03/21 13:30	03/05/21 10:15
92526014032	T4-4L	Water	03/03/21 09:29	03/05/21 10:15
92526014033	BG-1LT	Water	03/02/21 15:06	03/05/21 10:15
92526014034	BG-2HT	Water	03/03/21 10:35	03/05/21 10:15
92526014035	DUP-3	Water	03/02/21 00:00	03/05/21 10:15
92526014036	DUP-4	Water	03/03/21 00:00	03/05/21 10:15
92526014037	DUP-5	Water	03/03/21 00:00	03/05/21 10:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92526014038	FB-1	Water	03/04/21 14:13	03/05/21 10:15
92526014039	EB-1	Water	03/04/21 14:17	03/05/21 10:15
92526014040	T1-1HT	Water	03/02/21 12:52	03/05/21 10:15
92526014041	T1-1LT	Water	03/04/21 11:47	03/05/21 10:15
92526014042	T1-2HT	Water	03/02/21 13:08	03/05/21 10:15
92526014043	T1-2HTS	Water	03/02/21 13:02	03/05/21 10:15
92526014044	T1-2LT	Water	03/04/21 11:42	03/05/21 10:15
92526014045	T1-3HT	Water	03/02/21 13:33	03/05/21 10:15
92526014046	T1-3HTS	Water	03/02/21 13:25	03/05/21 10:15
92526014047	T1-3LT	Water	03/04/21 11:52	03/05/21 10:15
92526014048	T1-4HT	Water	03/02/21 14:47	03/05/21 10:15
92526014049	T1-4HTS	Water	03/02/21 14:42	03/05/21 10:15
92526014050	T1-4LT	Water	03/04/21 10:15	03/05/21 10:15
92526014051	DUP-1	Water	03/02/21 00:00	03/05/21 10:15
92526014052	DUP-2	Water	03/02/21 00:00	03/05/21 10:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014001	T2-1HT	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014002	T2-2HT	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014003	T2-2HTS	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014004	T2-2LT	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014005	T2-3HT	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014006	T2-3HTS	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014007	T2-3LT	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014008	T2-4HT	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014009	T2-4HTS	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
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014010	T2-4LT	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	KQ, SH1	4	PASI-A
92526014011	T3-1HT	EPA 6020B	JOR	3	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
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014012	T3-2HT	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014013	T3-2HTS	EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
92526014014	T3-2LT	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
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014015	T3-3HT	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014016	T3-3HTS	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014017	T3-3LT	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014018	T3-4HT	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014019	T3-4HTS	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014020	T3-4LT	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	KQ, SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014021	T4-1HB	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014022	T4-1HS	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014023	T4-1L	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014024	T4-2HB	EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014025	T4-2HS	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014026	T4-2L	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
92526014027	T4-3HB	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014028	T4-3HS	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
92526014029	T4-3L	EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014030	T4-4HB	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014031	T4-4HS	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014032	T4-4L	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014033	BG-1LT	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014034	BG-2HT	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014035	DUP-3	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014036	DUP-4	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014037	DUP-5	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014038	FB-1	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014039	EB-1	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014040	T1-1HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014041	T1-1LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014042	T1-2HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014043	T1-2HTS	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014044	T1-2LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014045	T1-3HT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92526014046	T1-3HTS	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014047	T1-3LT	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
92526014048	T1-4HT	EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
92526014049	T1-4HTS	SM 2540C-2011	RED	1	PASI-A
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
92526014050	T1-4LT	EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
92526014051	DUP-1	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
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
92526014052	DUP-2	EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A
		SM 2320B-2011	ECH	3	PASI-A
		SM 2540C-2011	RED	1	PASI-A
		EPA 6010D	SH1	4	PASI-A
		EPA 6020B	JOR	3	PASI-A

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SAMPLE ANALYTE COUNT

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0 Rev 2.1 1993	JLH	3	PASI-A

PASI-A = Pace Analytical Services - Asheville

PASI-C = Pace Analytical Services - Charlotte

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014001	T2-1HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.43	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	172	mg/L	1.0	03/11/21 05:14	M6
EPA 6010D	Magnesium	518	mg/L	1.0	03/11/21 05:14	M6
EPA 6010D	Potassium	174	mg/L	50.0	03/11/21 05:14	M6
EPA 6010D	Sodium	4240	mg/L	500	03/12/21 11:36	M6
EPA 6020B	Boron	1.9J	mg/L	2.5	03/11/21 12:31	B
EPA 6020B	Lithium	0.068J	mg/L	0.12	03/11/21 12:31	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	77.5	mg/L	5.0	03/10/21 17:33	
SM 2320B-2011	Alkalinity, Total as CaCO3	77.5	mg/L	5.0	03/10/21 17:33	
SM 2540C-2011	Total Dissolved Solids	16100	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	6300	mg/L	200	03/09/21 18:49	M6
EPA 300.0 Rev 2.1 1993	Sulfate	512	mg/L	11.0	03/08/21 13:11	M6
92526014002	T2-2HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.36	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	188	mg/L	1.0	03/13/21 02:36	
EPA 6010D	Magnesium	561	mg/L	1.0	03/13/21 02:36	
EPA 6010D	Potassium	191	mg/L	50.0	03/13/21 02:36	
EPA 6010D	Sodium	4540	mg/L	500	03/12/21 12:12	
EPA 6020B	Boron	2.2J	mg/L	2.5	03/11/21 12:34	B,M6
EPA 6020B	Lithium	0.070J	mg/L	0.12	03/11/21 12:34	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	86.7	mg/L	5.0	03/10/21 17:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	86.7	mg/L	5.0	03/10/21 17:54	
SM 2540C-2011	Total Dissolved Solids	18200	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	8240	mg/L	200	03/08/21 00:24	
EPA 300.0 Rev 2.1 1993	Sulfate	1180	mg/L	200	03/08/21 00:24	
92526014003	T2-2HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.35	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	165	mg/L	1.0	03/13/21 02:39	
EPA 6010D	Magnesium	496	mg/L	1.0	03/13/21 02:39	
EPA 6010D	Potassium	166	mg/L	50.0	03/13/21 02:39	
EPA 6010D	Sodium	4200	mg/L	500	03/12/21 12:15	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 12:52	B
EPA 6020B	Lithium	0.063J	mg/L	0.12	03/11/21 12:52	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	78.2	mg/L	5.0	03/10/21 18:04	
SM 2320B-2011	Alkalinity, Total as CaCO3	78.2	mg/L	5.0	03/10/21 18:04	
SM 2540C-2011	Total Dissolved Solids	15400	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	6610	mg/L	200	03/08/21 00:38	
EPA 300.0 Rev 2.1 1993	Sulfate	932	mg/L	200	03/08/21 00:38	
92526014004	T2-2LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014004	T2-2LT					
	pH	7.31	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	124	mg/L	1.0	03/13/21 02:43	
EPA 6010D	Magnesium	367	mg/L	1.0	03/13/21 02:43	
EPA 6010D	Potassium	122	mg/L	50.0	03/13/21 02:43	
EPA 6010D	Sodium	3120	mg/L	500	03/12/21 12:18	
EPA 6020B	Boron	1.8J	mg/L	2.5	03/11/21 12:56	B
EPA 6020B	Lithium	0.050J	mg/L	0.12	03/11/21 12:56	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	68.5	mg/L	5.0	03/10/21 18:15	
SM 2320B-2011	Alkalinity, Total as CaCO3	68.5	mg/L	5.0	03/10/21 18:15	
SM 2540C-2011	Total Dissolved Solids	11400	mg/L	1250	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	5100	mg/L	200	03/08/21 00:52	
EPA 300.0 Rev 2.1 1993	Sulfate	715	mg/L	200	03/08/21 00:52	
92526014005	T2-3HT					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.37	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	181	mg/L	1.0	03/13/21 02:46	
EPA 6010D	Magnesium	542	mg/L	1.0	03/13/21 02:46	
EPA 6010D	Potassium	184	mg/L	50.0	03/13/21 02:46	
EPA 6010D	Sodium	4710	mg/L	500	03/12/21 12:22	
EPA 6020B	Boron	2.4J	mg/L	2.5	03/11/21 12:59	B
EPA 6020B	Lithium	0.070J	mg/L	0.12	03/11/21 12:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	86.8	mg/L	5.0	03/10/21 18:25	
SM 2320B-2011	Alkalinity, Total as CaCO3	86.8	mg/L	5.0	03/10/21 18:25	
SM 2540C-2011	Total Dissolved Solids	18200	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	7390	mg/L	200	03/08/21 01:06	
EPA 300.0 Rev 2.1 1993	Sulfate	1050	mg/L	200	03/08/21 01:06	
92526014006	T2-3HTS					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.44	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	160	mg/L	1.0	03/13/21 02:49	
EPA 6010D	Magnesium	481	mg/L	1.0	03/13/21 02:49	
EPA 6010D	Potassium	161	mg/L	50.0	03/13/21 02:49	
EPA 6010D	Sodium	4140	mg/L	500	03/12/21 12:25	
EPA 6020B	Boron	2.5J	mg/L	2.5	03/11/21 13:03	B
EPA 6020B	Lithium	0.062J	mg/L	0.12	03/11/21 13:03	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	78.3	mg/L	5.0	03/10/21 18:34	
SM 2320B-2011	Alkalinity, Total as CaCO3	78.3	mg/L	5.0	03/10/21 18:34	
SM 2540C-2011	Total Dissolved Solids	15100	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	6590	mg/L	200	03/08/21 01:20	
EPA 300.0 Rev 2.1 1993	Sulfate	918	mg/L	200	03/08/21 01:20	
92526014007	T2-3LT					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.34	Std. Units		03/12/21 13:53	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014007	T2-3LT					
EPA 6010D	Calcium	136	mg/L	1.0	03/13/21 02:53	
EPA 6010D	Magnesium	407	mg/L	1.0	03/13/21 02:53	
EPA 6010D	Potassium	135	mg/L	50.0	03/13/21 02:53	
EPA 6010D	Sodium	3330	mg/L	500	03/12/21 12:28	
EPA 6020B	Boron	1.9J	mg/L	2.5	03/11/21 13:13	B
EPA 6020B	Lithium	0.055J	mg/L	0.12	03/11/21 13:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	71.0	mg/L	5.0	03/10/21 19:11	
SM 2320B-2011	Alkalinity, Total as CaCO3	71.0	mg/L	5.0	03/10/21 19:11	
SM 2540C-2011	Total Dissolved Solids	13200	mg/L	2500	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	5860	mg/L	200	03/08/21 01:34	
EPA 300.0 Rev 2.1 1993	Sulfate	827	mg/L	200	03/08/21 01:34	
92526014008	T2-4HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.34	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	172	mg/L	1.0	03/13/21 02:56	
EPA 6010D	Magnesium	513	mg/L	1.0	03/13/21 02:56	
EPA 6010D	Potassium	174	mg/L	50.0	03/13/21 02:56	
EPA 6010D	Sodium	4190	mg/L	500	03/12/21 12:32	
EPA 6020B	Boron	2.3J	mg/L	2.5	03/11/21 13:17	B
EPA 6020B	Lithium	0.065J	mg/L	0.12	03/11/21 13:17	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	81.2	mg/L	5.0	03/10/21 19:36	
SM 2320B-2011	Alkalinity, Total as CaCO3	81.2	mg/L	5.0	03/10/21 19:36	
SM 2540C-2011	Total Dissolved Solids	16900	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	7410	mg/L	200	03/08/21 01:49	
EPA 300.0 Rev 2.1 1993	Sulfate	1040	mg/L	200	03/08/21 01:49	
92526014009	T2-4HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.44	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	164	mg/L	1.0	03/13/21 02:59	
EPA 6010D	Magnesium	494	mg/L	1.0	03/13/21 02:59	
EPA 6010D	Potassium	166	mg/L	50.0	03/13/21 02:59	
EPA 6010D	Sodium	4220	mg/L	500	03/12/21 12:35	
EPA 6020B	Boron	2.3J	mg/L	2.5	03/11/21 13:20	B
EPA 6020B	Lithium	0.070J	mg/L	0.12	03/11/21 13:20	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	82.4	mg/L	5.0	03/10/21 19:46	
SM 2320B-2011	Alkalinity, Total as CaCO3	82.4	mg/L	5.0	03/10/21 19:46	
SM 2540C-2011	Total Dissolved Solids	15600	mg/L	2500	03/08/21 19:06	
EPA 300.0 Rev 2.1 1993	Chloride	7010	mg/L	200	03/08/21 02:03	
EPA 300.0 Rev 2.1 1993	Sulfate	985	mg/L	200	03/08/21 02:03	
92526014010	T2-4LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.36	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	138	mg/L	1.0	03/13/21 03:09	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014010	T2-4LT					
EPA 6010D	Magnesium	408	mg/L	1.0	03/13/21 03:09	
EPA 6010D	Potassium	135	mg/L	50.0	03/13/21 03:09	
EPA 6010D	Sodium	3520	mg/L	500	03/12/21 12:38	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 13:24	B
EPA 6020B	Lithium	0.046J	mg/L	0.12	03/11/21 13:24	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	70.9	mg/L	5.0	03/10/21 19:55	
SM 2320B-2011	Alkalinity, Total as CaCO3	70.9	mg/L	5.0	03/10/21 19:55	
SM 2540C-2011	Total Dissolved Solids	12300	mg/L	2500	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	5530	mg/L	200	03/08/21 02:17	
EPA 300.0 Rev 2.1 1993	Sulfate	769	mg/L	200	03/08/21 02:17	
92526014011	T3-1HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.29	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	160	mg/L	1.0	03/13/21 03:13	
EPA 6010D	Magnesium	482	mg/L	1.0	03/13/21 03:13	
EPA 6010D	Potassium	160	mg/L	50.0	03/13/21 03:13	
EPA 6010D	Sodium	3940	mg/L	500	03/12/21 12:41	
EPA 6020B	Boron	2.3J	mg/L	2.5	03/11/21 13:27	B
EPA 6020B	Lithium	0.068J	mg/L	0.12	03/11/21 13:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	80.4	mg/L	5.0	03/10/21 20:04	
SM 2320B-2011	Alkalinity, Total as CaCO3	80.4	mg/L	5.0	03/10/21 20:04	
SM 2540C-2011	Total Dissolved Solids	15500	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6380	mg/L	200	03/08/21 03:00	M6
EPA 300.0 Rev 2.1 1993	Sulfate	888	mg/L	200	03/08/21 03:00	M6
92526014012	T3-2HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.25	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	164	mg/L	1.0	03/13/21 03:16	
EPA 6010D	Magnesium	490	mg/L	1.0	03/13/21 03:16	
EPA 6010D	Potassium	165	mg/L	50.0	03/13/21 03:16	
EPA 6010D	Sodium	4220	mg/L	500	03/12/21 12:58	
EPA 6020B	Boron	2.4J	mg/L	2.5	03/11/21 13:31	B
EPA 6020B	Lithium	0.069J	mg/L	0.12	03/11/21 13:31	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.2	mg/L	5.0	03/10/21 20:13	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.2	mg/L	5.0	03/10/21 20:13	
SM 2540C-2011	Total Dissolved Solids	17000	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	7130	mg/L	200	03/08/21 03:42	
EPA 300.0 Rev 2.1 1993	Sulfate	1000	mg/L	200	03/08/21 03:42	
92526014013	T3-2HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.29	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	163	mg/L	1.0	03/13/21 03:19	
EPA 6010D	Magnesium	492	mg/L	1.0	03/13/21 03:19	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014013	T3-2HTS					
EPA 6010D	Potassium	165	mg/L	50.0	03/13/21 03:19	
EPA 6010D	Sodium	4240	mg/L	500	03/12/21 13:01	
EPA 6020B	Boron	2.3J	mg/L	2.5	03/11/21 13:35	B
EPA 6020B	Lithium	0.063J	mg/L	0.12	03/11/21 13:35	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	81.1	mg/L	5.0	03/10/21 20:34	
SM 2320B-2011	Alkalinity, Total as CaCO3	81.1	mg/L	5.0	03/10/21 20:34	
SM 2540C-2011	Total Dissolved Solids	15500	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6740	mg/L	200	03/08/21 03:57	
EPA 300.0 Rev 2.1 1993	Sulfate	946	mg/L	200	03/08/21 03:57	
92526014014	T3-2LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.24	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	114	mg/L	1.0	03/13/21 03:23	
EPA 6010D	Magnesium	333	mg/L	1.0	03/13/21 03:23	
EPA 6010D	Potassium	110	mg/L	50.0	03/13/21 03:23	
EPA 6010D	Sodium	2860	mg/L	500	03/12/21 13:04	
EPA 6020B	Boron	1.7J	mg/L	2.5	03/11/21 13:38	B
EPA 6020B	Lithium	0.043J	mg/L	0.12	03/11/21 13:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	66.1	mg/L	5.0	03/10/21 20:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	66.1	mg/L	5.0	03/10/21 20:43	
SM 2540C-2011	Total Dissolved Solids	10500	mg/L	1250	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	4650	mg/L	200	03/08/21 04:11	
EPA 300.0 Rev 2.1 1993	Sulfate	636	mg/L	200	03/08/21 04:11	
92526014015	T3-3HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.32	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	168	mg/L	1.0	03/13/21 03:26	
EPA 6010D	Magnesium	508	mg/L	1.0	03/13/21 03:26	
EPA 6010D	Potassium	171	mg/L	50.0	03/13/21 03:26	
EPA 6010D	Sodium	4350	mg/L	500	03/12/21 13:07	
EPA 6020B	Boron	2.4J	mg/L	2.5	03/11/21 13:42	B
EPA 6020B	Lithium	0.069J	mg/L	0.12	03/11/21 13:42	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	84.7	mg/L	5.0	03/10/21 20:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	84.7	mg/L	5.0	03/10/21 20:52	
SM 2540C-2011	Total Dissolved Solids	17300	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	7100	mg/L	200	03/08/21 04:25	
EPA 300.0 Rev 2.1 1993	Sulfate	1000	mg/L	200	03/08/21 04:25	
92526014016	T3-3HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.31	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	158	mg/L	1.0	03/13/21 03:29	
EPA 6010D	Magnesium	480	mg/L	1.0	03/13/21 03:29	
EPA 6010D	Potassium	161	mg/L	50.0	03/13/21 03:29	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014016	T3-3HTS					
EPA 6010D	Sodium	3580	mg/L	500	03/12/21 13:11	
EPA 6020B	Boron	2.2J	mg/L	2.5	03/11/21 13:45	B
EPA 6020B	Lithium	0.069J	mg/L	0.12	03/11/21 13:45	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	81.1	mg/L	5.0	03/10/21 21:01	
SM 2320B-2011	Alkalinity, Total as CaCO3	81.1	mg/L	5.0	03/10/21 21:01	
SM 2540C-2011	Total Dissolved Solids	15800	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6770	mg/L	200	03/08/21 04:39	
EPA 300.0 Rev 2.1 1993	Sulfate	958	mg/L	200	03/08/21 04:39	
92526014017	T3-3LT					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.20	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	106	mg/L	1.0	03/13/21 03:33	
EPA 6010D	Magnesium	306	mg/L	1.0	03/13/21 03:33	
EPA 6010D	Potassium	101	mg/L	50.0	03/13/21 03:33	
EPA 6010D	Sodium	2520	mg/L	500	03/12/21 13:17	
EPA 6020B	Boron	1.4J	mg/L	2.5	03/11/21 14:03	B
EPA 6020B	Lithium	0.046J	mg/L	0.12	03/11/21 14:03	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	63.3	mg/L	5.0	03/10/21 21:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	63.3	mg/L	5.0	03/10/21 21:10	
SM 2540C-2011	Total Dissolved Solids	9700	mg/L	1250	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	4640	mg/L	200	03/08/21 04:53	
EPA 300.0 Rev 2.1 1993	Sulfate	638	mg/L	200	03/08/21 04:53	
92526014018	T3-4HT					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.33	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	175	mg/L	1.0	03/13/21 03:36	
EPA 6010D	Magnesium	538	mg/L	1.0	03/13/21 03:36	
EPA 6010D	Potassium	180	mg/L	50.0	03/13/21 03:36	
EPA 6010D	Sodium	4660	mg/L	500	03/12/21 13:21	
EPA 6020B	Boron	2.3J	mg/L	2.5	03/11/21 14:07	B
EPA 6020B	Lithium	0.069J	mg/L	0.12	03/11/21 14:07	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.9	mg/L	5.0	03/10/21 21:33	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.9	mg/L	5.0	03/10/21 21:33	
SM 2540C-2011	Total Dissolved Solids	17600	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	7540	mg/L	200	03/08/21 05:07	
EPA 300.0 Rev 2.1 1993	Sulfate	1080	mg/L	200	03/08/21 05:07	
92526014019	T3-4HTS					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.43	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	161	mg/L	1.0	03/13/21 03:39	
EPA 6010D	Magnesium	489	mg/L	1.0	03/13/21 03:39	
EPA 6010D	Potassium	164	mg/L	50.0	03/13/21 03:39	
EPA 6010D	Sodium	4160	mg/L	500	03/12/21 13:24	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014019	T3-4HTS					
EPA 6020B	Boron	3.8	mg/L	2.5	03/11/21 14:10	B
EPA 6020B	Lithium	0.11J	mg/L	0.12	03/11/21 14:10	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	80.4	mg/L	5.0	03/10/21 21:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	80.4	mg/L	5.0	03/10/21 21:43	
SM 2540C-2011	Total Dissolved Solids	16900	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6810	mg/L	200	03/08/21 05:50	
EPA 300.0 Rev 2.1 1993	Sulfate	951	mg/L	200	03/08/21 05:50	
92526014020	T3-4LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.33	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	132	mg/L	1.0	03/13/21 03:56	
EPA 6010D	Magnesium	393	mg/L	1.0	03/13/21 03:56	
EPA 6010D	Potassium	137	mg/L	50.0	03/11/21 06:54	
EPA 6010D	Sodium	3340	mg/L	500	03/12/21 13:27	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 14:14	B
EPA 6020B	Lithium	0.055J	mg/L	0.12	03/11/21 14:14	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	70.9	mg/L	5.0	03/10/21 21:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	70.9	mg/L	5.0	03/10/21 21:52	
SM 2540C-2011	Total Dissolved Solids	12600	mg/L	2500	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	5700	mg/L	200	03/08/21 06:04	
EPA 300.0 Rev 2.1 1993	Sulfate	792	mg/L	200	03/08/21 06:04	
92526014021	T4-1HB					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.42	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	112	mg/L	1.0	03/10/21 02:01	M6
EPA 6010D	Magnesium	334	mg/L	1.0	03/10/21 02:01	M6
EPA 6010D	Potassium	111	mg/L	50.0	03/10/21 02:01	M6
EPA 6010D	Sodium	4410	mg/L	500	03/11/21 17:45	M6
EPA 6020B	Boron	1.8J	mg/L	2.5	03/11/21 13:44	M6
EPA 6020B	Lithium	0.072J	mg/L	0.12	03/11/21 13:44	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	84.5	mg/L	5.0	03/10/21 22:13	
SM 2320B-2011	Alkalinity, Total as CaCO3	84.5	mg/L	5.0	03/10/21 22:13	
SM 2540C-2011	Total Dissolved Solids	13900	mg/L	2500	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Chloride	7320	mg/L	200	03/08/21 06:48	M6
EPA 300.0 Rev 2.1 1993	Sulfate	1020	mg/L	200	03/08/21 06:48	M6
92526014022	T4-1HS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.57	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	133	mg/L	1.0	03/10/21 02:15	
EPA 6010D	Magnesium	394	mg/L	1.0	03/10/21 02:15	
EPA 6010D	Potassium	130	mg/L	50.0	03/10/21 02:15	
EPA 6010D	Sodium	4490	mg/L	500	03/11/21 17:58	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:02	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014022	T4-1HS					
EPA 6020B	Lithium	0.075J	mg/L	0.12	03/11/21 14:02	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	85.2	mg/L	5.0	03/10/21 22:23	
SM 2320B-2011	Alkalinity, Total as CaCO3	85.2	mg/L	5.0	03/10/21 22:23	
SM 2540C-2011	Total Dissolved Solids	14300	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6780	mg/L	200	03/08/21 07:30	
EPA 300.0 Rev 2.1 1993	Sulfate	959	mg/L	200	03/08/21 07:30	
92526014023	T4-1L					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.49	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	104	mg/L	1.0	03/10/21 02:18	
EPA 6010D	Magnesium	306	mg/L	1.0	03/10/21 02:18	
EPA 6010D	Potassium	103	mg/L	50.0	03/10/21 02:18	
EPA 6010D	Sodium	4390	mg/L	500	03/11/21 18:02	
EPA 6020B	Boron	1.9J	mg/L	2.5	03/11/21 14:05	
EPA 6020B	Lithium	0.076J	mg/L	0.12	03/11/21 14:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	82.4	mg/L	5.0	03/10/21 22:34	
SM 2320B-2011	Alkalinity, Total as CaCO3	82.4	mg/L	5.0	03/10/21 22:34	
SM 2540C-2011	Total Dissolved Solids	13300	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6450	mg/L	200	03/08/21 07:44	
EPA 300.0 Rev 2.1 1993	Sulfate	900	mg/L	200	03/08/21 07:44	
92526014024	T4-2HB					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.45	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	113	mg/L	1.0	03/10/21 02:21	
EPA 6010D	Magnesium	335	mg/L	1.0	03/10/21 02:21	
EPA 6010D	Potassium	112	mg/L	50.0	03/10/21 02:21	
EPA 6010D	Sodium	4430	mg/L	500	03/11/21 18:05	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:16	
EPA 6020B	Lithium	0.067J	mg/L	0.12	03/11/21 14:16	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	84.3	mg/L	5.0	03/10/21 22:43	
SM 2320B-2011	Alkalinity, Total as CaCO3	84.3	mg/L	5.0	03/10/21 22:43	
SM 2540C-2011	Total Dissolved Solids	14900	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6850	mg/L	200	03/08/21 07:58	
EPA 300.0 Rev 2.1 1993	Sulfate	980	mg/L	200	03/08/21 07:58	
92526014025	T4-2HS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.52	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	120	mg/L	1.0	03/10/21 02:31	
EPA 6010D	Magnesium	360	mg/L	1.0	03/10/21 02:31	
EPA 6010D	Potassium	119	mg/L	50.0	03/10/21 02:31	
EPA 6010D	Sodium	4170	mg/L	500	03/11/21 18:08	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:20	
EPA 6020B	Lithium	0.078J	mg/L	0.12	03/11/21 14:20	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014025	T4-2HS					
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.9	mg/L	5.0	03/10/21 22:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.9	mg/L	5.0	03/10/21 22:53	
SM 2540C-2011	Total Dissolved Solids	14600	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	7090	mg/L	200	03/08/21 08:41	
EPA 300.0 Rev 2.1 1993	Sulfate	988	mg/L	200	03/08/21 08:41	
92526014026	T4-2L					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.47	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	110	mg/L	1.0	03/10/21 02:34	
EPA 6010D	Magnesium	331	mg/L	1.0	03/10/21 02:34	
EPA 6010D	Potassium	111	mg/L	50.0	03/10/21 02:34	
EPA 6010D	Sodium	4420	mg/L	500	03/11/21 18:18	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:23	
EPA 6020B	Lithium	0.066J	mg/L	0.12	03/11/21 14:23	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.4	mg/L	5.0	03/10/21 23:04	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.4	mg/L	5.0	03/10/21 23:04	
SM 2540C-2011	Total Dissolved Solids	13900	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6620	mg/L	200	03/08/21 08:55	
EPA 300.0 Rev 2.1 1993	Sulfate	929	mg/L	200	03/08/21 08:55	
92526014027	T4-3HB					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.45	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	118	mg/L	1.0	03/10/21 02:38	
EPA 6010D	Magnesium	355	mg/L	1.0	03/10/21 02:38	
EPA 6010D	Potassium	118	mg/L	50.0	03/10/21 02:38	
EPA 6010D	Sodium	4010	mg/L	500	03/11/21 18:22	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:27	
EPA 6020B	Lithium	0.066J	mg/L	0.12	03/11/21 14:27	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.6	mg/L	5.0	03/11/21 18:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.6	mg/L	5.0	03/11/21 18:16	
SM 2540C-2011	Total Dissolved Solids	13900	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6780	mg/L	200	03/08/21 09:10	
EPA 300.0 Rev 2.1 1993	Sulfate	966	mg/L	200	03/08/21 09:10	
92526014028	T4-3HS					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.54	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	150	mg/L	1.0	03/10/21 02:41	
EPA 6010D	Magnesium	446	mg/L	1.0	03/10/21 02:41	
EPA 6010D	Potassium	149	mg/L	50.0	03/10/21 02:41	
EPA 6010D	Sodium	4150	mg/L	500	03/11/21 18:25	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 14:30	
EPA 6020B	Lithium	0.083J	mg/L	0.12	03/11/21 14:30	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	84.2	mg/L	5.0	03/11/21 18:48	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014028	T4-3HS					
SM 2320B-2011	Alkalinity, Total as CaCO3	84.2	mg/L	5.0	03/11/21 18:48	
SM 2540C-2011	Total Dissolved Solids	13600	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6910	mg/L	200	03/08/21 09:24	
EPA 300.0 Rev 2.1 1993	Sulfate	990	mg/L	200	03/08/21 09:24	
92526014029	T4-3L					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.47	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	125	mg/L	1.0	03/10/21 02:44	
EPA 6010D	Magnesium	368	mg/L	1.0	03/10/21 02:44	
EPA 6010D	Potassium	123	mg/L	50.0	03/10/21 02:44	
EPA 6010D	Sodium	4290	mg/L	500	03/11/21 18:28	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:34	
EPA 6020B	Lithium	0.079J	mg/L	0.12	03/11/21 14:34	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	86.0	mg/L	5.0	03/11/21 18:58	
SM 2320B-2011	Alkalinity, Total as CaCO3	86.0	mg/L	5.0	03/11/21 18:58	
SM 2540C-2011	Total Dissolved Solids	13700	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	6880	mg/L	200	03/08/21 09:38	
EPA 300.0 Rev 2.1 1993	Sulfate	991	mg/L	200	03/08/21 09:38	
92526014030	T4-4HB					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.47	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	114	mg/L	1.0	03/10/21 02:48	
EPA 6010D	Magnesium	343	mg/L	1.0	03/10/21 02:48	
EPA 6010D	Potassium	114	mg/L	50.0	03/10/21 02:48	
EPA 6010D	Sodium	4090	mg/L	500	03/11/21 18:32	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 14:37	
EPA 6020B	Lithium	0.075J	mg/L	0.12	03/11/21 14:37	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	87.1	mg/L	5.0	03/11/21 19:09	
SM 2320B-2011	Alkalinity, Total as CaCO3	87.1	mg/L	5.0	03/11/21 19:09	
SM 2540C-2011	Total Dissolved Solids	15500	mg/L	2500	03/09/21 19:05	
EPA 300.0 Rev 2.1 1993	Chloride	7070	mg/L	200	03/08/21 09:52	
EPA 300.0 Rev 2.1 1993	Sulfate	1020	mg/L	200	03/08/21 09:52	
92526014031	T4-4HS					
	Performed by	CUSTOMER			03/12/21 13:53	
	pH	7.54	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	156	mg/L	1.0	03/10/21 02:51	
EPA 6010D	Magnesium	465	mg/L	1.0	03/10/21 02:51	
EPA 6010D	Potassium	156	mg/L	50.0	03/10/21 02:51	
EPA 6010D	Sodium	4200	mg/L	500	03/11/21 18:35	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 14:41	
EPA 6020B	Lithium	0.080J	mg/L	0.12	03/11/21 14:41	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	75.8	mg/L	5.0	03/11/21 19:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	75.8	mg/L	5.0	03/11/21 19:20	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014031	T4-4HS					
SM 2540C-2011	Total Dissolved Solids	13900	mg/L	2500	03/09/21 18:55	
EPA 300.0 Rev 2.1 1993	Chloride	7040	mg/L	200	03/08/21 10:06	M6
EPA 300.0 Rev 2.1 1993	Sulfate	1020	mg/L	200	03/08/21 10:06	M6
92526014032	T4-4L					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.38	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	158	mg/L	1.0	03/10/21 02:55	
EPA 6010D	Magnesium	468	mg/L	1.0	03/10/21 02:55	
EPA 6010D	Potassium	158	mg/L	50.0	03/10/21 02:55	
EPA 6010D	Sodium	4210	mg/L	500	03/11/21 18:38	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 14:44	
EPA 6020B	Lithium	0.075J	mg/L	0.12	03/11/21 14:44	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	87.9	mg/L	5.0	03/11/21 19:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	87.9	mg/L	5.0	03/11/21 19:41	
SM 2540C-2011	Total Dissolved Solids	14400	mg/L	2500	03/09/21 18:55	
EPA 300.0 Rev 2.1 1993	Chloride	6860	mg/L	200	03/08/21 10:49	
EPA 300.0 Rev 2.1 1993	Sulfate	990	mg/L	200	03/08/21 10:49	
92526014033	BG-1LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.40	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	157	mg/L	1.0	03/10/21 02:58	
EPA 6010D	Magnesium	470	mg/L	1.0	03/10/21 02:58	
EPA 6010D	Potassium	158	mg/L	50.0	03/10/21 02:58	
EPA 6010D	Sodium	4130	mg/L	500	03/11/21 18:41	
EPA 6020B	Boron	2.3J	mg/L	2.5	03/11/21 14:48	
EPA 6020B	Lithium	0.074J	mg/L	0.12	03/11/21 14:48	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.6	mg/L	5.0	03/11/21 19:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.6	mg/L	5.0	03/11/21 19:52	
SM 2540C-2011	Total Dissolved Solids	16200	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6660	mg/L	200	03/08/21 11:32	
EPA 300.0 Rev 2.1 1993	Sulfate	929	mg/L	200	03/08/21 11:32	
92526014034	BG-2HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.49	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	178	mg/L	1.0	03/10/21 03:01	
EPA 6010D	Magnesium	537	mg/L	1.0	03/10/21 03:01	
EPA 6010D	Potassium	180	mg/L	50.0	03/10/21 03:01	
EPA 6010D	Sodium	4930	mg/L	500	03/11/21 18:45	
EPA 6020B	Boron	2.4J	mg/L	2.5	03/11/21 14:59	
EPA 6020B	Lithium	0.084J	mg/L	0.12	03/11/21 14:59	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	92.4	mg/L	5.0	03/11/21 20:02	
SM 2320B-2011	Alkalinity, Total as CaCO3	92.4	mg/L	5.0	03/11/21 20:02	
SM 2540C-2011	Total Dissolved Solids	15900	mg/L	2500	03/09/21 18:55	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014034	BG-2HT					
EPA 300.0 Rev 2.1 1993	Chloride	8060	mg/L	200	03/08/21 11:46	
EPA 300.0 Rev 2.1 1993	Sulfate	1150	mg/L	200	03/08/21 11:46	
92526014035	DUP-3					
EPA 6010D	Calcium	155	mg/L	1.0	03/10/21 03:11	
EPA 6010D	Magnesium	460	mg/L	1.0	03/10/21 03:11	
EPA 6010D	Potassium	153	mg/L	50.0	03/10/21 03:11	
EPA 6010D	Sodium	4100	mg/L	500	03/11/21 18:48	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 15:02	
EPA 6020B	Lithium	0.072J	mg/L	0.12	03/11/21 15:02	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.1	mg/L	5.0	03/11/21 20:14	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.1	mg/L	5.0	03/11/21 20:14	
SM 2540C-2011	Total Dissolved Solids	14500	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6860	mg/L	200	03/08/21 12:00	
EPA 300.0 Rev 2.1 1993	Sulfate	978	mg/L	200	03/08/21 12:00	
92526014036	DUP-4					
EPA 6010D	Calcium	160	mg/L	1.0	03/10/21 03:15	
EPA 6010D	Magnesium	479	mg/L	1.0	03/10/21 03:15	
EPA 6010D	Potassium	160	mg/L	50.0	03/10/21 03:15	
EPA 6010D	Sodium	4000	mg/L	500	03/11/21 18:58	
EPA 6020B	Boron	2.1J	mg/L	2.5	03/11/21 15:06	
EPA 6020B	Lithium	0.078J	mg/L	0.12	03/11/21 15:06	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	85.1	mg/L	5.0	03/11/21 20:25	
SM 2320B-2011	Alkalinity, Total as CaCO3	85.1	mg/L	5.0	03/11/21 20:25	
SM 2540C-2011	Total Dissolved Solids	14900	mg/L	2500	03/09/21 18:55	
EPA 300.0 Rev 2.1 1993	Chloride	6890	mg/L	200	03/08/21 12:14	
EPA 300.0 Rev 2.1 1993	Sulfate	989	mg/L	200	03/08/21 12:14	
92526014037	DUP-5					
EPA 6010D	Calcium	163	mg/L	1.0	03/10/21 03:18	
EPA 6010D	Magnesium	486	mg/L	1.0	03/10/21 03:18	
EPA 6010D	Potassium	163	mg/L	50.0	03/10/21 03:18	
EPA 6010D	Sodium	4270	mg/L	500	03/11/21 19:01	
EPA 6020B	Boron	2.2J	mg/L	2.5	03/11/21 15:09	
EPA 6020B	Lithium	0.081J	mg/L	0.12	03/11/21 15:09	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	88.2	mg/L	5.0	03/11/21 20:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	88.2	mg/L	5.0	03/11/21 20:53	
SM 2540C-2011	Total Dissolved Solids	13800	mg/L	2500	03/09/21 18:56	
EPA 300.0 Rev 2.1 1993	Chloride	7160	mg/L	200	03/08/21 12:28	
EPA 300.0 Rev 2.1 1993	Sulfate	1030	mg/L	200	03/08/21 12:28	
92526014040	T1-1HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.56	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	147	mg/L	1.0	03/10/21 03:28	
EPA 6010D	Magnesium	440	mg/L	1.0	03/10/21 03:28	
EPA 6010D	Potassium	147	mg/L	50.0	03/10/21 03:28	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014040	T1-1HT					
EPA 6010D	Sodium	3870	mg/L	500	03/11/21 19:04	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 15:13	
EPA 6020B	Lithium	0.074J	mg/L	0.12	03/11/21 15:13	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	79.8	mg/L	5.0	03/11/21 21:21	
SM 2320B-2011	Alkalinity, Total as CaCO3	79.8	mg/L	5.0	03/11/21 21:21	
SM 2540C-2011	Total Dissolved Solids	14200	mg/L	2500	03/08/21 19:08	
EPA 300.0 Rev 2.1 1993	Chloride	6500	mg/L	200	03/07/21 23:47	
EPA 300.0 Rev 2.1 1993	Sulfate	818	mg/L	200	03/07/21 23:47	
92526014041	T1-1LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.35	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	126	mg/L	1.0	03/10/21 03:38	M6
EPA 6010D	Magnesium	381	mg/L	1.0	03/10/21 03:38	M6
EPA 6010D	Potassium	125	mg/L	50.0	03/10/21 03:38	M6
EPA 6010D	Sodium	3300	mg/L	500	03/11/21 19:08	M6
EPA 6020B	Boron	1.6J	mg/L	2.5	03/11/21 12:08	
EPA 6020B	Lithium	0.066J	mg/L	0.12	03/11/21 12:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	73.4	mg/L	5.0	03/11/21 21:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	73.4	mg/L	5.0	03/11/21 21:32	
SM 2540C-2011	Total Dissolved Solids	14000	mg/L	2500	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	6160	mg/L	200	03/08/21 00:30	
EPA 300.0 Rev 2.1 1993	Sulfate	774	mg/L	200	03/08/21 00:30	
92526014042	T1-2HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.36	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	178	mg/L	1.0	03/10/21 04:04	
EPA 6010D	Magnesium	532	mg/L	1.0	03/10/21 04:04	
EPA 6010D	Potassium	177	mg/L	50.0	03/10/21 04:04	
EPA 6010D	Sodium	4480	mg/L	500	03/11/21 19:21	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 12:12	M6
EPA 6020B	Lithium	0.084J	mg/L	0.12	03/11/21 12:12	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	85.1	mg/L	5.0	03/11/21 21:42	
SM 2320B-2011	Alkalinity, Total as CaCO3	85.1	mg/L	5.0	03/11/21 21:42	
SM 2540C-2011	Total Dissolved Solids	17500	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	7070	mg/L	200	03/08/21 00:44	
EPA 300.0 Rev 2.1 1993	Sulfate	919	mg/L	200	03/08/21 00:44	
92526014043	T1-2HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.47	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	154	mg/L	1.0	03/10/21 04:08	
EPA 6010D	Magnesium	460	mg/L	1.0	03/10/21 04:08	
EPA 6010D	Potassium	153	mg/L	50.0	03/10/21 04:08	
EPA 6010D	Sodium	3980	mg/L	500	03/11/21 19:24	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014043	T1-2HTS					
EPA 6020B	Arsenic	0.0084J	mg/L	0.050	03/11/21 12:29	
EPA 6020B	Boron	1.8J	mg/L	2.5	03/11/21 12:29	
EPA 6020B	Lithium	0.072J	mg/L	0.12	03/11/21 12:29	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	78.7	mg/L	5.0	03/11/21 21:53	
SM 2320B-2011	Alkalinity, Total as CaCO3	78.7	mg/L	5.0	03/11/21 21:53	
SM 2540C-2011	Total Dissolved Solids	15000	mg/L	2500	03/08/21 19:07	
EPA 300.0 Rev 2.1 1993	Chloride	6250	mg/L	200	03/08/21 00:59	
EPA 300.0 Rev 2.1 1993	Sulfate	902	mg/L	200	03/08/21 00:59	
92526014044	T1-2LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.34	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	137	mg/L	1.0	03/10/21 04:11	
EPA 6010D	Magnesium	406	mg/L	1.0	03/10/21 04:11	
EPA 6010D	Potassium	137	mg/L	50.0	03/10/21 04:11	
EPA 6010D	Sodium	3550	mg/L	500	03/11/21 19:28	
EPA 6020B	Boron	1.6J	mg/L	2.5	03/11/21 12:33	
EPA 6020B	Lithium	0.063J	mg/L	0.12	03/11/21 12:33	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	73.8	mg/L	5.0	03/11/21 22:03	
SM 2320B-2011	Alkalinity, Total as CaCO3	73.8	mg/L	5.0	03/11/21 22:03	
SM 2540C-2011	Total Dissolved Solids	12700	mg/L	2500	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	5680	mg/L	200	03/08/21 01:13	
EPA 300.0 Rev 2.1 1993	Sulfate	764	mg/L	200	03/08/21 01:13	
92526014045	T1-3HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.36	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	155	mg/L	1.0	03/10/21 04:14	
EPA 6010D	Magnesium	469	mg/L	1.0	03/10/21 04:14	
EPA 6010D	Potassium	157	mg/L	50.0	03/10/21 04:14	
EPA 6010D	Sodium	4190	mg/L	500	03/11/21 19:44	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 12:36	
EPA 6020B	Lithium	0.077J	mg/L	0.12	03/11/21 12:36	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	82.7	mg/L	5.0	03/11/21 22:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	82.7	mg/L	5.0	03/11/21 22:12	
SM 2540C-2011	Total Dissolved Solids	17200	mg/L	2500	03/08/21 19:08	
EPA 300.0 Rev 2.1 1993	Chloride	7020	mg/L	200	03/08/21 01:27	
EPA 300.0 Rev 2.1 1993	Sulfate	1020	mg/L	200	03/08/21 01:27	
92526014046	T1-3HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.42	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	157	mg/L	1.0	03/10/21 04:18	
EPA 6010D	Magnesium	470	mg/L	1.0	03/10/21 04:18	
EPA 6010D	Potassium	158	mg/L	50.0	03/10/21 04:18	
EPA 6010D	Sodium	4050	mg/L	500	03/11/21 19:47	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014046	T1-3HTS					
EPA 6020B	Boron	1.9J	mg/L	2.5	03/11/21 12:40	
EPA 6020B	Lithium	0.073J	mg/L	0.12	03/11/21 12:40	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	83.5	mg/L	5.0	03/11/21 22:32	
SM 2320B-2011	Alkalinity, Total as CaCO3	83.5	mg/L	5.0	03/11/21 22:32	
SM 2540C-2011	Total Dissolved Solids	15600	mg/L	2500	03/09/21 19:00	
EPA 300.0 Rev 2.1 1993	Chloride	6540	mg/L	200	03/08/21 01:41	M6, R1
EPA 300.0 Rev 2.1 1993	Sulfate	993	mg/L	200	03/08/21 01:41	M6, R1
92526014047	T1-3LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.34	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	133	mg/L	1.0	03/10/21 04:21	
EPA 6010D	Magnesium	385	mg/L	1.0	03/10/21 04:21	
EPA 6010D	Potassium	130	mg/L	50.0	03/10/21 04:21	
EPA 6010D	Sodium	3360	mg/L	500	03/11/21 19:51	
EPA 6020B	Arsenic	0.0068J	mg/L	0.050	03/11/21 12:51	
EPA 6020B	Boron	1.7J	mg/L	2.5	03/11/21 12:51	
EPA 6020B	Lithium	0.061J	mg/L	0.12	03/11/21 12:51	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	71.4	mg/L	5.0	03/11/21 23:09	
SM 2320B-2011	Alkalinity, Total as CaCO3	71.4	mg/L	5.0	03/11/21 23:09	
SM 2540C-2011	Total Dissolved Solids	14000	mg/L	2500	03/09/21 18:52	
EPA 300.0 Rev 2.1 1993	Chloride	5390	mg/L	200	03/08/21 02:24	
EPA 300.0 Rev 2.1 1993	Sulfate	901	mg/L	200	03/08/21 02:24	
92526014048	T1-4HT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.33	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	159	mg/L	1.0	03/10/21 04:24	
EPA 6010D	Magnesium	473	mg/L	1.0	03/10/21 04:24	
EPA 6010D	Potassium	159	mg/L	50.0	03/10/21 04:24	
EPA 6010D	Sodium	4270	mg/L	500	03/11/21 19:54	
EPA 6020B	Arsenic	0.012J	mg/L	0.050	03/11/21 12:54	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 12:54	
EPA 6020B	Lithium	0.079J	mg/L	0.12	03/11/21 12:54	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	81.9	mg/L	5.0	03/11/21 23:17	
SM 2320B-2011	Alkalinity, Total as CaCO3	81.9	mg/L	5.0	03/11/21 23:17	
SM 2540C-2011	Total Dissolved Solids	13800	mg/L	2500	03/09/21 19:01	
EPA 300.0 Rev 2.1 1993	Chloride	6780	mg/L	200	03/08/21 02:38	
EPA 300.0 Rev 2.1 1993	Sulfate	1200	mg/L	200	03/08/21 02:38	
92526014049	T1-4HTS					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.43	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	156	mg/L	1.0	03/10/21 04:28	
EPA 6010D	Magnesium	463	mg/L	1.0	03/10/21 04:28	
EPA 6010D	Potassium	157	mg/L	50.0	03/10/21 04:28	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92526014049	T1-4HTS					
EPA 6010D	Sodium	4150	mg/L	500	03/11/21 19:57	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 12:58	
EPA 6020B	Lithium	0.072J	mg/L	0.12	03/11/21 23:58	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	82.1	mg/L	5.0	03/11/21 23:27	
SM 2320B-2011	Alkalinity, Total as CaCO3	82.1	mg/L	5.0	03/11/21 23:27	
SM 2540C-2011	Total Dissolved Solids	14000	mg/L	2500	03/09/21 19:01	
EPA 300.0 Rev 2.1 1993	Chloride	7050	mg/L	200	03/08/21 03:35	
EPA 300.0 Rev 2.1 1993	Sulfate	921	mg/L	200	03/08/21 03:35	
92526014050	T1-4LT					
	Performed by	CUSTOME			03/12/21 13:53	
		R				
	pH	7.30	Std. Units		03/12/21 13:53	
EPA 6010D	Calcium	126	mg/L	1.0	03/10/21 04:38	
EPA 6010D	Magnesium	370	mg/L	1.0	03/10/21 04:38	
EPA 6010D	Potassium	125	mg/L	50.0	03/10/21 04:38	
EPA 6010D	Sodium	3280	mg/L	500	03/11/21 20:01	
EPA 6020B	Boron	1.6J	mg/L	2.5	03/11/21 13:01	
EPA 6020B	Lithium	0.067J	mg/L	0.12	03/11/21 13:01	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	72.0	mg/L	5.0	03/11/21 23:37	
SM 2320B-2011	Alkalinity, Total as CaCO3	72.0	mg/L	5.0	03/11/21 23:37	
SM 2540C-2011	Total Dissolved Solids	12400	mg/L	2500	03/09/21 18:53	
EPA 300.0 Rev 2.1 1993	Chloride	5370	mg/L	200	03/08/21 03:50	
EPA 300.0 Rev 2.1 1993	Sulfate	767	mg/L	200	03/08/21 03:50	
92526014051	DUP-1					
EPA 6010D	Calcium	162	mg/L	1.0	03/10/21 04:41	
EPA 6010D	Magnesium	485	mg/L	1.0	03/10/21 04:41	
EPA 6010D	Potassium	163	mg/L	50.0	03/10/21 04:41	
EPA 6010D	Sodium	4640	mg/L	500	03/11/21 20:04	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 13:05	
EPA 6020B	Lithium	0.079J	mg/L	0.12	03/11/21 13:05	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	84.6	mg/L	5.0	03/11/21 23:46	
SM 2320B-2011	Alkalinity, Total as CaCO3	84.6	mg/L	5.0	03/11/21 23:46	
SM 2540C-2011	Total Dissolved Solids	14900	mg/L	2500	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Chloride	7010	mg/L	200	03/08/21 04:04	
EPA 300.0 Rev 2.1 1993	Sulfate	1170	mg/L	200	03/08/21 04:04	
92526014052	DUP-2					
EPA 6010D	Calcium	148	mg/L	1.0	03/10/21 04:44	
EPA 6010D	Magnesium	446	mg/L	1.0	03/10/21 04:44	
EPA 6010D	Potassium	151	mg/L	50.0	03/10/21 04:44	
EPA 6010D	Sodium	4050	mg/L	500	03/11/21 20:07	
EPA 6020B	Boron	2.0J	mg/L	2.5	03/11/21 13:08	
EPA 6020B	Lithium	0.073J	mg/L	0.12	03/11/21 13:08	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	82.0	mg/L	5.0	03/11/21 23:56	
SM 2320B-2011	Alkalinity, Total as CaCO3	82.0	mg/L	5.0	03/11/21 23:56	
SM 2540C-2011	Total Dissolved Solids	14300	mg/L	2500	03/09/21 19:04	
EPA 300.0 Rev 2.1 1993	Chloride	6800	mg/L	200	03/08/21 04:18	

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SUMMARY OF DETECTION

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92526014052	DUP-2					
EPA 300.0 Rev 2.1 1993	Sulfate	1230	mg/L	200	03/08/21 04:18	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-1HT **Lab ID:** 92526014001 **Collected:** 03/02/21 12:05 **Received:** 03/05/21 10:15 **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		03/12/21 13:53		
pH	7.43	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	172	mg/L	1.0	0.94	10	03/06/21 02:07	03/11/21 05:14	7440-70-2	M6
Magnesium	518	mg/L	1.0	0.68	10	03/06/21 02:07	03/11/21 05:14	7439-95-4	M6
Potassium	174	mg/L	50.0	30.4	10	03/06/21 02:07	03/11/21 05:14	7440-09-7	M6
Sodium	4240	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 11:36	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.050	0.0043	50	03/06/21 02:02	03/11/21 12:31	7440-38-2	
Boron	1.9J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 12:31	7440-42-8	B
Lithium	0.068J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 12:31	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	77.5	mg/L	5.0	5.0	1		03/10/21 17:33		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 17:33		
Alkalinity, Total as CaCO3	77.5	mg/L	5.0	5.0	1		03/10/21 17:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	16100	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6300	mg/L	200	120	200		03/09/21 18:49	16887-00-6	M6
Fluoride	ND	mg/L	0.10	0.050	1		03/07/21 23:11	16984-48-8	M1
Sulfate	512	mg/L	11.0	5.5	11		03/08/21 13:11	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-2HT **Lab ID: 92526014002** Collected: 03/02/21 12:23 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.36	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	188	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:36	7440-70-2	
Magnesium	561	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:36	7439-95-4	
Potassium	191	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:36	7440-09-7	
Sodium	4540	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:12	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	03/06/21 02:02	03/11/21 12:34	7440-38-2	
Boron	2.2J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 12:34	7440-42-8	B,M6
Lithium	0.070J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 12:34	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	86.7	mg/L	5.0	5.0	1		03/10/21 17:54		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 17:54		
Alkalinity, Total as CaCO3	86.7	mg/L	5.0	5.0	1		03/10/21 17:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18200	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	8240	mg/L	200	120	200		03/08/21 00:24	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 00:24	16984-48-8	D3
Sulfate	1180	mg/L	200	100	200		03/08/21 00:24	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-2HTS **Lab ID: 92526014003** Collected: 03/02/21 12:12 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.35	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	165	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:39	7440-70-2	
Magnesium	496	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:39	7439-95-4	
Potassium	166	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:39	7440-09-7	
Sodium	4200	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:15	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	03/06/21 02:02	03/11/21 12:52	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 12:52	7440-42-8	B
Lithium	0.063J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 12:52	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		03/10/21 18:04		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 18:04		
Alkalinity, Total as CaCO3	78.2	mg/L	5.0	5.0	1		03/10/21 18:04		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15400	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6610	mg/L	200	120	200		03/08/21 00:38	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 00:38	16984-48-8	D3
Sulfate	932	mg/L	200	100	200		03/08/21 00:38	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-2LT **Lab ID:** 92526014004 Collected: 03/04/21 11:17 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.31	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	124	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:43	7440-70-2	
Magnesium	367	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:43	7439-95-4	
Potassium	122	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:43	7440-09-7	
Sodium	3120	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:18	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	03/06/21 02:02	03/11/21 12:56	7440-38-2	
Boron	1.8J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 12:56	7440-42-8	B
Lithium	0.050J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 12:56	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	68.5	mg/L	5.0	5.0	1		03/10/21 18:15		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 18:15		
Alkalinity, Total as CaCO3	68.5	mg/L	5.0	5.0	1		03/10/21 18:15		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	11400	mg/L	1250	1250	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5100	mg/L	200	120	200		03/08/21 00:52	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 00:52	16984-48-8	D3
Sulfate	715	mg/L	200	100	200		03/08/21 00:52	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-3HT Lab ID: 92526014005 Collected: 03/02/21 12:40 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.37	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	181	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:46	7440-70-2	
Magnesium	542	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:46	7439-95-4	
Potassium	184	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:46	7440-09-7	
Sodium	4710	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:22	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	03/06/21 02:02	03/11/21 12:59	7440-38-2	
Boron	2.4J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 12:59	7440-42-8	B
Lithium	0.070J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 12:59	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	86.8	mg/L	5.0	5.0	1		03/10/21 18:25		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 18:25		
Alkalinity, Total as CaCO3	86.8	mg/L	5.0	5.0	1		03/10/21 18:25		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18200	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7390	mg/L	200	120	200		03/08/21 01:06	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:06	16984-48-8	D3
Sulfate	1050	mg/L	200	100	200		03/08/21 01:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-3HTS **Lab ID: 92526014006** Collected: 03/02/21 12:34 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.44	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	160	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:49	7440-70-2	
Magnesium	481	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:49	7439-95-4	
Potassium	161	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:49	7440-09-7	
Sodium	4140	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:25	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	03/06/21 02:02	03/11/21 13:03	7440-38-2	
Boron	2.5J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:03	7440-42-8	B
Lithium	0.062J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:03	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	78.3	mg/L	5.0	5.0	1		03/10/21 18:34		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 18:34		
Alkalinity, Total as CaCO3	78.3	mg/L	5.0	5.0	1		03/10/21 18:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15100	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6590	mg/L	200	120	200		03/08/21 01:20	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:20	16984-48-8	D3
Sulfate	918	mg/L	200	100	200		03/08/21 01:20	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-3LT		Lab ID: 92526014007		Collected: 03/04/21 11:11		Received: 03/05/21 10:15		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		03/12/21 13:53		
pH	7.34	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	136	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:53	7440-70-2	
Magnesium	407	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:53	7439-95-4	
Potassium	135	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:53	7440-09-7	
Sodium	3330	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:28	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	03/06/21 02:02	03/11/21 13:13	7440-38-2	
Boron	1.9J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:13	7440-42-8	B
Lithium	0.055J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:13	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	71.0	mg/L	5.0	5.0	1		03/10/21 19:11		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 19:11		
Alkalinity, Total as CaCO3	71.0	mg/L	5.0	5.0	1		03/10/21 19:11		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13200	mg/L	2500	2500	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5860	mg/L	200	120	200		03/08/21 01:34	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:34	16984-48-8	D3
Sulfate	827	mg/L	200	100	200		03/08/21 01:34	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-4HT **Lab ID: 92526014008** Collected: 03/02/21 14:30 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.34	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	172	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:56	7440-70-2	
Magnesium	513	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:56	7439-95-4	
Potassium	174	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:56	7440-09-7	
Sodium	4190	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:32	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	03/06/21 02:02	03/11/21 13:17	7440-38-2	
Boron	2.3J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:17	7440-42-8	B
Lithium	0.065J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:17	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	81.2	mg/L	5.0	5.0	1		03/10/21 19:36		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 19:36		
Alkalinity, Total as CaCO3	81.2	mg/L	5.0	5.0	1		03/10/21 19:36		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	16900	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7410	mg/L	200	120	200		03/08/21 01:49	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:49	16984-48-8	D3
Sulfate	1040	mg/L	200	100	200		03/08/21 01:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-4HTS **Lab ID: 92526014009** Collected: 03/02/21 14:20 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.44	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	164	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 02:59	7440-70-2	
Magnesium	494	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 02:59	7439-95-4	
Potassium	166	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 02:59	7440-09-7	
Sodium	4220	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:35	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	03/06/21 02:02	03/11/21 13:20	7440-38-2	
Boron	2.3J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:20	7440-42-8	B
Lithium	0.070J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:20	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	82.4	mg/L	5.0	5.0	1		03/10/21 19:46		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 19:46		
Alkalinity, Total as CaCO3	82.4	mg/L	5.0	5.0	1		03/10/21 19:46		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15600	mg/L	2500	2500	1		03/08/21 19:06		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7010	mg/L	200	120	200		03/08/21 02:03	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 02:03	16984-48-8	D3
Sulfate	985	mg/L	200	100	200		03/08/21 02:03	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T2-4LT Lab ID: 92526014010 Collected: 03/04/21 10:28 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.36	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	138	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:09	7440-70-2	
Magnesium	408	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:09	7439-95-4	
Potassium	135	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:09	7440-09-7	
Sodium	3520	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:38	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	03/06/21 02:02	03/11/21 13:24	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:24	7440-42-8	B
Lithium	0.046J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:24	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	70.9	mg/L	5.0	5.0	1		03/10/21 19:55		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 19:55		
Alkalinity, Total as CaCO3	70.9	mg/L	5.0	5.0	1		03/10/21 19:55		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	12300	mg/L	2500	2500	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5530	mg/L	200	120	200		03/08/21 02:17	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 02:17	16984-48-8	D3
Sulfate	769	mg/L	200	100	200		03/08/21 02:17	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-1HT **Lab ID:** 92526014011 Collected: 03/02/21 11:05 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.29	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	160	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:13	7440-70-2	
Magnesium	482	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:13	7439-95-4	
Potassium	160	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:13	7440-09-7	
Sodium	3940	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:41	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	03/06/21 02:02	03/11/21 13:27	7440-38-2	
Boron	2.3J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:27	7440-42-8	B
Lithium	0.068J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:27	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	80.4	mg/L	5.0	5.0	1		03/10/21 20:04		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 20:04		
Alkalinity, Total as CaCO3	80.4	mg/L	5.0	5.0	1		03/10/21 20:04		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15500	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6380	mg/L	200	120	200		03/08/21 03:00	16887-00-6	M6
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 03:00	16984-48-8	D3,M6
Sulfate	888	mg/L	200	100	200		03/08/21 03:00	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-2HT **Lab ID: 92526014012** Collected: 03/02/21 11:25 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.25	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	164	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:16	7440-70-2	
Magnesium	490	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:16	7439-95-4	
Potassium	165	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:16	7440-09-7	
Sodium	4220	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 12:58	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	03/06/21 02:02	03/11/21 13:31	7440-38-2	
Boron	2.4J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:31	7440-42-8	B
Lithium	0.069J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:31	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.2	mg/L	5.0	5.0	1		03/10/21 20:13		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 20:13		
Alkalinity, Total as CaCO3	83.2	mg/L	5.0	5.0	1		03/10/21 20:13		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17000	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7130	mg/L	200	120	200		03/08/21 03:42	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 03:42	16984-48-8	D3
Sulfate	1000	mg/L	200	100	200		03/08/21 03:42	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-2HTS **Lab ID: 92526014013** Collected: 03/02/21 11:12 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.29	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	163	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:19	7440-70-2	
Magnesium	492	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:19	7439-95-4	
Potassium	165	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:19	7440-09-7	
Sodium	4240	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:01	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	03/06/21 02:02	03/11/21 13:35	7440-38-2	
Boron	2.3J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:35	7440-42-8	B
Lithium	0.063J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:35	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		03/10/21 20:34		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 20:34		
Alkalinity, Total as CaCO3	81.1	mg/L	5.0	5.0	1		03/10/21 20:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15500	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6740	mg/L	200	120	200		03/08/21 03:57	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 03:57	16984-48-8	D3
Sulfate	946	mg/L	200	100	200		03/08/21 03:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-2LT **Lab ID: 92526014014** Collected: 03/04/21 10:51 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.24	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	114	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:23	7440-70-2	
Magnesium	333	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:23	7439-95-4	
Potassium	110	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:23	7440-09-7	
Sodium	2860	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:04	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	03/06/21 02:02	03/11/21 13:38	7440-38-2	
Boron	1.7J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:38	7440-42-8	B
Lithium	0.043J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:38	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	66.1	mg/L	5.0	5.0	1		03/10/21 20:43		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 20:43		
Alkalinity, Total as CaCO3	66.1	mg/L	5.0	5.0	1		03/10/21 20:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	10500	mg/L	1250	1250	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	4650	mg/L	200	120	200		03/08/21 04:11	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 04:11	16984-48-8	D3
Sulfate	636	mg/L	200	100	200		03/08/21 04:11	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-3HT **Lab ID: 92526014015** Collected: 03/02/21 11:49 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.32	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	168	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:26	7440-70-2	
Magnesium	508	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:26	7439-95-4	
Potassium	171	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:26	7440-09-7	
Sodium	4350	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:07	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	03/06/21 02:02	03/11/21 13:42	7440-38-2	
Boron	2.4J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:42	7440-42-8	B
Lithium	0.069J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:42	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	84.7	mg/L	5.0	5.0	1		03/10/21 20:52		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 20:52		
Alkalinity, Total as CaCO3	84.7	mg/L	5.0	5.0	1		03/10/21 20:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17300	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7100	mg/L	200	120	200		03/08/21 04:25	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 04:25	16984-48-8	D3
Sulfate	1000	mg/L	200	100	200		03/08/21 04:25	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-3HTS **Lab ID: 92526014016** Collected: 03/02/21 11:38 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.31	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	158	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:29	7440-70-2	
Magnesium	480	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:29	7439-95-4	
Potassium	161	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:29	7440-09-7	
Sodium	3580	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:11	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	03/06/21 02:02	03/11/21 13:45	7440-38-2	
Boron	2.2J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 13:45	7440-42-8	B
Lithium	0.069J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 13:45	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		03/10/21 21:01		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 21:01		
Alkalinity, Total as CaCO3	81.1	mg/L	5.0	5.0	1		03/10/21 21:01		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15800	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6770	mg/L	200	120	200		03/08/21 04:39	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 04:39	16984-48-8	D3
Sulfate	958	mg/L	200	100	200		03/08/21 04:39	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-3LT **Lab ID:** 92526014017 **Collected:** 03/04/21 10:44 **Received:** 03/05/21 10:15 **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		03/12/21 13:53		
pH	7.20	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	106	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:33	7440-70-2	
Magnesium	306	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:33	7439-95-4	
Potassium	101	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:33	7440-09-7	
Sodium	2520	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:17	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	03/06/21 02:02	03/11/21 14:03	7440-38-2	
Boron	1.4J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 14:03	7440-42-8	B
Lithium	0.046J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 14:03	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	63.3	mg/L	5.0	5.0	1		03/10/21 21:10		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 21:10		
Alkalinity, Total as CaCO3	63.3	mg/L	5.0	5.0	1		03/10/21 21:10		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	9700	mg/L	1250	1250	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	4640	mg/L	200	120	200		03/08/21 04:53	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 04:53	16984-48-8	D3
Sulfate	638	mg/L	200	100	200		03/08/21 04:53	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-4HT **Lab ID: 92526014018** Collected: 03/02/21 13:58 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.33	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	175	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:36	7440-70-2	
Magnesium	538	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:36	7439-95-4	
Potassium	180	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:36	7440-09-7	
Sodium	4660	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:21	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	03/06/21 02:02	03/11/21 14:07	7440-38-2	
Boron	2.3J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 14:07	7440-42-8	B
Lithium	0.069J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 14:07	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.9	mg/L	5.0	5.0	1		03/10/21 21:33		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 21:33		
Alkalinity, Total as CaCO3	83.9	mg/L	5.0	5.0	1		03/10/21 21:33		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17600	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7540	mg/L	200	120	200		03/08/21 05:07	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 05:07	16984-48-8	D3
Sulfate	1080	mg/L	200	100	200		03/08/21 05:07	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-4HTS **Lab ID: 92526014019** Collected: 03/02/21 13:51 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.43	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	161	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:39	7440-70-2	
Magnesium	489	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:39	7439-95-4	
Potassium	164	mg/L	50.0	30.4	10	03/06/21 02:07	03/13/21 03:39	7440-09-7	
Sodium	4160	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:24	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	03/06/21 02:02	03/11/21 14:10	7440-38-2	
Boron	3.8	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 14:10	7440-42-8	B
Lithium	0.11J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 14:10	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	80.4	mg/L	5.0	5.0	1		03/10/21 21:43		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 21:43		
Alkalinity, Total as CaCO3	80.4	mg/L	5.0	5.0	1		03/10/21 21:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	16900	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6810	mg/L	200	120	200		03/08/21 05:50	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 05:50	16984-48-8	D3
Sulfate	951	mg/L	200	100	200		03/08/21 05:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T3-4LT **Lab ID: 92526014020** Collected: 03/04/21 10:35 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.33	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	132	mg/L	1.0	0.94	10	03/06/21 02:07	03/13/21 03:56	7440-70-2	
Magnesium	393	mg/L	1.0	0.68	10	03/06/21 02:07	03/13/21 03:56	7439-95-4	
Potassium	137	mg/L	50.0	30.4	10	03/06/21 02:07	03/11/21 06:54	7440-09-7	
Sodium	3340	mg/L	500	61.1	100	03/06/21 02:07	03/12/21 13:27	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	03/06/21 02:02	03/11/21 14:14	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/06/21 02:02	03/11/21 14:14	7440-42-8	B
Lithium	0.055J	mg/L	0.12	0.025	50	03/06/21 02:02	03/11/21 14:14	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	70.9	mg/L	5.0	5.0	1		03/10/21 21:52		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 21:52		
Alkalinity, Total as CaCO3	70.9	mg/L	5.0	5.0	1		03/10/21 21:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	12600	mg/L	2500	2500	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5700	mg/L	200	120	200		03/08/21 06:04	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 06:04	16984-48-8	D3
Sulfate	792	mg/L	200	100	200		03/08/21 06:04	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-1HB **Lab ID: 92526014021** Collected: 03/03/21 12:34 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.42	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	112	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:01	7440-70-2	M6
Magnesium	334	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:01	7439-95-4	M6
Potassium	111	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:01	7440-09-7	M6
Sodium	4410	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 17:45	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.050	0.0043	50	03/08/21 11:20	03/11/21 13:44	7440-38-2	
Boron	1.8J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 13:44	7440-42-8	M6
Lithium	0.072J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 13:44	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	84.5	mg/L	5.0	5.0	1		03/10/21 22:13		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 22:13		
Alkalinity, Total as CaCO3	84.5	mg/L	5.0	5.0	1		03/10/21 22:13		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		03/09/21 19:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7320	mg/L	200	120	200		03/08/21 06:48	16887-00-6	M6
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 06:48	16984-48-8	D3
Sulfate	1020	mg/L	200	100	200		03/08/21 06:48	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-1HS **Lab ID: 92526014022** Collected: 03/03/21 12:24 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.57	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	133	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:15	7440-70-2	
Magnesium	394	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:15	7439-95-4	
Potassium	130	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:15	7440-09-7	
Sodium	4490	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 17:58	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	03/08/21 11:20	03/11/21 14:02	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:02	7440-42-8	
Lithium	0.075J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:02	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	85.2	mg/L	5.0	5.0	1		03/10/21 22:23		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 22:23		
Alkalinity, Total as CaCO3	85.2	mg/L	5.0	5.0	1		03/10/21 22:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14300	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6780	mg/L	200	120	200		03/08/21 07:30	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 07:30	16984-48-8	D3
Sulfate	959	mg/L	200	100	200		03/08/21 07:30	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-1L Lab ID: 92526014023 Collected: 03/03/21 10:03 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.49	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	104	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:18	7440-70-2	
Magnesium	306	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:18	7439-95-4	
Potassium	103	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:18	7440-09-7	
Sodium	4390	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:02	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	03/08/21 11:20	03/11/21 14:05	7440-38-2	
Boron	1.9J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:05	7440-42-8	
Lithium	0.076J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:05	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	82.4	mg/L	5.0	5.0	1		03/10/21 22:34		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 22:34		
Alkalinity, Total as CaCO3	82.4	mg/L	5.0	5.0	1		03/10/21 22:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13300	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6450	mg/L	200	120	200		03/08/21 07:44	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 07:44	16984-48-8	D3
Sulfate	900	mg/L	200	100	200		03/08/21 07:44	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-2HB **Lab ID: 92526014024** Collected: 03/03/21 12:56 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.45	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	113	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:21	7440-70-2	
Magnesium	335	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:21	7439-95-4	
Potassium	112	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:21	7440-09-7	
Sodium	4430	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:05	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	03/08/21 11:20	03/11/21 14:16	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:16	7440-42-8	
Lithium	0.067J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:16	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	84.3	mg/L	5.0	5.0	1		03/10/21 22:43		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 22:43		
Alkalinity, Total as CaCO3	84.3	mg/L	5.0	5.0	1		03/10/21 22:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14900	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6850	mg/L	200	120	200		03/08/21 07:58	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 07:58	16984-48-8	D3
Sulfate	980	mg/L	200	100	200		03/08/21 07:58	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-2HS **Lab ID: 92526014025** Collected: 03/03/21 12:51 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.52	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	120	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:31	7440-70-2	
Magnesium	360	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:31	7439-95-4	
Potassium	119	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:31	7440-09-7	
Sodium	4170	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:08	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	03/08/21 11:20	03/11/21 14:20	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:20	7440-42-8	
Lithium	0.078J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:20	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.9	mg/L	5.0	5.0	1		03/10/21 22:53		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 22:53		
Alkalinity, Total as CaCO3	83.9	mg/L	5.0	5.0	1		03/10/21 22:53		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14600	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7090	mg/L	200	120	200		03/08/21 08:41	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 08:41	16984-48-8	D3
Sulfate	988	mg/L	200	100	200		03/08/21 08:41	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-2L **Lab ID: 92526014026** Collected: 03/03/21 09:54 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.47	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	110	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:34	7440-70-2	
Magnesium	331	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:34	7439-95-4	
Potassium	111	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:34	7440-09-7	
Sodium	4420	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:18	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	03/08/21 11:20	03/11/21 14:23	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:23	7440-42-8	
Lithium	0.066J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:23	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.4	mg/L	5.0	5.0	1		03/10/21 23:04		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/10/21 23:04		
Alkalinity, Total as CaCO3	83.4	mg/L	5.0	5.0	1		03/10/21 23:04		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6620	mg/L	200	120	200		03/08/21 08:55	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 08:55	16984-48-8	D3
Sulfate	929	mg/L	200	100	200		03/08/21 08:55	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-3HB **Lab ID: 92526014027** Collected: 03/03/21 13:15 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.45	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	118	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:38	7440-70-2	
Magnesium	355	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:38	7439-95-4	
Potassium	118	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:38	7440-09-7	
Sodium	4010	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:22	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	03/08/21 11:20	03/11/21 14:27	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:27	7440-42-8	
Lithium	0.066J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:27	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.6	mg/L	5.0	5.0	1		03/11/21 18:16		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 18:16		
Alkalinity, Total as CaCO3	83.6	mg/L	5.0	5.0	1		03/11/21 18:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6780	mg/L	200	120	200		03/08/21 09:10	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 09:10	16984-48-8	D3
Sulfate	966	mg/L	200	100	200		03/08/21 09:10	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-3HS **Lab ID: 92526014028** Collected: 03/03/21 13:10 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.54	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	150	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:41	7440-70-2	
Magnesium	446	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:41	7439-95-4	
Potassium	149	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:41	7440-09-7	
Sodium	4150	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:25	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	03/08/21 11:20	03/11/21 14:30	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:30	7440-42-8	
Lithium	0.083J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:30	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	84.2	mg/L	5.0	5.0	1		03/11/21 18:48		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 18:48		
Alkalinity, Total as CaCO3	84.2	mg/L	5.0	5.0	1		03/11/21 18:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13600	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6910	mg/L	200	120	200		03/08/21 09:24	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 09:24	16984-48-8	D3
Sulfate	990	mg/L	200	100	200		03/08/21 09:24	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-3L **Lab ID: 92526014029** Collected: 03/03/21 09:41 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.47	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	125	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:44	7440-70-2	
Magnesium	368	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:44	7439-95-4	
Potassium	123	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:44	7440-09-7	
Sodium	4290	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:28	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	03/08/21 11:20	03/11/21 14:34	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:34	7440-42-8	
Lithium	0.079J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:34	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	86.0	mg/L	5.0	5.0	1		03/11/21 18:58		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 18:58		
Alkalinity, Total as CaCO3	86.0	mg/L	5.0	5.0	1		03/11/21 18:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13700	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6880	mg/L	200	120	200		03/08/21 09:38	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 09:38	16984-48-8	D3
Sulfate	991	mg/L	200	100	200		03/08/21 09:38	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-4HB **Lab ID: 92526014030** Collected: 03/03/21 13:37 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.47	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	114	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:48	7440-70-2	
Magnesium	343	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:48	7439-95-4	
Potassium	114	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:48	7440-09-7	
Sodium	4090	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:32	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	03/08/21 11:20	03/11/21 14:37	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:37	7440-42-8	
Lithium	0.075J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:37	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	87.1	mg/L	5.0	5.0	1		03/11/21 19:09		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 19:09		
Alkalinity, Total as CaCO3	87.1	mg/L	5.0	5.0	1		03/11/21 19:09		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15500	mg/L	2500	2500	1		03/09/21 19:05		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7070	mg/L	200	120	200		03/08/21 09:52	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 09:52	16984-48-8	D3
Sulfate	1020	mg/L	200	100	200		03/08/21 09:52	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-4HS **Lab ID: 92526014031** Collected: 03/03/21 13:30 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.54	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	156	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:51	7440-70-2	
Magnesium	465	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:51	7439-95-4	
Potassium	156	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:51	7440-09-7	
Sodium	4200	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:35	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	03/08/21 11:20	03/11/21 14:41	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:41	7440-42-8	
Lithium	0.080J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:41	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	75.8	mg/L	5.0	5.0	1		03/11/21 19:20		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 19:20		
Alkalinity, Total as CaCO3	75.8	mg/L	5.0	5.0	1		03/11/21 19:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		03/09/21 18:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7040	mg/L	200	120	200		03/08/21 10:06	16887-00-6	M6
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 10:06	16984-48-8	D3,M6
Sulfate	1020	mg/L	200	100	200		03/08/21 10:06	14808-79-8	M6

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T4-4L **Lab ID: 92526014032** Collected: 03/03/21 09:29 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.38	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	158	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:55	7440-70-2	
Magnesium	468	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:55	7439-95-4	
Potassium	158	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:55	7440-09-7	
Sodium	4210	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:38	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	03/08/21 11:20	03/11/21 14:44	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:44	7440-42-8	
Lithium	0.075J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:44	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		03/11/21 19:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 19:41		
Alkalinity, Total as CaCO3	87.9	mg/L	5.0	5.0	1		03/11/21 19:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14400	mg/L	2500	2500	1		03/09/21 18:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6860	mg/L	200	120	200		03/08/21 10:49	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 10:49	16984-48-8	D3
Sulfate	990	mg/L	200	100	200		03/08/21 10:49	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: **BG-1LT** Lab ID: **92526014033** Collected: 03/02/21 15:06 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.40	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	157	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 02:58	7440-70-2	
Magnesium	470	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 02:58	7439-95-4	
Potassium	158	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 02:58	7440-09-7	
Sodium	4130	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:41	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	03/08/21 11:20	03/11/21 14:48	7440-38-2	
Boron	2.3J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:48	7440-42-8	
Lithium	0.074J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:48	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.6	mg/L	5.0	5.0	1		03/11/21 19:52		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 19:52		
Alkalinity, Total as CaCO3	83.6	mg/L	5.0	5.0	1		03/11/21 19:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	16200	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6660	mg/L	200	120	200		03/08/21 11:32	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 11:32	16984-48-8	D3
Sulfate	929	mg/L	200	100	200		03/08/21 11:32	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: BG-2HT **Lab ID: 92526014034** Collected: 03/03/21 10:35 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.49	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	178	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:01	7440-70-2	
Magnesium	537	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:01	7439-95-4	
Potassium	180	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:01	7440-09-7	
Sodium	4930	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:45	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	03/08/21 11:20	03/11/21 14:59	7440-38-2	
Boron	2.4J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 14:59	7440-42-8	
Lithium	0.084J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 14:59	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		03/11/21 20:02		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 20:02		
Alkalinity, Total as CaCO3	92.4	mg/L	5.0	5.0	1		03/11/21 20:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15900	mg/L	2500	2500	1		03/09/21 18:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	8060	mg/L	200	120	200		03/08/21 11:46	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 11:46	16984-48-8	D3
Sulfate	1150	mg/L	200	100	200		03/08/21 11:46	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: DUP-3 Lab ID: 92526014035 Collected: 03/02/21 00:00 Received: 03/05/21 10:15 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	155	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:11	7440-70-2	
Magnesium	460	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:11	7439-95-4	
Potassium	153	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:11	7440-09-7	
Sodium	4100	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:48	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	03/08/21 11:20	03/11/21 15:02	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 15:02	7440-42-8	
Lithium	0.072J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 15:02	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		03/11/21 20:14		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 20:14		
Alkalinity, Total as CaCO3	83.1	mg/L	5.0	5.0	1		03/11/21 20:14		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	14500	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6860	mg/L	200	120	200		03/08/21 12:00	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 12:00	16984-48-8	D3
Sulfate	978	mg/L	200	100	200		03/08/21 12:00	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Sample: DUP-4 **Lab ID: 92526014036** Collected: 03/03/21 00:00 Received: 03/05/21 10:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	160	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:15	7440-70-2	
Magnesium	479	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:15	7439-95-4	
Potassium	160	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:15	7440-09-7	
Sodium	4000	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 18:58	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	03/08/21 11:20	03/11/21 15:06	7440-38-2	
Boron	2.1J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 15:06	7440-42-8	
Lithium	0.078J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 15:06	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO ₃)	85.1	mg/L	5.0	5.0	1		03/11/21 20:25		
Alkalinity, Carbonate (CaCO ₃)	ND	mg/L	5.0	5.0	1		03/11/21 20:25		
Alkalinity, Total as CaCO ₃	85.1	mg/L	5.0	5.0	1		03/11/21 20:25		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14900	mg/L	2500	2500	1		03/09/21 18:55		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6890	mg/L	200	120	200		03/08/21 12:14	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 12:14	16984-48-8	D3
Sulfate	989	mg/L	200	100	200		03/08/21 12:14	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Sample: DUP-5 Lab ID: 92526014037 Collected: 03/03/21 00:00 Received: 03/05/21 10:15 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	163	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:18	7440-70-2	
Magnesium	486	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:18	7439-95-4	
Potassium	163	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:18	7440-09-7	
Sodium	4270	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:01	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	03/08/21 11:20	03/11/21 15:09	7440-38-2	
Boron	2.2J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 15:09	7440-42-8	
Lithium	0.081J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 15:09	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	88.2	mg/L	5.0	5.0	1		03/11/21 20:53		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 20:53		
Alkalinity, Total as CaCO3	88.2	mg/L	5.0	5.0	1		03/11/21 20:53		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13800	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	7160	mg/L	200	120	200		03/08/21 12:28	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 12:28	16984-48-8	D3
Sulfate	1030	mg/L	200	100	200		03/08/21 12:28	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Sample: FB-1		Lab ID: 92526014038		Collected: 03/04/21 14:13		Received: 03/05/21 10:15		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	1.0	0.94	10	03/08/21 16:15	03/10/21 03:21	7440-70-2	
Magnesium	ND	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:21	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:21	7440-09-7	
Sodium	ND	mg/L	50.0	6.1	10	03/08/21 16:15	03/10/21 03:21	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	03/08/21 11:20	03/10/21 16:45	7440-38-2	
Boron	ND	mg/L	0.050	0.0085	1	03/08/21 11:20	03/10/21 16:45	7440-42-8	
Lithium	ND	mg/L	0.0025	0.00050	1	03/08/21 11:20	03/10/21 16:45	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		03/11/21 21:04		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 21:04		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/11/21 21:04		
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 18:52		
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 12:42	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 12:42	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/08/21 12:42	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: EB-1 **Lab ID: 92526014039** Collected: 03/04/21 14:17 Received: 03/05/21 10:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	ND	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:25	7440-70-2	
Magnesium	ND	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:25	7439-95-4	
Potassium	ND	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:25	7440-09-7	
Sodium	ND	mg/L	50.0	6.1	10	03/08/21 16:15	03/10/21 03:25	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	03/08/21 11:20	03/10/21 16:49	7440-38-2	
Boron	ND	mg/L	0.050	0.0085	1	03/08/21 11:20	03/10/21 16:49	7440-42-8	
Lithium	ND	mg/L	0.0025	0.00050	1	03/08/21 11:20	03/10/21 16:49	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		03/11/21 21:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 21:07		
Alkalinity, Total as CaCO3	ND	mg/L	5.0	5.0	1		03/11/21 21:07		
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 18:52		
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 12:57	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/08/21 12:57	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/08/21 12:57	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-1HT **Lab ID: 92526014040** Collected: 03/02/21 12:52 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.56	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	147	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:28	7440-70-2	
Magnesium	440	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:28	7439-95-4	
Potassium	147	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:28	7440-09-7	
Sodium	3870	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:04	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	03/08/21 11:20	03/11/21 15:13	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/08/21 11:20	03/11/21 15:13	7440-42-8	
Lithium	0.074J	mg/L	0.12	0.025	50	03/08/21 11:20	03/11/21 15:13	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	79.8	mg/L	5.0	5.0	1		03/11/21 21:21		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 21:21		
Alkalinity, Total as CaCO3	79.8	mg/L	5.0	5.0	1		03/11/21 21:21		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14200	mg/L	2500	2500	1		03/08/21 19:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6500	mg/L	200	120	200		03/07/21 23:47	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/07/21 23:47	16984-48-8	
Sulfate	818	mg/L	200	100	200		03/07/21 23:47	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-1LT **Lab ID: 92526014041** Collected: 03/04/21 11:47 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.35	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	126	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 03:38	7440-70-2	M6
Magnesium	381	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 03:38	7439-95-4	M6
Potassium	125	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 03:38	7440-09-7	M6
Sodium	3300	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:08	7440-23-5	M6
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 12:08	7440-38-2	
Boron	1.6J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:08	7440-42-8	
Lithium	0.066J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:08	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	73.4	mg/L	5.0	5.0	1		03/11/21 21:32		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 21:32		
Alkalinity, Total as CaCO3	73.4	mg/L	5.0	5.0	1		03/11/21 21:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14000	mg/L	2500	2500	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6160	mg/L	200	120	200		03/08/21 00:30	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 00:30	16984-48-8	
Sulfate	774	mg/L	200	100	200		03/08/21 00:30	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-2HT **Lab ID: 92526014042** Collected: 03/02/21 13:08 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.36	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	178	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:04	7440-70-2	
Magnesium	532	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:04	7439-95-4	
Potassium	177	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:04	7440-09-7	
Sodium	4480	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:21	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 12:12	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:12	7440-42-8	M6
Lithium	0.084J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:12	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	85.1	mg/L	5.0	5.0	1		03/11/21 21:42		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 21:42		
Alkalinity, Total as CaCO3	85.1	mg/L	5.0	5.0	1		03/11/21 21:42		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17500	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7070	mg/L	200	120	200		03/08/21 00:44	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 00:44	16984-48-8	
Sulfate	919	mg/L	200	100	200		03/08/21 00:44	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-2HTS **Lab ID: 92526014043** Collected: 03/02/21 13:02 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.47	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	154	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:08	7440-70-2	
Magnesium	460	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:08	7439-95-4	
Potassium	153	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:08	7440-09-7	
Sodium	3980	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:24	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0084J	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 12:29	7440-38-2	
Boron	1.8J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:29	7440-42-8	
Lithium	0.072J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:29	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	78.7	mg/L	5.0	5.0	1		03/11/21 21:53		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 21:53		
Alkalinity, Total as CaCO3	78.7	mg/L	5.0	5.0	1		03/11/21 21:53		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15000	mg/L	2500	2500	1		03/08/21 19:07		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6250	mg/L	200	120	200		03/08/21 00:59	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 00:59	16984-48-8	
Sulfate	902	mg/L	200	100	200		03/08/21 00:59	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-2LT **Lab ID: 92526014044** Collected: 03/04/21 11:42 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.34	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	137	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:11	7440-70-2	
Magnesium	406	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:11	7439-95-4	
Potassium	137	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:11	7440-09-7	
Sodium	3550	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:28	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 12:33	7440-38-2	
Boron	1.6J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:33	7440-42-8	
Lithium	0.063J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:33	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	73.8	mg/L	5.0	5.0	1		03/11/21 22:03		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 22:03		
Alkalinity, Total as CaCO3	73.8	mg/L	5.0	5.0	1		03/11/21 22:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	12700	mg/L	2500	2500	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5680	mg/L	200	120	200		03/08/21 01:13	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:13	16984-48-8	
Sulfate	764	mg/L	200	100	200		03/08/21 01:13	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-3HT **Lab ID: 92526014045** Collected: 03/02/21 13:33 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.36	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	155	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:14	7440-70-2	
Magnesium	469	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:14	7439-95-4	
Potassium	157	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:14	7440-09-7	
Sodium	4190	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:44	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 12:36	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:36	7440-42-8	
Lithium	0.077J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:36	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		03/11/21 22:12		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 22:12		
Alkalinity, Total as CaCO3	82.7	mg/L	5.0	5.0	1		03/11/21 22:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17200	mg/L	2500	2500	1		03/08/21 19:08		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7020	mg/L	200	120	200		03/08/21 01:27	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:27	16984-48-8	
Sulfate	1020	mg/L	200	100	200		03/08/21 01:27	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-3HTS **Lab ID: 92526014046** Collected: 03/02/21 13:25 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.42	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	157	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:18	7440-70-2	
Magnesium	470	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:18	7439-95-4	
Potassium	158	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:18	7440-09-7	
Sodium	4050	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:47	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 12:40	7440-38-2	
Boron	1.9J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:40	7440-42-8	
Lithium	0.073J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:40	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	83.5	mg/L	5.0	5.0	1		03/11/21 22:32		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 22:32		
Alkalinity, Total as CaCO3	83.5	mg/L	5.0	5.0	1		03/11/21 22:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15600	mg/L	2500	2500	1		03/09/21 19:00		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6540	mg/L	200	120	200		03/08/21 01:41	16887-00-6	M6,R1
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 01:41	16984-48-8	M6
Sulfate	993	mg/L	200	100	200		03/08/21 01:41	14808-79-8	M6,R1

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-3LT **Lab ID: 92526014047** Collected: 03/04/21 11:52 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.34	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	133	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:21	7440-70-2	
Magnesium	385	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:21	7439-95-4	
Potassium	130	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:21	7440-09-7	
Sodium	3360	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:51	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0068J	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 12:51	7440-38-2	
Boron	1.7J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:51	7440-42-8	
Lithium	0.061J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:51	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	71.4	mg/L	5.0	5.0	1		03/11/21 23:09		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 23:09		
Alkalinity, Total as CaCO3	71.4	mg/L	5.0	5.0	1		03/11/21 23:09		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14000	mg/L	2500	2500	1		03/09/21 18:52		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5390	mg/L	200	120	200		03/08/21 02:24	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 02:24	16984-48-8	
Sulfate	901	mg/L	200	100	200		03/08/21 02:24	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-4HT **Lab ID: 92526014048** Collected: 03/02/21 14:47 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.33	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	159	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:24	7440-70-2	
Magnesium	473	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:24	7439-95-4	
Potassium	159	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:24	7440-09-7	
Sodium	4270	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:54	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.012J	mg/L	0.050	0.0043	50	03/09/21 01:07	03/11/21 12:54	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:54	7440-42-8	
Lithium	0.079J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:54	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	81.9	mg/L	5.0	5.0	1		03/11/21 23:17		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 23:17		
Alkalinity, Total as CaCO3	81.9	mg/L	5.0	5.0	1		03/11/21 23:17		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13800	mg/L	2500	2500	1		03/09/21 19:01		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	6780	mg/L	200	120	200		03/08/21 02:38	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 02:38	16984-48-8	
Sulfate	1200	mg/L	200	100	200		03/08/21 02:38	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-4HTS **Lab ID: 92526014049** Collected: 03/02/21 14:42 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.43	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	156	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:28	7440-70-2	
Magnesium	463	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:28	7439-95-4	
Potassium	157	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:28	7440-09-7	
Sodium	4150	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 19:57	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	03/09/21 01:07	03/11/21 12:58	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 12:58	7440-42-8	
Lithium	0.072J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 12:58	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	82.1	mg/L	5.0	5.0	1		03/11/21 23:27		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 23:27		
Alkalinity, Total as CaCO3	82.1	mg/L	5.0	5.0	1		03/11/21 23:27		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	14000	mg/L	2500	2500	1		03/09/21 19:01		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	7050	mg/L	200	120	200		03/08/21 03:35	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 03:35	16984-48-8	
Sulfate	921	mg/L	200	100	200		03/08/21 03:35	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: T1-4LT **Lab ID: 92526014050** Collected: 03/04/21 10:15 Received: 03/05/21 10:15 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		03/12/21 13:53		
pH	7.30	Std. Units			1		03/12/21 13:53		
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	126	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:38	7440-70-2	
Magnesium	370	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:38	7439-95-4	
Potassium	125	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:38	7440-09-7	
Sodium	3280	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 20:01	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 13:01	7440-38-2	
Boron	1.6J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:01	7440-42-8	
Lithium	0.067J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:01	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	72.0	mg/L	5.0	5.0	1		03/11/21 23:37		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 23:37		
Alkalinity, Total as CaCO3	72.0	mg/L	5.0	5.0	1		03/11/21 23:37		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	12400	mg/L	2500	2500	1		03/09/21 18:53		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993 Pace Analytical Services - Asheville									
Chloride	5370	mg/L	200	120	200		03/08/21 03:50	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 03:50	16984-48-8	
Sulfate	767	mg/L	200	100	200		03/08/21 03:50	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Sample: DUP-1 **Lab ID: 92526014051** Collected: 03/02/21 00:00 Received: 03/05/21 10:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	162	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:41	7440-70-2	
Magnesium	485	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:41	7439-95-4	
Potassium	163	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:41	7440-09-7	
Sodium	4640	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 20:04	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 13:05	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:05	7440-42-8	
Lithium	0.079J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:05	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	84.6	mg/L	5.0	5.0	1		03/11/21 23:46		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 23:46		
Alkalinity, Total as CaCO3	84.6	mg/L	5.0	5.0	1		03/11/21 23:46		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	14900	mg/L	2500	2500	1		03/09/21 19:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7010	mg/L	200	120	200		03/08/21 04:04	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 04:04	16984-48-8	
Sulfate	1170	mg/L	200	100	200		03/08/21 04:04	14808-79-8	

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ANALYTICAL RESULTS

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Sample: DUP-2 Lab ID: 92526014052 Collected: 03/02/21 00:00 Received: 03/05/21 10:15 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	148	mg/L	1.0	0.94	10	03/08/21 16:15	03/10/21 04:44	7440-70-2	
Magnesium	446	mg/L	1.0	0.68	10	03/08/21 16:15	03/10/21 04:44	7439-95-4	
Potassium	151	mg/L	50.0	30.4	10	03/08/21 16:15	03/10/21 04:44	7440-09-7	
Sodium	4050	mg/L	500	61.1	100	03/08/21 16:15	03/11/21 20:07	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 13:08	7440-38-2	
Boron	2.0J	mg/L	2.5	0.42	50	03/09/21 01:07	03/11/21 13:08	7440-42-8	
Lithium	0.073J	mg/L	0.12	0.025	50	03/09/21 01:07	03/11/21 13:08	7439-93-2	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	82.0	mg/L	5.0	5.0	1		03/11/21 23:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/11/21 23:56		
Alkalinity, Total as CaCO3	82.0	mg/L	5.0	5.0	1		03/11/21 23:56		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	14300	mg/L	2500	2500	1		03/09/21 19:04		
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6800	mg/L	200	120	200		03/08/21 04:18	16887-00-6	
Fluoride	ND	mg/L	20.0	10.0	200		03/08/21 04:18	16984-48-8	
Sulfate	1230	mg/L	200	100	200		03/08/21 04:18	14808-79-8	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch:	604725	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006, 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020		

METHOD BLANK:	3186225	Matrix:	Water
Associated Lab Samples:	92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006, 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/10/21 15:02	
Magnesium	mg/L	ND	0.10	0.068	03/10/21 15:02	
Potassium	mg/L	ND	5.0	3.0	03/10/21 15:02	
Sodium	mg/L	ND	5.0	0.61	03/10/21 15:02	

LABORATORY CONTROL SAMPLE: 3186226						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	99	80-120	
Magnesium	mg/L	5	5.6	111	80-120	
Potassium	mg/L	5	5.4	107	80-120	
Sodium	mg/L	5	5.2	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186227													3186228		
Parameter	Units	92526014001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual			
													Calcium	mg/L	172	5	5	169	166	-58	-122	75-125	2	20	M6
Magnesium	mg/L	518	5	5	505	487	-252	-612	75-125	4	20	M6			
Potassium	mg/L	174	5	5	171	168	-58	-132	75-125	2	20	M6			
Sodium	mg/L	4240	5	5	4270	3980	600	-5220	75-125	7	20	M6			

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch: 604964 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039, 92526014040

METHOD BLANK: 3187412 Matrix: Water
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039, 92526014040

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/10/21 01:55	
Magnesium	mg/L	ND	0.10	0.068	03/10/21 01:55	
Potassium	mg/L	ND	5.0	3.0	03/10/21 01:55	
Sodium	mg/L	ND	5.0	0.61	03/10/21 01:55	

LABORATORY CONTROL SAMPLE: 3187413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	4.1	81	80-120	
Magnesium	mg/L	5	4.1	82	80-120	
Potassium	mg/L	5	4.1J	81	80-120	
Sodium	mg/L	5	4.1J	83	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187414 3187415

Parameter	Units	3187414		3187415		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Calcium	mg/L	112	5	5	131	142	372	586	75-125	8	20 M6
Magnesium	mg/L	334	5	5	380	407	926	1460	75-125	7	20 M6
Potassium	mg/L	111	5	5	129	138	362	552	75-125	7	20 M6
Sodium	mg/L	4410	5	5	4280	4290	-2520	-2430	75-125	0	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch: 604970

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92526014041, 92526014042, 92526014043, 92526014044, 92526014045, 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052

METHOD BLANK: 3187429

Matrix: Water

Associated Lab Samples: 92526014041, 92526014042, 92526014043, 92526014044, 92526014045, 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/10/21 03:31	
Magnesium	mg/L	ND	0.10	0.068	03/10/21 03:31	
Potassium	mg/L	ND	5.0	3.0	03/10/21 03:31	
Sodium	mg/L	ND	5.0	0.61	03/10/21 03:31	

LABORATORY CONTROL SAMPLE: 3187430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.0	101	80-120	
Magnesium	mg/L	5	5.1	102	80-120	
Potassium	mg/L	5	5.2	105	80-120	
Sodium	mg/L	5	5.3	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187431 3187432

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014041 Result	Spike Conc.	Spike Conc.	Result						
Calcium	mg/L	126	5	5	140	135	286	184	75-125	4	20 M6
Magnesium	mg/L	381	5	5	405	394	478	264	75-125	3	20 M6
Potassium	mg/L	125	5	5	139	135	274	186	75-125	3	20 M6
Sodium	mg/L	3300	5	5	ND	7070	-65800	75300	75-125		20 M6

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch: 604727 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006, 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020

METHOD BLANK: 3186233 Matrix: Water
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006, 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/10/21 12:27	
Boron	mg/L	0.0095J	0.050	0.0085	03/10/21 12:27	
Lithium	mg/L	ND	0.0025	0.00050	03/10/21 12:27	

LABORATORY CONTROL SAMPLE: 3186234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	104	80-120	
Boron	mg/L	0.05	0.051	103	80-120	
Lithium	mg/L	0.05	0.051	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186235 3186236

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014002 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	ND	0.01	0.01	0.013J	0.013J	113	114	75-125	20	
Boron	mg/L	2.2J	0.05	0.05	2.4J	2.6	319	615	75-125	20 M6	
Lithium	mg/L	0.070J	0.05	0.05	0.12J	0.12J	96	107	75-125	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 604888 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039, 92526014040

METHOD BLANK: 3186865 Matrix: Water
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039, 92526014040

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/10/21 14:54	
Boron	mg/L	ND	0.050	0.0085	03/10/21 14:54	
Lithium	mg/L	ND	0.0025	0.00050	03/10/21 14:54	

LABORATORY CONTROL SAMPLE: 3186866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	102	80-120	
Boron	mg/L	0.05	0.049J	98	80-120	
Lithium	mg/L	0.05	0.051	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186867 3186868

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014021 Result	Spike Conc.	Spike Conc.	Result						
Arsenic	mg/L	ND	0.01	0.01	0.014J	0.014J	114	115	75-125	20	
Boron	mg/L	1.8J	0.05	0.05	2.0J	2.2J	387	770	75-125	20 M6	
Lithium	mg/L	0.072J	0.05	0.05	0.13	0.13	108	121	75-125	5	20

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605091 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014041, 92526014042, 92526014043, 92526014044, 92526014045, 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052

METHOD BLANK: 3187897 Matrix: Water
 Associated Lab Samples: 92526014041, 92526014042, 92526014043, 92526014044, 92526014045, 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/10/21 17:17	
Boron	mg/L	ND	0.050	0.0085	03/10/21 17:17	
Lithium	mg/L	ND	0.0025	0.00050	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	
Boron	mg/L	0.05	0.048J	96	80-120	
Lithium	mg/L	0.05	0.049	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3187899 3187900

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014042 Result	Spike Conc.	Spike Conc.	Result							Result
Arsenic	mg/L	ND	0.01	0.01	0.013J	0.013J	94	98	75-125	20	
Boron	mg/L	2.0J	0.05	0.05	2.0J	2.0J	46	79	75-125	20	M6
Lithium	mg/L	0.084J	0.05	0.05	0.13	0.12J	86	82	75-125	20	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605162 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006

METHOD BLANK: 3188087 Matrix: Water
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/10/21 14:32	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/10/21 14:32	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/10/21 14:32	

LABORATORY CONTROL SAMPLE: 3188088

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.4	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3188089 3188090

Parameter	Units	92525824002		3188089		3188090		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					MS % Rec	MSD % Rec
Alkalinity, Total as CaCO3	mg/L	21.4	50	71.6	50	72.8	100	80-120	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3188091 3188092

Parameter	Units	92525459002		3188091		3188092		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Alkalinity, Total as CaCO3	mg/L	205	50	252	50	252	94	80-120	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605458 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020, 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026

METHOD BLANK: 3189671 Matrix: Water
 Associated Lab Samples: 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020, 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/10/21 19:01	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/10/21 19:01	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/10/21 19:01	

LABORATORY CONTROL SAMPLE: 3189672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	47.1	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189673 3189674

Parameter	Units	92526014007 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	71.0	50	50	119	121	96	99	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3189675 3189676

Parameter	Units	92526014017 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	63.3	50	50	112	111	97	96	80-120	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch: 605843 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039, 92526014040, 92526014041, 92526014042, 92526014043, 92526014044, 92526014045

METHOD BLANK: 3191726 Matrix: Water
 Associated Lab Samples: 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039, 92526014040, 92526014041, 92526014042, 92526014043, 92526014044, 92526014045

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/11/21 18:04	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/11/21 18:04	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/11/21 18:04	

LABORATORY CONTROL SAMPLE: 3191727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.3	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191728 3191729

Parameter	Units	92526014027 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	83.6	50	50	133	135	99	104	80-120	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191730 3191731

Parameter	Units	92526014036 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	85.1	50	50	136	137	101	104	80-120	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch:	605845	Analysis Method:	SM 2320B-2011
QC Batch Method:	SM 2320B-2011	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052

METHOD BLANK: 3191738 Matrix: Water

Associated Lab Samples: 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/11/21 22:22	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/11/21 22:22	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/11/21 22:22	

LABORATORY CONTROL SAMPLE: 3191739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	52.7	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3191740 3191741

Parameter	Units	92526014046 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	83.5	50	50	132	133	97	99	80-120	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605032 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: 92526014001, 92526014002, 92526014003, 92526014005, 92526014006, 92526014008, 92526014009,
 92526014011, 92526014012, 92526014013, 92526014015, 92526014016, 92526014018, 92526014019,
 92526014033, 92526014035, 92526014040, 92526014042, 92526014043, 92526014045

METHOD BLANK: 3187723 Matrix: Water
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014005, 92526014006, 92526014008, 92526014009,
 92526014011, 92526014012, 92526014013, 92526014015, 92526014016, 92526014018, 92526014019,
 92526014033, 92526014035, 92526014040, 92526014042, 92526014043, 92526014045

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/08/21 19:06	

LABORATORY CONTROL SAMPLE: 3187724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	252	101	90-110	

SAMPLE DUPLICATE: 3187725

Parameter	Units	92526014001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	16100	16400	2	25	

SAMPLE DUPLICATE: 3187726

Parameter	Units	92526014015 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	17300	17100	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605303 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: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014046, 92526014048, 92526014049, 92526014051, 92526014052

METHOD BLANK: 3188987 Matrix: Water
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014046, 92526014048, 92526014049, 92526014051, 92526014052

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/09/21 19:00	

LABORATORY CONTROL SAMPLE: 3188988

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	246	98	90-110	

SAMPLE DUPLICATE: 3188989

Parameter	Units	92526014046 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	15600	15800	1	25	

SAMPLE DUPLICATE: 3188990

Parameter	Units	92526014021 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13900	14400	4	25	

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605313 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: 92526014031, 92526014032, 92526014034, 92526014036, 92526014037

METHOD BLANK: 3189077 Matrix: Water
 Associated Lab Samples: 92526014031, 92526014032, 92526014034, 92526014036, 92526014037

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 SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 605318 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: 92526014004, 92526014007, 92526014010, 92526014014, 92526014017, 92526014020, 92526014038, 92526014039, 92526014041, 92526014044, 92526014047, 92526014050

METHOD BLANK: 3189116 Matrix: Water
 Associated Lab Samples: 92526014004, 92526014007, 92526014010, 92526014014, 92526014017, 92526014020, 92526014038, 92526014039, 92526014041, 92526014044, 92526014047, 92526014050

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/09/21 18:51	

LABORATORY CONTROL SAMPLE: 3189117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	248	99	90-110	

SAMPLE DUPLICATE: 3189118

Parameter	Units	92525912006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 3189119

Parameter	Units	92526014039 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

QC Batch: 604770 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006, 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020

METHOD BLANK: 3186337 Matrix: Water
 Associated Lab Samples: 92526014001, 92526014002, 92526014003, 92526014004, 92526014005, 92526014006, 92526014007, 92526014008, 92526014009, 92526014010, 92526014011, 92526014012, 92526014013, 92526014014, 92526014015, 92526014016, 92526014017, 92526014018, 92526014019, 92526014020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/10/21 08:40	
Fluoride	mg/L	ND	0.10	0.050	03/10/21 08:40	
Sulfate	mg/L	ND	1.0	0.50	03/10/21 08:40	

LABORATORY CONTROL SAMPLE: 3186338

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	2.6	103	90-110	
Sulfate	mg/L	50	52.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186339 3186340

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014001 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	6300	50	50	3270	3270	-6070	-6060	90-110	0	10 M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M1
Sulfate	mg/L	512	50	50	513	512	2	-1	90-110	0	10 M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186341 3186342

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526014011 Result	Spike Conc.	Spike Conc.	Result						
Chloride	mg/L	6380	50	50	6460	6650	158	540	90-110	3	10 M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	120	112	90-110		10 M6
Sulfate	mg/L	888	50	50	989	1020	202	260	90-110	3	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch: 604771 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039

METHOD BLANK: 3186343 Matrix: Water
 Associated Lab Samples: 92526014021, 92526014022, 92526014023, 92526014024, 92526014025, 92526014026, 92526014027, 92526014028, 92526014029, 92526014030, 92526014031, 92526014032, 92526014033, 92526014034, 92526014035, 92526014036, 92526014037, 92526014038, 92526014039

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/09/21 23:21	
Fluoride	mg/L	ND	0.10	0.050	03/09/21 23:21	
Sulfate	mg/L	ND	1.0	0.50	03/09/21 23:21	

LABORATORY CONTROL SAMPLE: 3186344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.2	100	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	50	52.9	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186345 3186346

Parameter	Units	92526014021 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Chloride	mg/L	7320	50	50	6860	6710	-915	-1210	90-110	2	10	M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	104	96	90-110		10	
Sulfate	mg/L	1020	50	50	1050	1020	53	8	90-110	2	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186347 3186348

Parameter	Units	92526014031 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Chloride	mg/L	7040	50	50	7350	6870	624	-324	90-110	7	10	M6
Fluoride	mg/L	ND	2.5	2.5	ND	ND	152	168	90-110		10	M6
Sulfate	mg/L	1020	50	50	1150	1080	270	133	90-110	6	10	M6

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QUALITY CONTROL DATA

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

QC Batch:	604772	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville
Associated Lab Samples:	92526014040, 92526014041, 92526014042, 92526014043, 92526014044, 92526014045, 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052		

METHOD BLANK:	3186349	Matrix:	Water
Associated Lab Samples:	92526014040, 92526014041, 92526014042, 92526014043, 92526014044, 92526014045, 92526014046, 92526014047, 92526014048, 92526014049, 92526014050, 92526014051, 92526014052		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/07/21 21:15	
Fluoride	mg/L	ND	0.10	0.050	03/07/21 21:15	
Sulfate	mg/L	ND	1.0	0.50	03/07/21 21:15	

LABORATORY CONTROL SAMPLE: 3186350						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.3	99	90-110	
Fluoride	mg/L	2.5	2.5	98	90-110	
Sulfate	mg/L	50	50.1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186351												3186352	
Parameter	Units	92526067001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	10.4	50	50	59.4	58.0	98	95	90-110	2	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	103	100	90-110	3	10		
Sulfate	mg/L	3.4	50	50	53.1	51.9	100	97	90-110	2	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186353												3186354	
Parameter	Units	92526014046 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
Chloride	mg/L	6540	50	50	6740	7630	390	2170	90-110	12	10	M6, R1	
Fluoride	mg/L	ND	2.5	2.5	ND	ND	272	296	90-110		10	M6	
Sulfate	mg/L	993	50	50	1130	1320	281	655	90-110	15	10	M6, R1	

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QUALIFIERS

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

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

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014001	T2-1HT				
92526014002	T2-2HT				
92526014003	T2-2HTS				
92526014004	T2-2LT				
92526014005	T2-3HT				
92526014006	T2-3HTS				
92526014007	T2-3LT				
92526014008	T2-4HT				
92526014009	T2-4HTS				
92526014010	T2-4LT				
92526014011	T3-1HT				
92526014012	T3-2HT				
92526014013	T3-2HTS				
92526014014	T3-2LT				
92526014015	T3-3HT				
92526014016	T3-3HTS				
92526014017	T3-3LT				
92526014018	T3-4HT				
92526014019	T3-4HTS				
92526014020	T3-4LT				
92526014021	T4-1HB				
92526014022	T4-1HS				
92526014023	T4-1L				
92526014024	T4-2HB				
92526014025	T4-2HS				
92526014026	T4-2L				
92526014027	T4-3HB				
92526014028	T4-3HS				
92526014029	T4-3L				
92526014030	T4-4HB				
92526014031	T4-4HS				
92526014032	T4-4L				
92526014033	BG-1LT				
92526014034	BG-2HT				
92526014040	T1-1HT				
92526014041	T1-1LT				
92526014042	T1-2HT				
92526014043	T1-2HTS				
92526014044	T1-2LT				
92526014045	T1-3HT				
92526014046	T1-3HTS				
92526014047	T1-3LT				
92526014048	T1-4HT				
92526014049	T1-4HTS				
92526014050	T1-4LT				
92526014001	T2-1HT	EPA 3010A	604725	EPA 6010D	604741
92526014002	T2-2HT	EPA 3010A	604725	EPA 6010D	604741
92526014003	T2-2HTS	EPA 3010A	604725	EPA 6010D	604741

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014004	T2-2LT	EPA 3010A	604725	EPA 6010D	604741
92526014005	T2-3HT	EPA 3010A	604725	EPA 6010D	604741
92526014006	T2-3HTS	EPA 3010A	604725	EPA 6010D	604741
92526014007	T2-3LT	EPA 3010A	604725	EPA 6010D	604741
92526014008	T2-4HT	EPA 3010A	604725	EPA 6010D	604741
92526014009	T2-4HTS	EPA 3010A	604725	EPA 6010D	604741
92526014010	T2-4LT	EPA 3010A	604725	EPA 6010D	604741
92526014011	T3-1HT	EPA 3010A	604725	EPA 6010D	604741
92526014012	T3-2HT	EPA 3010A	604725	EPA 6010D	604741
92526014013	T3-2HTS	EPA 3010A	604725	EPA 6010D	604741
92526014014	T3-2LT	EPA 3010A	604725	EPA 6010D	604741
92526014015	T3-3HT	EPA 3010A	604725	EPA 6010D	604741
92526014016	T3-3HTS	EPA 3010A	604725	EPA 6010D	604741
92526014017	T3-3LT	EPA 3010A	604725	EPA 6010D	604741
92526014018	T3-4HT	EPA 3010A	604725	EPA 6010D	604741
92526014019	T3-4HTS	EPA 3010A	604725	EPA 6010D	604741
92526014020	T3-4LT	EPA 3010A	604725	EPA 6010D	604741
92526014021	T4-1HB	EPA 3010A	604964	EPA 6010D	605077
92526014022	T4-1HS	EPA 3010A	604964	EPA 6010D	605077
92526014023	T4-1L	EPA 3010A	604964	EPA 6010D	605077
92526014024	T4-2HB	EPA 3010A	604964	EPA 6010D	605077
92526014025	T4-2HS	EPA 3010A	604964	EPA 6010D	605077
92526014026	T4-2L	EPA 3010A	604964	EPA 6010D	605077
92526014027	T4-3HB	EPA 3010A	604964	EPA 6010D	605077
92526014028	T4-3HS	EPA 3010A	604964	EPA 6010D	605077
92526014029	T4-3L	EPA 3010A	604964	EPA 6010D	605077
92526014030	T4-4HB	EPA 3010A	604964	EPA 6010D	605077
92526014031	T4-4HS	EPA 3010A	604964	EPA 6010D	605077
92526014032	T4-4L	EPA 3010A	604964	EPA 6010D	605077
92526014033	BG-1LT	EPA 3010A	604964	EPA 6010D	605077
92526014034	BG-2HT	EPA 3010A	604964	EPA 6010D	605077
92526014035	DUP-3	EPA 3010A	604964	EPA 6010D	605077
92526014036	DUP-4	EPA 3010A	604964	EPA 6010D	605077
92526014037	DUP-5	EPA 3010A	604964	EPA 6010D	605077
92526014038	FB-1	EPA 3010A	604964	EPA 6010D	605077
92526014039	EB-1	EPA 3010A	604964	EPA 6010D	605077
92526014040	T1-1HT	EPA 3010A	604964	EPA 6010D	605077
92526014041	T1-1LT	EPA 3010A	604970	EPA 6010D	605078
92526014042	T1-2HT	EPA 3010A	604970	EPA 6010D	605078
92526014043	T1-2HTS	EPA 3010A	604970	EPA 6010D	605078
92526014044	T1-2LT	EPA 3010A	604970	EPA 6010D	605078
92526014045	T1-3HT	EPA 3010A	604970	EPA 6010D	605078
92526014046	T1-3HTS	EPA 3010A	604970	EPA 6010D	605078
92526014047	T1-3LT	EPA 3010A	604970	EPA 6010D	605078
92526014048	T1-4HT	EPA 3010A	604970	EPA 6010D	605078
92526014049	T1-4HTS	EPA 3010A	604970	EPA 6010D	605078
92526014050	T1-4LT	EPA 3010A	604970	EPA 6010D	605078
92526014051	DUP-1	EPA 3010A	604970	EPA 6010D	605078

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014052	DUP-2	EPA 3010A	604970	EPA 6010D	605078
92526014001	T2-1HT	EPA 3010A	604727	EPA 6020B	604742
92526014002	T2-2HT	EPA 3010A	604727	EPA 6020B	604742
92526014003	T2-2HTS	EPA 3010A	604727	EPA 6020B	604742
92526014004	T2-2LT	EPA 3010A	604727	EPA 6020B	604742
92526014005	T2-3HT	EPA 3010A	604727	EPA 6020B	604742
92526014006	T2-3HTS	EPA 3010A	604727	EPA 6020B	604742
92526014007	T2-3LT	EPA 3010A	604727	EPA 6020B	604742
92526014008	T2-4HT	EPA 3010A	604727	EPA 6020B	604742
92526014009	T2-4HTS	EPA 3010A	604727	EPA 6020B	604742
92526014010	T2-4LT	EPA 3010A	604727	EPA 6020B	604742
92526014011	T3-1HT	EPA 3010A	604727	EPA 6020B	604742
92526014012	T3-2HT	EPA 3010A	604727	EPA 6020B	604742
92526014013	T3-2HTS	EPA 3010A	604727	EPA 6020B	604742
92526014014	T3-2LT	EPA 3010A	604727	EPA 6020B	604742
92526014015	T3-3HT	EPA 3010A	604727	EPA 6020B	604742
92526014016	T3-3HTS	EPA 3010A	604727	EPA 6020B	604742
92526014017	T3-3LT	EPA 3010A	604727	EPA 6020B	604742
92526014018	T3-4HT	EPA 3010A	604727	EPA 6020B	604742
92526014019	T3-4HTS	EPA 3010A	604727	EPA 6020B	604742
92526014020	T3-4LT	EPA 3010A	604727	EPA 6020B	604742
92526014021	T4-1HB	EPA 3010A	604888	EPA 6020B	604920
92526014022	T4-1HS	EPA 3010A	604888	EPA 6020B	604920
92526014023	T4-1L	EPA 3010A	604888	EPA 6020B	604920
92526014024	T4-2HB	EPA 3010A	604888	EPA 6020B	604920
92526014025	T4-2HS	EPA 3010A	604888	EPA 6020B	604920
92526014026	T4-2L	EPA 3010A	604888	EPA 6020B	604920
92526014027	T4-3HB	EPA 3010A	604888	EPA 6020B	604920
92526014028	T4-3HS	EPA 3010A	604888	EPA 6020B	604920
92526014029	T4-3L	EPA 3010A	604888	EPA 6020B	604920
92526014030	T4-4HB	EPA 3010A	604888	EPA 6020B	604920
92526014031	T4-4HS	EPA 3010A	604888	EPA 6020B	604920
92526014032	T4-4L	EPA 3010A	604888	EPA 6020B	604920
92526014033	BG-1LT	EPA 3010A	604888	EPA 6020B	604920
92526014034	BG-2HT	EPA 3010A	604888	EPA 6020B	604920
92526014035	DUP-3	EPA 3010A	604888	EPA 6020B	604920
92526014036	DUP-4	EPA 3010A	604888	EPA 6020B	604920
92526014037	DUP-5	EPA 3010A	604888	EPA 6020B	604920
92526014038	FB-1	EPA 3010A	604888	EPA 6020B	604920
92526014039	EB-1	EPA 3010A	604888	EPA 6020B	604920
92526014040	T1-1HT	EPA 3010A	604888	EPA 6020B	604920
92526014041	T1-1LT	EPA 3010A	605091	EPA 6020B	605104
92526014042	T1-2HT	EPA 3010A	605091	EPA 6020B	605104
92526014043	T1-2HTS	EPA 3010A	605091	EPA 6020B	605104
92526014044	T1-2LT	EPA 3010A	605091	EPA 6020B	605104
92526014045	T1-3HT	EPA 3010A	605091	EPA 6020B	605104
92526014046	T1-3HTS	EPA 3010A	605091	EPA 6020B	605104

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING

Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014047	T1-3LT	EPA 3010A	605091	EPA 6020B	605104
92526014048	T1-4HT	EPA 3010A	605091	EPA 6020B	605104
92526014049	T1-4HTS	EPA 3010A	605091	EPA 6020B	605104
92526014050	T1-4LT	EPA 3010A	605091	EPA 6020B	605104
92526014051	DUP-1	EPA 3010A	605091	EPA 6020B	605104
92526014052	DUP-2	EPA 3010A	605091	EPA 6020B	605104
92526014001	T2-1HT	SM 2320B-2011	605162		
92526014002	T2-2HT	SM 2320B-2011	605162		
92526014003	T2-2HTS	SM 2320B-2011	605162		
92526014004	T2-2LT	SM 2320B-2011	605162		
92526014005	T2-3HT	SM 2320B-2011	605162		
92526014006	T2-3HTS	SM 2320B-2011	605162		
92526014007	T2-3LT	SM 2320B-2011	605458		
92526014008	T2-4HT	SM 2320B-2011	605458		
92526014009	T2-4HTS	SM 2320B-2011	605458		
92526014010	T2-4LT	SM 2320B-2011	605458		
92526014011	T3-1HT	SM 2320B-2011	605458		
92526014012	T3-2HT	SM 2320B-2011	605458		
92526014013	T3-2HTS	SM 2320B-2011	605458		
92526014014	T3-2LT	SM 2320B-2011	605458		
92526014015	T3-3HT	SM 2320B-2011	605458		
92526014016	T3-3HTS	SM 2320B-2011	605458		
92526014017	T3-3LT	SM 2320B-2011	605458		
92526014018	T3-4HT	SM 2320B-2011	605458		
92526014019	T3-4HTS	SM 2320B-2011	605458		
92526014020	T3-4LT	SM 2320B-2011	605458		
92526014021	T4-1HB	SM 2320B-2011	605458		
92526014022	T4-1HS	SM 2320B-2011	605458		
92526014023	T4-1L	SM 2320B-2011	605458		
92526014024	T4-2HB	SM 2320B-2011	605458		
92526014025	T4-2HS	SM 2320B-2011	605458		
92526014026	T4-2L	SM 2320B-2011	605458		
92526014027	T4-3HB	SM 2320B-2011	605843		
92526014028	T4-3HS	SM 2320B-2011	605843		
92526014029	T4-3L	SM 2320B-2011	605843		
92526014030	T4-4HB	SM 2320B-2011	605843		
92526014031	T4-4HS	SM 2320B-2011	605843		
92526014032	T4-4L	SM 2320B-2011	605843		
92526014033	BG-1LT	SM 2320B-2011	605843		
92526014034	BG-2HT	SM 2320B-2011	605843		
92526014035	DUP-3	SM 2320B-2011	605843		
92526014036	DUP-4	SM 2320B-2011	605843		
92526014037	DUP-5	SM 2320B-2011	605843		
92526014038	FB-1	SM 2320B-2011	605843		
92526014039	EB-1	SM 2320B-2011	605843		
92526014040	T1-1HT	SM 2320B-2011	605843		
92526014041	T1-1LT	SM 2320B-2011	605843		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING
Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014042	T1-2HT	SM 2320B-2011	605843		
92526014043	T1-2HTS	SM 2320B-2011	605843		
92526014044	T1-2LT	SM 2320B-2011	605843		
92526014045	T1-3HT	SM 2320B-2011	605843		
92526014046	T1-3HTS	SM 2320B-2011	605845		
92526014047	T1-3LT	SM 2320B-2011	605845		
92526014048	T1-4HT	SM 2320B-2011	605845		
92526014049	T1-4HTS	SM 2320B-2011	605845		
92526014050	T1-4LT	SM 2320B-2011	605845		
92526014051	DUP-1	SM 2320B-2011	605845		
92526014052	DUP-2	SM 2320B-2011	605845		
92526014001	T2-1HT	SM 2540C-2011	605032		
92526014002	T2-2HT	SM 2540C-2011	605032		
92526014003	T2-2HTS	SM 2540C-2011	605032		
92526014004	T2-2LT	SM 2540C-2011	605318		
92526014005	T2-3HT	SM 2540C-2011	605032		
92526014006	T2-3HTS	SM 2540C-2011	605032		
92526014007	T2-3LT	SM 2540C-2011	605318		
92526014008	T2-4HT	SM 2540C-2011	605032		
92526014009	T2-4HTS	SM 2540C-2011	605032		
92526014010	T2-4LT	SM 2540C-2011	605318		
92526014011	T3-1HT	SM 2540C-2011	605032		
92526014012	T3-2HT	SM 2540C-2011	605032		
92526014013	T3-2HTS	SM 2540C-2011	605032		
92526014014	T3-2LT	SM 2540C-2011	605318		
92526014015	T3-3HT	SM 2540C-2011	605032		
92526014016	T3-3HTS	SM 2540C-2011	605032		
92526014017	T3-3LT	SM 2540C-2011	605318		
92526014018	T3-4HT	SM 2540C-2011	605032		
92526014019	T3-4HTS	SM 2540C-2011	605032		
92526014020	T3-4LT	SM 2540C-2011	605318		
92526014021	T4-1HB	SM 2540C-2011	605303		
92526014022	T4-1HS	SM 2540C-2011	605303		
92526014023	T4-1L	SM 2540C-2011	605303		
92526014024	T4-2HB	SM 2540C-2011	605303		
92526014025	T4-2HS	SM 2540C-2011	605303		
92526014026	T4-2L	SM 2540C-2011	605303		
92526014027	T4-3HB	SM 2540C-2011	605303		
92526014028	T4-3HS	SM 2540C-2011	605303		
92526014029	T4-3L	SM 2540C-2011	605303		
92526014030	T4-4HB	SM 2540C-2011	605303		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING
 Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014031	T4-4HS	SM 2540C-2011	605313		
92526014032	T4-4L	SM 2540C-2011	605313		
92526014033	BG-1LT	SM 2540C-2011	605032		
92526014034	BG-2HT	SM 2540C-2011	605313		
92526014035	DUP-3	SM 2540C-2011	605032		
92526014036	DUP-4	SM 2540C-2011	605313		
92526014037	DUP-5	SM 2540C-2011	605313		
92526014038	FB-1	SM 2540C-2011	605318		
92526014039	EB-1	SM 2540C-2011	605318		
92526014040	T1-1HT	SM 2540C-2011	605032		
92526014041	T1-1LT	SM 2540C-2011	605318		
92526014042	T1-2HT	SM 2540C-2011	605032		
92526014043	T1-2HTS	SM 2540C-2011	605032		
92526014044	T1-2LT	SM 2540C-2011	605318		
92526014045	T1-3HT	SM 2540C-2011	605032		
92526014046	T1-3HTS	SM 2540C-2011	605303		
92526014047	T1-3LT	SM 2540C-2011	605318		
92526014048	T1-4HT	SM 2540C-2011	605303		
92526014049	T1-4HTS	SM 2540C-2011	605303		
92526014050	T1-4LT	SM 2540C-2011	605318		
92526014051	DUP-1	SM 2540C-2011	605303		
92526014052	DUP-2	SM 2540C-2011	605303		
92526014001	T2-1HT	EPA 300.0 Rev 2.1 1993	604770		
92526014002	T2-2HT	EPA 300.0 Rev 2.1 1993	604770		
92526014003	T2-2HTS	EPA 300.0 Rev 2.1 1993	604770		
92526014004	T2-2LT	EPA 300.0 Rev 2.1 1993	604770		
92526014005	T2-3HT	EPA 300.0 Rev 2.1 1993	604770		
92526014006	T2-3HTS	EPA 300.0 Rev 2.1 1993	604770		
92526014007	T2-3LT	EPA 300.0 Rev 2.1 1993	604770		
92526014008	T2-4HT	EPA 300.0 Rev 2.1 1993	604770		
92526014009	T2-4HTS	EPA 300.0 Rev 2.1 1993	604770		
92526014010	T2-4LT	EPA 300.0 Rev 2.1 1993	604770		
92526014011	T3-1HT	EPA 300.0 Rev 2.1 1993	604770		
92526014012	T3-2HT	EPA 300.0 Rev 2.1 1993	604770		
92526014013	T3-2HTS	EPA 300.0 Rev 2.1 1993	604770		
92526014014	T3-2LT	EPA 300.0 Rev 2.1 1993	604770		
92526014015	T3-3HT	EPA 300.0 Rev 2.1 1993	604770		
92526014016	T3-3HTS	EPA 300.0 Rev 2.1 1993	604770		
92526014017	T3-3LT	EPA 300.0 Rev 2.1 1993	604770		
92526014018	T3-4HT	EPA 300.0 Rev 2.1 1993	604770		
92526014019	T3-4HTS	EPA 300.0 Rev 2.1 1993	604770		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS SURFACE WATER SAMPLING
Pace Project No.: 92526014

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92526014020	T3-4LT	EPA 300.0 Rev 2.1 1993	604770		
92526014021	T4-1HB	EPA 300.0 Rev 2.1 1993	604771		
92526014022	T4-1HS	EPA 300.0 Rev 2.1 1993	604771		
92526014023	T4-1L	EPA 300.0 Rev 2.1 1993	604771		
92526014024	T4-2HB	EPA 300.0 Rev 2.1 1993	604771		
92526014025	T4-2HS	EPA 300.0 Rev 2.1 1993	604771		
92526014026	T4-2L	EPA 300.0 Rev 2.1 1993	604771		
92526014027	T4-3HB	EPA 300.0 Rev 2.1 1993	604771		
92526014028	T4-3HS	EPA 300.0 Rev 2.1 1993	604771		
92526014029	T4-3L	EPA 300.0 Rev 2.1 1993	604771		
92526014030	T4-4HB	EPA 300.0 Rev 2.1 1993	604771		
92526014031	T4-4HS	EPA 300.0 Rev 2.1 1993	604771		
92526014032	T4-4L	EPA 300.0 Rev 2.1 1993	604771		
92526014033	BG-1LT	EPA 300.0 Rev 2.1 1993	604771		
92526014034	BG-2HT	EPA 300.0 Rev 2.1 1993	604771		
92526014035	DUP-3	EPA 300.0 Rev 2.1 1993	604771		
92526014036	DUP-4	EPA 300.0 Rev 2.1 1993	604771		
92526014037	DUP-5	EPA 300.0 Rev 2.1 1993	604771		
92526014038	FB-1	EPA 300.0 Rev 2.1 1993	604771		
92526014039	EB-1	EPA 300.0 Rev 2.1 1993	604771		
92526014040	T1-1HT	EPA 300.0 Rev 2.1 1993	604772		
92526014041	T1-1LT	EPA 300.0 Rev 2.1 1993	604772		
92526014042	T1-2HT	EPA 300.0 Rev 2.1 1993	604772		
92526014043	T1-2HTS	EPA 300.0 Rev 2.1 1993	604772		
92526014044	T1-2LT	EPA 300.0 Rev 2.1 1993	604772		
92526014045	T1-3HT	EPA 300.0 Rev 2.1 1993	604772		
92526014046	T1-3HTS	EPA 300.0 Rev 2.1 1993	604772		
92526014047	T1-3LT	EPA 300.0 Rev 2.1 1993	604772		
92526014048	T1-4HT	EPA 300.0 Rev 2.1 1993	604772		
92526014049	T1-4HTS	EPA 300.0 Rev 2.1 1993	604772		
92526014050	T1-4LT	EPA 300.0 Rev 2.1 1993	604772		
92526014051	DUP-1	EPA 300.0 Rev 2.1 1993	604772		
92526014052	DUP-2	EPA 300.0 Rev 2.1 1993	604772		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt
 Client Name: Georgia Power Project #:

Courier: Commercial Fed Ex UPS USPS Other _____ Client

Date/Initial Person Examining Contents: 11/3/12

Custody Seal Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other _____

Biological Tissue Frozen? Yes No N/A

Thermometer: N/A ID: 937071 Type of Ice: Dry Blue None

Cooler Temp: 3.4/3.6 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 3.4/3.6

USDA Regulated Soil (N/A, water sample)

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Missing Samples: on coc 1 of 5 TI-1HT than TI-4LT
on coc 4 of 5 Dupl, DVP-2

Missing Samples @rived Saturday Lot ID of split containers: _____

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____



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

Project 1

WO# : 92526014

PR: KLH1

Due Date: 03/12/21

CLIENT: GA-GA Power

Exceptions: YOA, Coliform, TOC, Oil and Grease, DRG/SDS (water) DOC, ILM

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

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #
BP10-125 ml, Plastic Unpreserved (N/A) (C-1)						
BP10-200 ml, Plastic Unpreserved (N/A)						
BP10-600 ml, Plastic Unpreserved (N/A)						
BP10-1 liter Plastic Unpreserved (N/A)						
BP10-125 ml, Plastic HClO4 (pH < 2) (C-1)						
BP10-200 ml, Plastic HClO4 (pH < 2)						
BP10-125 ml, Plastic 2% Acetone & NaOH (pH)						
BP10-125 ml, Plastic NaOH (pH > 12) (C-1)						
W014-W06-Insulated Glass jar Unpreserved						
AG10-1 liter Amber Unpreserved (N/A) (C-1)						
AG10-1 liter Amber 10 (pH < 2)						
AG10-250 ml, Amber Unpreserved (N/A) (C-1)						
AG10-1 liter Amber HClO4 (pH < 2)						
AG10-250 ml, Amber HClO4 (pH < 2)						
AG10(200)200-250 ml, Amber NaOH (pH > 12) (C-1)						
DO10-40 ml, VOA 40 (N/A)						
V010-40 ml, VOA NaOH10 (N/A)						
V010-40 ml, VOA 40 (N/A)						
DO10-40 ml, VOA 10/1004 (N/A)						
V010 (5 vials per NaOH/100) (N/A)						
V010 (3 vials per NaOH/100) (N/A)						
BP10-125 ml, Borate Plastic (N/A - 10)						
BP10-200 ml, Borate Plastic (N/A - 10)						
BP10-100 ml, Plastic preservative (2.3-6.7)						
AG10-100 ml, Amber Unpreserved vials (N/A)						
V010-20 ml, Filtration vials (N/A)						
DO10-40 ml, Amber Unpreserved vials (N/A)						

MUS-2109

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 2019B Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)



Document Name:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAR-CS-019-Rev-07

Document Revised October 28, 2009
 Page 2 of 2
 Issuing Authority:
 North Carolina 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, ORG/BSO (water) DOC, UTM

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

Project #

WO#: 92526014

PR: KLH1

Due Date: 03/12/21

CLIENT: GA-GA Power

Bottle	Bottle	1	2	3	4	5	6	7	8	9	10	11	12
BP40-120 ml, Plastic, Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, 0.025N (pH = 2) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, 0.025N (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, 2N Acetate & NaOH (pH)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, NaOH (pH = 12) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BR40-1200-should Glass jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
AB40-1 liter Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD40-1 liter Amber 102 (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD40-120 ml, Amber, Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AD40-1 liter Amber 10204 (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD40-120 ml, Amber 10204 (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD40-00804/120 ml, Amber 10802 (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
DB40-40 ml, VOA 102 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA 102/120 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA 120 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DB40-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
BP40-120 ml, Plastic, 0.025N (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
AD40-120 ml, Amber Unpreserved v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
V407-40 ml, VOA v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DB40-40 ml, Amber Unpreserved v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
DB40-40 ml, Amber Unpreserved v407a (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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

Project #

W0# : 92526014

PH: KLH1 Due Date: 03/12/21
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, DMG/8023 (water) DOC, LUPG

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

Bottle	Description	Verified
1	BPH0-125 ml, Plastic Unpreserved (N/A) (2)	
2	BPH0-250 ml, Plastic Unpreserved (N/A)	
3	BPH0-500 ml, Plastic Unpreserved (N/A)	
4	BPL1-1 liter Plastic Unpreserved (N/A)	
5	BPH0-125 ml, Plastic H2SO4 (pH < 2) (2)	
6	BPH0-125 ml, Plastic HNO3 (pH < 2)	
7	BPH0-125 ml, Plastic 2N Acetate & NaOH (pH)	
8	BPH0-125 ml, Plastic HClO ₄ (pH < 12) (2)	
9	Wetpacks - maintain close for Unpreserved	
10	AD20-1 liter Amber Unpreserved (N/A) (2)	
11	AD20-1 liter Amber NO ₂ (pH < 2)	
12	AD10-250 ml, Amber Unpreserved (N/A) (2)	
13	AD10-1 liter Amber H2SO4 (pH < 2)	
14	AD10-250 ml, Amber HNO3 (pH < 2)	
15	AD10-250 ml, Amber HClO ₄ (pH < 2)	
16	AD10-250 ml, Amber HCl (N/A) (2)	
17	AD10-250 ml, VOA HCl (pH)	
18	VOH0-60 ml, VOA H2O2 (N/A)	
19	VOH0-60 ml, VOA Cl ₂ (pH)	
20	VOH0-60 ml, VOA H2PO4 (N/A)	
21	VOH0-60 ml, VOA H2PO4 (N/A)	
22	VOH0-60 ml, VOA H2PO4 (N/A)	
23	VOH0-60 ml, VOA H2PO4 (N/A)	
24	VOH0-60 ml, VOA H2PO4 (N/A)	
25	VOH0-60 ml, VOA H2PO4 (N/A)	
26	VOH0-60 ml, VOA H2PO4 (N/A)	
27	VOH0-60 ml, VOA H2PO4 (N/A)	
28	VOH0-60 ml, VOA H2PO4 (N/A)	
29	VOH0-60 ml, VOA H2PO4 (N/A)	
30	VOH0-60 ml, VOA H2PO4 (N/A)	
31	VOH0-60 ml, VOA H2PO4 (N/A)	
32	VOH0-60 ml, VOA H2PO4 (N/A)	
33	VOH0-60 ml, VOA H2PO4 (N/A)	
34	VOH0-60 ml, VOA H2PO4 (N/A)	
35	VOH0-60 ml, VOA H2PO4 (N/A)	
36	VOH0-60 ml, VOA H2PO4 (N/A)	
37	VOH0-60 ml, VOA H2PO4 (N/A)	
38	VOH0-60 ml, VOA H2PO4 (N/A)	
39	VOH0-60 ml, VOA H2PO4 (N/A)	
40	VOH0-60 ml, VOA H2PO4 (N/A)	

pH Adjustment Log for Preserved Samples						
Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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

*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, DRUGS (water), DOC, Lith

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

Project #

WO# : 92526014

PR: KLH1

Due Date: 03/12/21

CLIENT: GA-GA Power

Sample	Description	1	2	3	4	5	6	7	8	9	10	11	12
BPA4-120 ml, Plastic, Unpreserved (P/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BPA5-200 ml, Plastic, Unpreserved (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
BPA6-200 ml, Plastic, Unpreserved (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
BPA11-1 liter Plastic, Unpreserved (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
BPA8-120 ml, Plastic, untested (pH = 2) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BPA9-200 ml, Plastic, untested (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
BPA2-120 ml, Plastic, 2M Acetate & NaOH (pH)		/	/	/	/	/	/	/	/	/	/	/	/
BPA3-120 ml, Plastic, NaOH (pH = 10) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
W000-10-100-meshed Glass Jar, Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
A0100-1 liter Amber Unpreserved (P/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
A0100-1 liter Amber HD (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
A020-120 ml, Amber, Unpreserved (P/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
A015-1 liter Amber 02004 (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
A0100-120 ml, Amber 02004 (pH = 2)		/	/	/	/	/	/	/	/	/	/	/	/
A0300000M-200 ml, Amber 0000 (P/A)(D-)		/	/	/	/	/	/	/	/	/	/	/	/
B000-40 ml, VOA HD (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
W000-40 ml, VOA 000000 (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
W000-40 ml, VOA 000 (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
B000-40 ml, VOA 00004 (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
V000-10 vials and 100-0000 (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
V000-10 vials per 100-0000 (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
W000-120 ml, Borate Plastic (P/A) - 100		/	/	/	/	/	/	/	/	/	/	/	/
BPA2-120 ml, Borate Plastic (P/A) - 100		/	/	/	/	/	/	/	/	/	/	/	/
BPA4-120 ml, Plastic, untested (pH = 6-7)		/	/	/	/	/	/	/	/	/	/	/	/
A0100-120 ml, Amber Unpreserved vials (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
V0000-10 ml, Boronated vials (P/A)		/	/	/	/	/	/	/	/	/	/	/	/
B000-40 ml, Amber Unpreserved vials (P/A)		/	/	/	/	/	/	/	/	/	/	/	/

Handwritten notes: 10/21/21, #10-100, #11-100, #12-100

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 District Certification Office (i.e. Out of field, 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, DBO/DO25 (water) DOC, NHg

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

Project #

W0# : 92526014

PR: KLH1

Due Date: 03/12/21

CLIENT: GR-GR Power

Row #	Sample ID	Preservative	1	2	3	4	5	6	7	8	9	10	11	12
1	BP40-125 ml, Plastic Unpreserved (N/A) (2)		/	/	/	/	/	/	/	/	/	/	/	/
2	BP40-125 ml, Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
3	BP50-125 ml, Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
4	BP125-1 liter Plastic Unpreserved (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
5	BP40-125 ml, Plastic w/2004 (pH + DO) (2)		/	/	/	/	/	/	/	/	/	/	/	/
6	BP125-125 ml, plastic w/2004 (pH + 2)		/	/	/	/	/	/	/	/	/	/	/	/
7	BP40-125 ml, Plastic 20 Amps & 1000 (pH)		/	/	/	/	/	/	/	/	/	/	/	/
8	BP40-125 ml, Plastic w/2004 (pH + 2) (2)		/	/	/	/	/	/	/	/	/	/	/	/
9	BP125-125 ml, plastic (pH for Unpreserved)		/	/	/	/	/	/	/	/	/	/	/	/
10	AG125-1 liter Amber Unpreserved (N/A) (2)		/	/	/	/	/	/	/	/	/	/	/	/
11	AG125-1 liter Amber (2) (pH + 2)		/	/	/	/	/	/	/	/	/	/	/	/
12	AG125-125 ml, Amber Unpreserved (N/A) (2)		/	/	/	/	/	/	/	/	/	/	/	/
13	AG125-125 ml, Amber w/2004 (pH + 2)		/	/	/	/	/	/	/	/	/	/	/	/
14	AG125-125 ml, Amber w/2004 (pH + 2)		/	/	/	/	/	/	/	/	/	/	/	/
15	AG125-125 ml, Amber w/2004 (N/A) (2)		/	/	/	/	/	/	/	/	/	/	/	/
16	DO40-40 ml, VOA (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
17	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
18	VO40-40 ml, VOA (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
19	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
20	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
21	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
22	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
23	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
24	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
25	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
26	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
27	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
28	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
29	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
30	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
31	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
32	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
33	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
34	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
35	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
36	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
37	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
38	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
39	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
40	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
41	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
42	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
43	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
44	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
45	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
46	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
47	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
48	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
49	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
50	VO40-40 ml, VOA w/2004 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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



CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 5

Section I Requester Information Requester Name: <u>George Ayer</u> Requester Title: <u>1001 Environmental Director</u> Requester Phone: <u>916-259-3434</u> Requester Email: <u>george.ayer@ucdavis.edu</u> Requester Address: <u>1001 Environmental Center</u> Requester City: <u>Davis</u> Requester State: <u>CA</u> Requester Zip: <u>95616</u>	Section II Requested Project Information Project Title: <u>Amesbury, Stephen, Wilson</u> City: <u>San Francisco</u> State: <u>CA</u> Project Number: <u>1001 Environmental Center</u> Request Date: <u>4/8/15</u>
Section III Sample Information Sample ID: <u>T1-1HT</u> Sample Description: <u>1001 Environmental Center</u> Sample Location: <u>1001 Environmental Center</u> Sample Date: <u>4/8/15</u>	Section IV Analytical Request Information Analytical Method: <u>Asbestos</u> Analytical Laboratory: <u>UCDAS</u> Analytical Reference: <u>UCDAS</u> Analytical Standard: <u>UCDAS</u> Analytical Instrument: <u>UCDAS</u> Analytical Software: <u>UCDAS</u> Analytical Personnel: <u>UCDAS</u> Analytical Date: <u>4/8/15</u>

Sample ID	Sample Description	Sample Location	Sample Date	Collection		Sample Weight (g)	# of Containers	Preservation							Analysis Test	Y/N	Requested Analysis Interval (Yr)	Requester Signature
				Room	Box			Refrigerated	Freeze	Dark	Light	Moisture	Other	Asbestos					Asbestos P. 804	TOC
T1-1HT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.35	
T1-1LT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.35	
T1-2HT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.36	
T1-2HTS	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.47	
T1-2LT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.34	
T1-3HT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.36	
T1-3HTS	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.42	
T1-3LT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.34	
T1-4HT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.33	
T1-4HTS	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.43	
T1-4LT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.30	
T2-1HT	1001 Environmental Center	1001 Environmental Center	4/8/15	1001	1001	1001	1	Refrigerated	Freeze	Dark	Light	Moisture	Other	X	X	X	PH: 7.43	

Additional Comments: <u>None</u>	Date of Collection: <u>4/8/15</u>	Date of Analysis: <u>4/8/15</u>	Date of Report: <u>3/11/15</u>	Requester Signature: <u>George Ayer</u>	Analyst Signature: <u>[Signature]</u>
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Laboratory Name and Address: <u>UCDAS</u>	Print Name of Collector: <u>[Signature]</u>
Print Name of Requester: <u>George Ayer</u>	Date Request: <u>3/11/15</u>



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Section 1 Client Information	Section 2 Requester Information	Section 3 Sample Information
Client Name: [Blank] Client Address: [Blank] Client Phone: [Blank] Client Email: [Blank] Client Website: [Blank] Client Logo: [Blank]	Requester Name: [Blank] Requester Title: [Blank] Requester Organization: [Blank] Requester Address: [Blank] Requester Phone: [Blank] Requester Email: [Blank]	Request No: [Blank] Request Date: [Blank] Request Status: [Blank] Request Location: [Blank]

SAMPLE ID	Date Collected	Time Collected	Location	Preparations						Analysis Test	Y/N	Result	Result Units (Y/N)	
				Grinding	Boiling	Grinding	Boiling	Grinding	Boiling					
T2-2HT	11/15	10:35	[Blank]								X	X	X	pH: 7.36
T2-2HTS	11/15	10:35	[Blank]								X	X	X	pH: 7.35
T2-2LT	11/17	11:17	[Blank]								X	X	X	pH: 7.31
T2-3HT	11/19	12:40	[Blank]								X	X	X	pH: 7.31
T2-3HTS	11/19	12:40	[Blank]								X	X	X	pH: 7.44
T2-3LT	11/19	11:11	[Blank]								X	X	X	pH: 7.34
T2-4HT	11/19	11:30	[Blank]								X	X	X	pH: 7.34
T2-4HTS	11/19	11:30	[Blank]								X	X	X	pH: 7.44
T2-4LT	11/19	10:28	[Blank]								X	X	X	pH: 7.36
T3-1HT	11/19	11:05	[Blank]								X	X	X	pH: 7.24
T3-2HT	11/19	11:25	[Blank]								X	X	X	pH: 7.25
T3-2HTS	11/19	11:12	[Blank]								X	X	X	pH: 7.25

Client Name	Client Address	Client Phone	Client Email	Client Website	Client Logo	Requester Name	Requester Title	Requester Organization	Requester Address	Requester Phone	Requester Email
Winn-Landor-Schuy	Winn-Landor/Rochester	716/221-4615	[Blank]	[Blank]	[Blank]	Erin K	Senior Analyst	[Blank]	[Blank]	[Blank]	[Blank]

Number of Samples	Number of Containers	Number of Samples per Container	Number of Containers per Sample	Number of Samples per Container	Number of Containers per Sample	Number of Samples per Container	Number of Containers per Sample
1	1	1	1	1	1	1	1

Date Collected: 11/15
 Date Requested: 11/15
 Date Received: 11/15
 Date Analyzed: 11/21



CHAIN-OF-CUSTODY / Analytical Request Document
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Page: **3** of **5**

Request Information Requester: <u>William J. Scarpino, NJDOJ</u> Request Date: <u>3/14/11</u> Requester Title: <u>Assistant Attorney General</u> Requester Address: <u>1000 State Street, Newark, NJ 07102</u> Requester Phone: <u>973-265-6546</u> Requester Email: <u>scarpino@doj.state.nj.us</u>		Sample Information Sample ID: <u>31411</u> Sample Description: <u>Will Scarpino / Richards</u> Sample Location: <u>Fence</u> Sample Date: <u>3/14/11</u> Sample Time: <u>1615</u> Sample Quantity: <u>36g</u> Sample Container: <u>1115</u> Sample Weight: <u>36g</u> Sample Volume: <u>g</u> Sample Temperature: <u>g</u>	
Requester Signature Requester Signature: <u>[Signature]</u> Requester Title: <u>Assistant Attorney General</u> Requester Address: <u>1000 State Street, Newark, NJ 07102</u> Requester Phone: <u>973-265-6546</u> Requester Email: <u>scarpino@doj.state.nj.us</u>		Requester Agency Requester Agency: <u>State of New Jersey</u> Requester Address: <u>1000 State Street, Newark, NJ 07102</u> Requester Phone: <u>973-265-6546</u> Requester Email: <u>scarpino@doj.state.nj.us</u>	

SAMPLE ID	Date Collected	Time Collected	Collector	Sample Temp at Collection	# of Containers		Preservatives							Analysis Test	Y/N	Requester Approval/Prepared (Y/N)	Date/Time Requested
					Unpreserved	Preserved	MSM	MSM	MSM	MSM	MSM	MSM	MSM				
T3-2LT	3/14/11	1615	WJS		3	2	1										PH: 7.24
T3-3HT	3/14/11	1645	WJS		5	2	1										PH: 7.32
T3-3METS	3/14/11	1638	WJS		5	2	1										PH: 7.31
T3-3LT	3/14/11	1644	WJS		3	2	1										PH: 7.25
T3-4HT	3/14/11	1658	WJS		3	2	1										PH: 7.35
T3-4METS	3/14/11	1651	WJS		5	2	1										PH: 7.45
T3-4LT	3/14/11	1639	WJS		3	2	1										PH: 7.53
T4-1HTB	3/14/11	1634	WJS		3	2	1										PH: 7.42
T4-1HS	3/14/11	1624	WJS		3	2	1										PH: 7.57
T4-1L	3/14/11	1613	WJS		3	2	1										PH: 7.49
T4-2HB	3/14/11	1636	WJS		1	2	1										PH: 7.48
T4-2HS	3/14/11	1651	WJS		3	2	1										PH: 7.52

Requester Signature	Requester Title	Requester Address	Requester Phone	Requester Email	Requester Agency	Requester Address	Requester Phone	Requester Email
<u>[Signature]</u>	<u>Assistant Attorney General</u>	<u>1000 State Street, Newark, NJ 07102</u>	<u>973-265-6546</u>	<u>scarpino@doj.state.nj.us</u>	<u>State of New Jersey</u>	<u>1000 State Street, Newark, NJ 07102</u>	<u>973-265-6546</u>	<u>scarpino@doj.state.nj.us</u>

Requester Signature <u>[Signature]</u> Requester Title <u>Assistant Attorney General</u> Requester Address <u>1000 State Street, Newark, NJ 07102</u> Requester Phone <u>973-265-6546</u> Requester Email <u>scarpino@doj.state.nj.us</u>	Requester Agency <u>State of New Jersey</u> Requester Address <u>1000 State Street, Newark, NJ 07102</u> Requester Phone <u>973-265-6546</u> Requester Email <u>scarpino@doj.state.nj.us</u>
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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.

Client Information		Request Information		Sample Information	
Client Name	Request To	Request From	Request Date	Sample Name	Sample ID
1400 Performance Parkway	For	1400 Performance Parkway	11/11/2014	1400 Performance Parkway	111-205-0246
Atlanta, GA 30328	City	Atlanta, GA 30328	City	Atlanta, GA 30328	City
Request Date	Request Time	Request Location	Request Method	Requester Name	Requester Title
11/11/2014	11:00 AM	1400 Performance Parkway	111-205-0246	111-205-0246	111-205-0246

SAMPLE ID	ANALYSIS CODE	ANALYSIS NAME	COLLECTION		ANALYSIS METHOD	ANALYSIS DATE	ANALYST	LABORATORY	ANALYSIS TYPE	ANALYSIS RESULT	ANALYSIS UNIT	ANALYSIS RANGE	ANALYSIS TOLERANCE	ANALYSIS COMMENTS
			START	END										
T4-2L			11/11/14	06:54		3/2	1							
T4-3H8			11/11/14	08:15		3/2	1							
T4-3H5			11/11/14	10:06		3/2	1							
T4-3L			11/11/14	09:41		3/2	1							
T4-4H8			11/11/14	13:37		3/2	1							
T4-4H5			11/11/14	09:30		3/2	1							
T4-4L			11/11/14	09:29		3/2	1							
B6-16T			11/11/14	09:06		3/2	1							
B6-2HT			11/11/14	10:15		3/2	1							
DUP-1			11/11/14	-		3/2	1							
DUP-2			11/11/14	-		3/2	1							
DUP-3			11/11/14	-		3/2	1							

ADDITIONAL COMMENTS	ANALYSIS DATE	ANALYST	LABORATORY	ANALYSIS TYPE	ANALYSIS RESULT	ANALYSIS UNIT	ANALYSIS RANGE	ANALYSIS TOLERANCE	ANALYSIS COMMENTS
Will be back in 10/11/14	11/11/14	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246
FAUX	11/11/14	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246	111-205-0246



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

Page: **5** of **5**

Section 1: Client Information

Client Name: WILL LEATHER PRODUCTS
 Client Address: 1015 S. 10th St., Phoenix, AZ 85018
 Client Phone: 602-233-0000

Section 2: Sample Information

Project Name: WILL LEATHER PRODUCTS - SALES
 Project Address: 1015 S. 10th St., Phoenix, AZ 85018
 Project Phone: 602-233-0000

Section 3: Sample Description

Product Name: Will Leather Products
 Product Code: Will Leather Products
 Product Weight: 3.6g
 Product Volume: 10.15
 Date Collected: 3/14/21

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	LOCATION	ANALYSIS TEST	Y/N	ANALYSIS TEST		REMARKS
						DATE	TIME	
01P-4	3/14/21	8:15	Will Leather Products	Miner	X	X		
01P-5	3/14/21	8:15	Will Leather Products	Miner, P. 501	X	X		
6B-1	3/14/21	8:17	Will Leather Products	Miner	X	X		

Section 4: Laboratory Information

Client Name: WILL LEATHER PRODUCTS
 Client Address: 1015 S. 10th St., Phoenix, AZ 85018
 Client Phone: 602-233-0000

Section 5: Laboratory Analysis Request Form

Product Name: Will Leather Products
 Product Code: Will Leather Products
 Product Weight: 3.6g
 Product Volume: 10.15
 Date Collected: 3/14/21

Section 6: Laboratory Analysis Request Form

Product Name: Will Leather Products
 Product Code: Will Leather Products
 Product Weight: 3.6g
 Product Volume: 10.15
 Date Collected: 3/14/21

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728541

Created 10/27/2020

Sensor

Sensor RDO

Serial Number 728741

Last Calibrated 10/27/2020

Calibration Details

Slope 1.116487

Offset 0.00 mg/L

Calibration point 100%

Concentration 7.96 mg/L

Temperature 21.29 °C

Barometric Pressure 1,022.3 mbar

Sensor

Sensor Conductivity

Serial Number 728541

Last Calibrated 10/27/2020

Calibration Details

Cell Constant 1.006

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724053
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20773
Last Calibrated	10/27/2020

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	149.2 mV
Temperature	21.59 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-23.2 mV
Temperature	21.76 °C

Calibration Point 3

pH of Buffer	10.04 pH
pH mV	-195.4 mV
Temperature	21.95 °C

Slope and Offset 1

Slope	-57.09 mV/pH
Offset	-22.1 mV

Slope and Offset 2

Slope -57.02 mV/pH

Offset -22.1 mV

ORP

ORP Solution ORP Standard

Offset 19.6 mV

Temperature 22.04 °C

Calibration Report

Instrument Aqua TROLL 400
Serial Number 728541
Created 10/28/2020

Sensor

Sensor RDO
Serial Number 728741
Last Calibrated 10/28/2020

Calibration Details

Slope 1.074746
Offset 0.00 mg/L

Calibration point 100%

Concentration 8.01 mg/L
Temperature 23.18 °C
Barometric Pressure 1,020.3 mbar

Sensor

Sensor Conductivity
Serial Number 728541
Last Calibrated 10/28/2020

Calibration Details

Cell Constant 0.976
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724053
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20773
Last Calibrated	10/28/2020

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	147.8 mV
Temperature	23.25 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-22.3 mV
Temperature	23.34 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-196.0 mV
Temperature	23.48 °C

Slope and Offset 1

Slope	-56.7 mV/pH
Offset	-22.3 mV

Slope and Offset 2

Slope -57.88 mV/pH

Offset -22.3 mV

ORP

ORP Solution ZoBell's

Offset 26.5 mV

Temperature 23.52 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728541

Created 10/29/2020

Sensor

Sensor RDO

Serial Number 728741

Last Calibrated 10/29/2020

Calibration Details

Slope 1.062115

Offset 0.00 mg/L

Calibration point 100%

Concentration 7.73 mg/L

Temperature 24.98 °C

Barometric Pressure 1,012.9 mbar

Sensor

Sensor Conductivity

Serial Number 728541

Last Calibrated 10/29/2020

Calibration Details

Cell Constant 0.97

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724053
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20773
Last Calibrated	10/29/2020

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	147.5 mV
Temperature	24.96 °C

Calibration Point 2

pH of Buffer	7.00 pH
pH mV	-25.3 mV
Temperature	25.03 °C

Calibration Point 3

pH of Buffer	10.00 pH
pH mV	-198.2 mV
Temperature	25.08 °C

Slope and Offset 1

Slope	-57.61 mV/pH
Offset	-25.3 mV

Slope and Offset 2

Slope -57.62 mV/pH

Offset -25.3 mV

ORP

ORP Solution ORP Standard

Offset 26.6 mV

Temperature 24.98 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728623

Created 11/17/2020

Sensor

Sensor RDO

Serial Number 728756

Last Calibrated 11/17/2020

Calibration Details

Slope 1.095729

Offset 0.00 mg/L

Calibration point 100%

Concentration 9.61 mg/L

Temperature 13.01 °C

Barometric Pressure 1,028.0 mbar

Sensor

Sensor Conductivity

Serial Number 728623

Last Calibrated 11/17/2020

Calibration Details

Cell Constant 1.027

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724054
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20794
Last Calibrated	11/17/2020

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	160.0 mV
Temperature	13.14 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-7.9 mV
Temperature	13.28 °C

Calibration Point 3

pH of Buffer	10.08 pH
pH mV	-178.1 mV
Temperature	13.38 °C

Slope and Offset 1

Slope	-54.85 mV/pH
Offset	-4.6 mV

Slope and Offset 2

Slope -56.36 mV/pH

Offset -4.5 mV

ORP

ORP Solution ORP Standard

Offset -13.2 mV

Temperature 13.18 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 728623

Created 11/18/2020

Sensor

Sensor RDO

Serial Number 728756

Last Calibrated 11/18/2020

Calibration Details

Slope 1.096033

Offset 0.00 mg/L

Calibration point 100%

Concentration 10.28 mg/L

Temperature 10.92 °C

Barometric Pressure 1,032.8 mbar

Sensor

Sensor Conductivity

Serial Number 728623

Last Calibrated 11/18/2020

Calibration Details

Cell Constant 0.988

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	724054
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	20794
Last Calibrated	11/18/2020

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	157.8 mV
Temperature	10.30 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-9.3 mV
Temperature	10.11 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-179.4 mV
Temperature	9.87 °C

Slope and Offset 1

Slope	-54.61 mV/pH
Offset	-6.1 mV

Slope and Offset 2

Slope -55.57 mV/pH

Offset -6.0 mV

ORP

ORP Solution ORP Standard

Offset -14.6 mV

Temperature 9.78 °C

Calibration Report

Instrument Aqua TROLL 400

Serial Number 789301

Created 3/2/2021

Sensor

Sensor RDO

Serial Number 789986

Last Calibrated 3/2/2021

Calibration Details

Slope 0.9541676

Offset 0.00 mg/L

Calibration point 100%

Concentration 10.24 mg/L

Temperature 16.47 °C

Barometric Pressure 1,021.3 mbar

Sensor

Sensor Conductivity

Serial Number 789301

Last Calibrated 3/2/2021

Calibration Details

Cell Constant 0.857

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787061
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21177
Last Calibrated	3/2/2021

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	169.2 mV
Temperature	16.71 °C

Calibration Point 2

pH of Buffer	7.02 pH
pH mV	-2.2 mV
Temperature	17.10 °C

Calibration Point 3

pH of Buffer	10.08 pH
pH mV	-172.9 mV
Temperature	16.81 °C

Slope and Offset 1

Slope	-56.74 mV/pH
Offset	-1.1 mV

Slope and Offset 2

Slope -55.78 mV/pH

Offset -1.1 mV

ORP

ORP Solution ORP Standard

Offset -14.6 mV

Temperature 17.01 °C

Calibration 01/15/20 Location Lab 201 Date 3/2/20 Operator J. NG Revision 1.00
 Instrument TR 130 Manufacturer DeMatic 7.006 or 2007 0718
 Issue March 2020 Name 90/100 Qty 90/100

Calibration Log

	Standard Lot/lot #	Legal Reference	Type of Instrument	Maximum Weight of Capacity	Frequency
g5.00				30.00	
Specific reference plate	20014025 001	10.00g	10.00	30.00g	
10.00	20014025 001	5.00g	1	5.00g	
10.00	20014025 001	1.00g	-	1.00g	
10.00	20014025 001	0.50g	30	10.00g	
10.00	20014025 001	0.10g	300	10.00g	

Instrument	Serial Number	Date of Calibration	Operator	Pass	Frequency
g5.00		3/2/20	J. NG	Pass	
10.00		3/2/20	J. NG	Pass	
10.00		3/2/20	J. NG	Pass	

Instrument	Serial Number	Date of Calibration	Operator	Pass	Frequency
g5.00		3/2/20	J. NG	Pass	
10.00		3/2/20	J. NG	Pass	
10.00		3/2/20	J. NG	Pass	

Calibration Report

Instrument Aqua TROLL 400

Serial Number 789301

Created 3/3/2021

Sensor

Sensor RDO

Serial Number 789986

Last Calibrated 3/3/2021

Calibration Details

Slope 0.9578241

Offset 0.00 mg/L

Calibration point 100%

Concentration 11.42 mg/L

Temperature 11.43 °C

Barometric Pressure 1,015.0 mbar

Sensor

Sensor Conductivity

Serial Number 789301

Last Calibrated 3/3/2021

Calibration Details

Cell Constant 0.995

Reference Temperature 25.00 °C

TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787061
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21177
Last Calibrated	3/3/2021

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	164.9 mV
Temperature	11.43 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-3.6 mV
Temperature	11.48 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-175.1 mV
Temperature	11.52 °C

Slope and Offset 1

Slope	-55.09 mV/pH
Offset	-0.3 mV

Slope and Offset 2

Slope -56.05 mV/pH

Offset -0.3 mV

ORP

ORP Solution ORP Standard

Offset -21.9 mV

Temperature 11.52 °C

Station: Mill Lumber Date: 5/3/21 Time: 7:55 Location: _____
 Sample: 187301 Lab: LaMotte 2020 No: 2021-0320
 Date: March 2021 Sample: Surface Water Temp: 67.96° Cloud: 40% Rain: _____

Calibration Log

Sample	Standard / Sample	Temp (°C)	Temp (°F)	Conductivity (µmhos/cm)
SC 01	[REDACTED]			99.65
Sample 1	20014025 SC1	11.49	52.68	3261.5
Sample 2	20014024 SC1	11.53	52.75	4102
Sample 3	20140050 SC1	11.48	52.66	785
Sample 4	20120140 SC1	11.52	52.74	1318
Sample 5	19467007 SC1	11.51	52.72	295.2

Parameter	Value	Unit	Method	Notes
Flowing 1 MP	0	MP	1 MP	
Turbidity 1 MP	0	MP	1 MP	
Turbidity 1 MP	10.01	MP	1 MP	

Parameter	Value	Unit	Method	Notes
Hardness 1 MP	0	MP	1 MP	
Hardness 1 MP	1	MP	1 MP	
Hardness 1 MP	1	MP	1 MP	

Calibration Report

Instrument Aqua TROLL 400
Serial Number 789301
Created 3/4/2021

Sensor

Sensor RDO
Serial Number 789986
Last Calibrated 3/4/2021

Calibration Details

Slope 0.9449489
Offset 0.00 mg/L

Calibration point 100%

Concentration 11.83 mg/L
Temperature 10.36 °C
Barometric Pressure 1,018.7 mbar

Sensor

Sensor Conductivity
Serial Number 789301
Last Calibrated 3/4/2021

Calibration Details

Cell Constant 1.005
Reference Temperature 25.00 °C
TDS Conversion Factor (ppm) 0.65

Sensor

Sensor	Level
Serial Number	787061
Last Calibrated	Factory Defaults

Sensor

Sensor	pH/ORP
Serial Number	21177
Last Calibrated	3/4/2021

Calibration Details

Total Calibration Points	3
--------------------------	---

Calibration Point 1

pH of Buffer	4.00 pH
pH mV	165.3 mV
Temperature	10.27 °C

Calibration Point 2

pH of Buffer	7.06 pH
pH mV	-2.6 mV
Temperature	10.39 °C

Calibration Point 3

pH of Buffer	10.12 pH
pH mV	-172.1 mV
Temperature	10.48 °C

Slope and Offset 1

Slope	-54.86 mV/pH
Offset	0.7 mV

Slope and Offset 2

Slope -55.39 mV/pH

Offset 0.7 mV

ORP

ORP Solution ORP Standard

Offset -25.9 mV

Temperature 10.45 °C

EQUIPMENT FACILITIES LOG

Location: William Taylor Date: 11/12/17 Report #: 9105 Form #: 0101
 Application: 399401 Equipment: UMatic 2400 Qty: 2000 @ 0.40
 From: March 2015 Surface Water Meter: 717,978 2015

Effluent Log

	Plant/Station / Level / Equipment	Flow / Sample No.	Flow / Sample No.	Flow / Sample No.	Effluent Sample / % Flow	Comments
DO (g)					105.70	
Specific Conductance (µmhos)	21510000	0.01	10.37	448	4007.7	
PH	20010000	0.01	10.27	4	4.86	
ORP (mV)	10000000	0.01	10.39	7	7.04	
PH (2)	10100000	0.01	10.37	10	6.83	
ORP (mV)	10000000	0.01	10.45	109	303.9	

	Value of Parameter	Parameter Description	Parameter Name	Unit	Comments
Effluent (PH)	0.02		PH (PH)	PH	
Effluent (ORP)	0.01		ORP (mV)	mV	
Effluent (DO)	0.02		DO (g)	g	

	Group of Parameters	Name of Parameter	Unit of Measurement	Parameter Range	Unit	Comments
Effluent (PH)		PH		4.70	PH	
Effluent (ORP)		ORP		40.00	mV	
Effluent (DO)		DO		4.00	g	

Location Properties

BG-2HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 17:20:31

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/27/2020 17:20	4.737523	65.19212	90.57545	33969.45	25.87475	33411.23	21.25298	21.7173	29.43822	1.012738	-0.11833	0.363538	7.407243	-45.9221	34.58698	1020.72	28.65
10/27/2020 17:20	4.737523	65.19212	90.57545	33969.45	25.87475	33411.23	21.25298	21.7173	29.43822	1.012738	-0.11833	0.363538	7.407243	-45.9221	34.58698	1020.72	28.65
10/27/2020 17:20	4.737523	65.19212	90.57545	33969.45	25.87475	33411.23	21.25298	21.7173	29.43822	1.012738	-0.11833	0.363538	7.407243	-45.9221	34.58698	1020.72	28.65
10/27/2020 17:20	4.737523	65.19212	90.57545	33969.45	25.87475	33411.23	21.25298	21.7173	29.43822	1.012738	-0.11833	0.363538	7.407243	-45.9221	34.58698	1020.72	28.65
10/27/2020 17:20	4.714027	64.83573	90.08728	33987.25	25.83595	33453.12	21.28199	21.74453	29.4228	1.012771	-0.11077	0.380966	7.402266	-45.6334	32.55797	1020.72	28.63139
10/27/2020 17:20	4.712498	64.81254	90.05551	33988.41	25.83342	33455.85	21.28387	21.7463	29.42179	1.012773	-0.11028	0.3821	7.401942	-45.6146	32.42594	1020.72	28.63017
10/27/2020 17:20	4.710969	64.78935	90.02374	33989.57	25.8309	33458.57	21.28576	21.74807	29.42079	1.012775	-0.10979	0.383234	7.401618	-45.5958	32.29391	1020.72	28.62896
10/27/2020 17:20	4.70944	64.76616	89.99198	33990.73	25.82837	33461.3	21.28765	21.74985	29.41979	1.012777	-0.1093	0.384368	7.401294	-45.5771	32.16188	1020.72	28.62775
10/27/2020 17:20	4.708341	64.70129	89.90751	33951.16	25.82809	33422.53	21.26041	21.72465	29.45408	1.012757	-0.08762	0.434369	7.399001	-45.4392	31.54044	1020.711	28.6218
10/27/2020 17:20	4.707678	64.68906	89.89094	33949.84	25.82707	33421.87	21.25993	21.72421	29.45523	1.012757	-0.08644	0.437089	7.398767	-45.4254	31.45932	1020.711	28.62104
10/27/2020 17:20	4.707015	64.67682	89.87437	33948.51	25.82604	33421.21	21.25946	21.72379	29.45638	1.012757	-0.08526	0.439808	7.398533	-45.4116	31.37821	1020.71	28.62029

Location Properties

T1-1LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 16:38:20

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV	m\ ORP (mV)	Barometric Temperatu	Marked
10/27/2020 16:38	7.169537	99.05447	137.1742	28592.44	27.49501	27291.86	17.01917	17.73971	34.97428	1.00909	-0.03345	0.559325	7.515515	-52.4689	23.44819	1020.84	31.68
10/27/2020 16:38	7.169537	99.05447	137.1742	28592.44	27.49501	27291.86	17.01917	17.73971	34.97428	1.00909	-0.03345	0.559325	7.515515	-52.4689	23.44819	1020.84	31.68
10/27/2020 16:38	7.169537	99.05447	137.1742	28592.44	27.49501	27291.86	17.01917	17.73971	34.97428	1.00909	-0.03345	0.559325	7.515515	-52.4689	23.44819	1020.84	31.68
10/27/2020 16:38	7.211083	99.62385	137.9605	28625.62	27.48093	27330.54	17.0456	17.76485	34.93375	1.009114	-0.05625	0.506729	7.496696	-51.3741	20.50794	1020.793	31.67076
10/27/2020 16:38	7.213807	99.66117	138.012	28627.79	27.48001	27333.08	17.04733	17.7665	34.93109	1.009115	-0.05775	0.503281	7.495462	-51.3023	20.31522	1020.79	31.67015
10/27/2020 16:38	7.21653	99.69849	138.0636	28629.97	27.47908	27335.62	17.04906	17.76815	34.92843	1.009117	-0.05924	0.499834	7.494228	-51.2306	20.1225	1020.787	31.66955
10/27/2020 16:38	7.219253	99.73581	138.1151	28632.14	27.47816	27338.15	17.0508	17.7698	34.92578	1.009119	-0.06074	0.496386	7.492995	-51.1588	19.92977	1020.784	31.66894
10/27/2020 16:38	7.223813	99.75253	138.1504	28615.75	27.47562	27323.77	17.04093	17.76045	34.94579	1.009112	-0.06707	0.481773	7.482624	-50.5529	19.77667	1020.825	31.6874
10/27/2020 16:38	7.225102	99.76813	138.1725	28615.88	27.47514	27324.13	17.04118	17.76068	34.94563	1.009112	-0.06795	0.479743	7.481666	-50.4971	19.69308	1020.826	31.68799
10/27/2020 16:38	7.226391	99.78374	138.1946	28616.01	27.47466	27324.49	17.04142	17.76092	34.94547	1.009113	-0.06883	0.477713	7.480708	-50.4413	19.60948	1020.827	31.68858
10/27/2020 16:38	7.227681	99.79934	138.2167	28616.14	27.47417	27324.86	17.04167	17.76116	34.94531	1.009113	-0.06971	0.475683	7.479751	-50.3854	19.52588	1020.827	31.68917

Location Properties

T1-2LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 16:31:51

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/27/2020 16:31	6.555786	91.57051	126.6599	29247	28.06277	27630.64	17.25418	17.95992	34.19154	1.009093	-0.01249	0.607672	7.547711	-54.4357	20.41735	1020.91	31.61	
10/27/2020 16:31	6.555786	91.57051	126.6599	29247	28.06277	27630.64	17.25418	17.95992	34.19154	1.009093	-0.01249	0.607672	7.547711	-54.4357	20.41735	1020.91	31.61	
10/27/2020 16:31	6.555786	91.57051	126.6599	29247	28.06277	27630.64	17.25418	17.95992	34.19154	1.009093	-0.01249	0.607672	7.547711	-54.4357	20.41735	1020.91	31.61	
10/27/2020 16:31	6.555786	91.57051	126.6599	29247	28.06277	27630.64	17.25418	17.95992	34.19154	1.009093	-0.01249	0.607672	7.547711	-54.4357	20.41735	1020.91	31.61	
10/27/2020 16:31	6.598771	92.09267	127.3995	29235.13	28.01073	27645.38	17.26406	17.9695	34.20543	1.009116	-0.00668	0.621075	7.526403	-53.1861	16.08938	1020.928	31.60077	
10/27/2020 16:32	6.601658	92.12775	127.4491	29234.33	28.00723	27646.37	17.26473	17.97014	34.20636	1.009118	-0.00629	0.621976	7.524971	-53.1021	15.79865	1020.929	31.60015	
10/27/2020 16:32	6.604546	92.16282	127.4988	29233.53	28.00374	27647.36	17.26539	17.97079	34.20729	1.00912	-0.0059	0.622876	7.52354	-53.0182	15.50793	1020.931	31.59953	
10/27/2020 16:32	6.607433	92.1979	127.5485	29232.74	28.00024	27648.35	17.26606	17.97143	34.20822	1.009121	-0.00551	0.623776	7.522109	-52.9342	15.2172	1020.932	31.59891	
10/27/2020 16:32	6.691784	93.24658	129.0232	29244.4	27.96165	27678.69	17.28671	17.99115	34.19458	1.009148	-0.01219	0.60837	7.508497	-52.1346	14.55972	1020.921	31.60025	
10/27/2020 16:32	6.696791	93.3085	129.1104	29244.62	27.95849	27680.48	17.28791	17.99231	34.19433	1.00915	-0.01234	0.608025	7.507304	-52.0645	14.41367	1020.921	31.60007	
10/27/2020 16:32	6.701797	93.37042	129.1976	29244.83	27.95533	27682.26	17.28912	17.99347	34.19408	1.009152	-0.01249	0.60768	7.506111	-51.9945	14.26762	1020.92	31.59988	

Location Properties

T1-3LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 14:13:33

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/27/2020 14:13	7.679137	99.58665	137.7377	5660.992	28.42264	5313.627	2.902604	3.453858	176.6475	0.99829	-0.0808	0.450116	7.934293	-77.0404	39.54034	1021.64	28.82
10/27/2020 14:13	7.679137	99.58665	137.7377	5660.992	28.42264	5313.627	2.902604	3.453858	176.6475	0.99829	-0.0808	0.450116	7.934293	-77.0404	39.54034	1021.64	28.82
10/27/2020 14:13	7.679137	99.58665	137.7377	5660.992	28.42264	5313.627	2.902604	3.453858	176.6475	0.99829	-0.0808	0.450116	7.934293	-77.0404	39.54034	1021.64	28.82
10/27/2020 14:13	7.694025	99.70444	137.9141	5675.888	28.37549	5332.116	2.913395	3.465876	176.184	0.998312	-0.08272	0.445676	7.925746	-76.5341	39.16122	1021.63	28.82
10/27/2020 14:13	7.694992	99.71208	137.9256	5676.855	28.37243	5333.317	2.914096	3.466656	176.1539	0.998313	-0.08285	0.445387	7.925191	-76.5012	39.13659	1021.63	28.82
10/27/2020 14:13	7.695959	99.71973	137.9371	5677.823	28.36937	5334.519	2.914797	3.467437	176.1238	0.998315	-0.08297	0.445099	7.924636	-76.4683	39.11197	1021.629	28.82
10/27/2020 14:13	7.696926	99.72739	137.9485	5678.791	28.36631	5335.719	2.915498	3.468218	176.0937	0.998316	-0.0831	0.444811	7.924081	-76.4354	39.08734	1021.628	28.82
10/27/2020 14:13	7.720302	99.94034	138.2552	5675.981	28.34394	5335.226	2.915218	3.467897	176.181	0.998322	-0.08225	0.446767	7.919061	-76.1362	38.91088	1021.595	28.83727
10/27/2020 14:13	7.721739	99.95296	138.2736	5676.245	28.34171	5335.687	2.915487	3.468196	176.1728	0.998323	-0.08226	0.446739	7.918612	-76.1095	38.89307	1021.594	28.83805
10/27/2020 14:13	7.723175	99.96558	138.2919	5676.508	28.33947	5336.147	2.915756	3.468496	176.1646	0.998324	-0.08227	0.44671	7.918164	-76.0829	38.87526	1021.592	28.83882
10/27/2020 14:13	7.724612	99.9782	138.3103	5676.771	28.33724	5336.608	2.916026	3.468795	176.1564	0.998325	-0.08228	0.446682	7.917716	-76.0562	38.85745	1021.59	28.8396

Location Properties

T1-4LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 10:52:40

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (I	Depth (ft)	pH (pH)	2I pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/27/2020 10:52	7.319222	100.4491	139.6234	30107.72	26.84005	29085.5	18.24873	18.90558	33.21424	1.010204	-0.08421	0.442249	7.359351	-43.2948	172.0414	1023.123	26.5782
10/27/2020 10:52	7.319635	100.4458	139.6193	30093.94	26.83741	29073.61	18.24049	18.89785	33.22935	1.010199	-0.08449	0.441586	7.358773	-43.2611	172.6434	1023.121	26.57936
10/27/2020 10:52	7.320047	100.4425	139.6151	30080.15	26.83477	29061.71	18.23226	18.89011	33.24446	1.010193	-0.08478	0.440922	7.358194	-43.2273	173.2454	1023.119	26.58051
10/27/2020 10:52	7.32046	100.4391	139.611	30066.37	26.83214	29049.82	18.22403	18.88238	33.25957	1.010188	-0.08507	0.440259	7.357615	-43.1935	173.8474	1023.116	26.58166
10/27/2020 10:52	7.338741	100.6441	139.9069	30099.04	26.81519	29090.46	18.25197	18.9088	33.22371	1.010214	-0.08336	0.444193	7.351334	-42.827	173.6884	1023.121	26.58808
10/27/2020 10:52	7.339745	100.6523	139.9189	30095.18	26.81339	29087.7	18.25006	18.90701	33.22794	1.010213	-0.0834	0.444116	7.350819	-42.7969	173.9154	1023.12	26.58883
10/27/2020 10:52	7.340749	100.6605	139.931	30091.32	26.81158	29084.95	18.24814	18.90522	33.23217	1.010212	-0.08343	0.444039	7.350304	-42.7669	174.1424	1023.119	26.58957
10/27/2020 10:52	7.341753	100.6687	139.943	30087.46	26.80977	29082.19	18.24623	18.90343	33.23639	1.010211	-0.08346	0.443963	7.349789	-42.7368	174.3694	1023.119	26.59031
10/27/2020 10:52	7.342913	100.665	139.9463	30109.79	26.77142	29124.4	18.2751	18.93086	33.21179	1.010244	-0.0869	0.436039	7.342226	-42.2927	174.5223	1023.137	26.59863
10/27/2020 10:52	7.343356	100.6687	139.9521	30110.67	26.7692	29126.44	18.27649	18.93218	33.21082	1.010246	-0.08704	0.435722	7.341726	-42.2633	174.5604	1023.138	26.59921
10/27/2020 10:53	7.343798	100.6725	139.9579	30111.54	26.76698	29128.48	18.27788	18.93351	33.20986	1.010248	-0.08717	0.435406	7.341226	-42.234	174.5985	1023.139	26.59977

Location Properties

T2-2LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 15:38:30

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/27/2020 15:38	7.106318	100.6571	139.0293	30130.69	28.79848	28092.55	17.57463	18.26016	33.18875	1.009104	-0.08386	0.443039	7.492942	-51.3769	25.15752	1021.16	32.03
10/27/2020 15:38	7.106318	100.6571	139.0293	30130.69	28.79848	28092.55	17.57463	18.26016	33.18875	1.009104	-0.08386	0.443039	7.492942	-51.3769	25.15752	1021.16	32.03
10/27/2020 15:38	7.106318	100.6571	139.0293	30130.69	28.79848	28092.55	17.57463	18.26016	33.18875	1.009104	-0.08386	0.443039	7.492942	-51.3769	25.15752	1021.16	32.03
10/27/2020 15:38	7.116043	100.7701	139.1957	30164.96	28.77535	28136.1	17.60451	18.28846	33.15105	1.009134	-0.08945	0.430151	7.480737	-50.6582	21.95185	1021.178	32.03
10/27/2020 15:38	7.116674	100.7774	139.2065	30167.19	28.77385	28138.92	17.60644	18.2903	33.1486	1.009136	-0.08981	0.429314	7.479945	-50.6115	21.74378	1021.18	32.03
10/27/2020 15:38	7.117305	100.7848	139.2173	30169.41	28.77234	28141.75	17.60838	18.29214	33.14615	1.009138	-0.09018	0.428478	7.479153	-50.5649	21.53572	1021.181	32.03
10/27/2020 15:38	7.117937	100.7921	139.228	30171.64	28.77084	28144.58	17.61032	18.29398	33.1437	1.00914	-0.09054	0.427641	7.478361	-50.5182	21.32765	1021.182	32.03
10/27/2020 15:38	7.150811	101.1666	139.7628	30161.81	28.73989	28150.93	17.61459	18.29811	33.15451	1.009153	-0.09961	0.406713	7.471335	-50.1051	20.88945	1021.179	32.03865
10/27/2020 15:38	7.152542	101.1864	139.7912	30162.26	28.7379	28152.36	17.61556	18.29903	33.15401	1.009154	-0.10017	0.405436	7.4707	-50.0677	20.78604	1021.18	32.03904
10/27/2020 15:38	7.154273	101.2062	139.8196	30162.71	28.7359	28153.78	17.61653	18.29996	33.15351	1.009155	-0.10072	0.40416	7.470066	-50.0304	20.68262	1021.18	32.03943
10/27/2020 15:38	7.156004	101.2259	139.848	30163.17	28.73391	28155.2	17.6175	18.30088	33.15302	1.009157	-0.10127	0.402883	7.469431	-49.9931	20.57921	1021.18	32.03982

Location Properties

T2-3LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 14:59:44

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/27/2020 14:59	6.921232	97.1731	134.335	29028.68	28.4811	27218.92	16.97357	17.6923	34.44869	1.008755	-0.1026	0.399828	7.329911	-41.8093	40.37476	1021.3	30.22
10/27/2020 14:59	6.921232	97.1731	134.335	29028.68	28.4811	27218.92	16.97357	17.6923	34.44869	1.008755	-0.1026	0.399828	7.329911	-41.8093	40.37476	1021.3	30.22
10/27/2020 14:59	6.921232	97.1731	134.335	29028.68	28.4811	27218.92	16.97357	17.6923	34.44869	1.008755	-0.1026	0.399828	7.329911	-41.8093	40.37476	1021.3	30.22
10/27/2020 14:59	6.921232	97.1731	134.335	29028.68	28.4811	27218.92	16.97357	17.6923	34.44869	1.008755	-0.1026	0.399828	7.329911	-41.8093	40.37476	1021.3	30.22
10/27/2020 14:59	6.971956	97.79986	135.2205	29043.58	28.4197	27262.87	17.00345	17.72087	34.43102	1.008796	-0.10538	0.393408	7.321502	-41.3122	41.51187	1021.3	30.21082
10/27/2020 14:59	6.975287	97.84101	135.2787	29044.56	28.41567	27265.76	17.00542	17.72274	34.42986	1.008799	-0.10556	0.392986	7.32095	-41.2795	41.58654	1021.3	30.21021
10/27/2020 14:59	6.978618	97.88217	135.3368	29045.54	28.41164	27268.64	17.00738	17.72462	34.4287	1.008802	-0.10575	0.392565	7.320397	-41.2469	41.66121	1021.3	30.20961
10/27/2020 14:59	6.981949	97.92332	135.395	29046.51	28.40761	27271.53	17.00934	17.72649	34.42754	1.008804	-0.10593	0.392143	7.319845	-41.2142	41.73588	1021.3	30.20901
10/27/2020 15:00	7.009873	98.16441	135.7598	29081.29	28.36957	27322.84	17.04436	17.75984	34.38638	1.008842	-0.10867	0.385825	7.315138	-40.9321	42.38701	1021.3	30.21886
10/27/2020 15:00	7.012469	98.19172	135.7995	29083.27	28.36624	27326.33	17.04674	17.76211	34.38404	1.008845	-0.10886	0.38537	7.314704	-40.9063	42.44635	1021.3	30.21908
10/27/2020 15:00	7.015064	98.21903	135.8392	29085.25	28.3629	27329.82	17.04911	17.76438	34.38169	1.008848	-0.10906	0.384914	7.31427	-40.8805	42.50568	1021.3	30.21929

Location Properties

T2-4LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 11:29:55

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/27/2020 11:29	4.975662	67.98318	94.52575	29502.94	26.69804	28576.13	17.89656	18.57449	33.89493	1.009983	-0.10524	0.393724	7.357676	-43.1812	45.63792	1023.14	28.11
10/27/2020 11:29	4.975662	67.98318	94.52575	29502.94	26.69804	28576.13	17.89656	18.57449	33.89493	1.009983	-0.10524	0.393724	7.357676	-43.1812	45.63792	1023.14	28.11
10/27/2020 11:29	4.975662	67.98318	94.52575	29502.94	26.69804	28576.13	17.89656	18.57449	33.89493	1.009983	-0.10524	0.393724	7.357676	-43.1812	45.63792	1023.14	28.11
10/27/2020 11:30	4.752949	64.9437	90.30122	29521.36	26.69826	28593.87	17.90878	18.58602	33.87378	1.009992	-0.0863	0.437407	7.343044	-42.3322	44.87628	1023.158	28.11
10/27/2020 11:30	4.738204	64.74247	90.02152	29522.58	26.69827	28595.04	17.90958	18.58678	33.87238	1.009993	-0.08505	0.4403	7.342075	-42.276	44.82586	1023.159	28.11
10/27/2020 11:30	4.723459	64.54124	89.74183	29523.8	26.69828	28596.22	17.91039	18.58754	33.87098	1.009993	-0.0838	0.443192	7.341107	-42.2198	44.77543	1023.161	28.11
10/27/2020 11:30	4.708714	64.34	89.46214	29525.02	26.6983	28597.39	17.9112	18.5883	33.86958	1.009994	-0.08254	0.446084	7.340138	-42.1636	44.725	1023.162	28.11
10/27/2020 11:30	4.606845	62.91227	87.48228	29545.37	26.69394	28619.41	17.92634	18.60262	33.84625	1.010007	-0.08171	0.447999	7.331751	-41.6726	44.32338	1023.142	28.10142
10/27/2020 11:30	4.596353	62.76738	87.28111	29546.78	26.69375	28620.88	17.92735	18.60357	33.84464	1.010007	-0.08118	0.449238	7.330985	-41.6279	44.28508	1023.142	28.10103
10/27/2020 11:30	4.585861	62.62249	87.07993	29548.19	26.69356	28622.34	17.92835	18.60452	33.84303	1.010008	-0.08064	0.450477	7.330219	-41.5833	44.24679	1023.141	28.10065
10/27/2020 11:30	4.575368	62.4776	86.87875	29549.6	26.69337	28623.81	17.92936	18.60547	33.84141	1.010009	-0.0801	0.451716	7.329453	-41.5386	44.20849	1023.141	28.10026

Location Properties

T3-2LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 16:16:55

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/27/2020 16:16	6.930963	97.62878	134.9299	29972.45	28.45268	28118.16	17.59088	18.27681	33.36397	1.009224	-0.08145	0.4486	7.53304	-53.6528	24.50954	1020.98	31.62	
10/27/2020 16:16	6.930963	97.62878	134.9299	29972.45	28.45268	28118.16	17.59088	18.27681	33.36397	1.009224	-0.08145	0.4486	7.53304	-53.6528	24.50954	1020.98	31.62	
10/27/2020 16:16	6.966186	98.071	135.5474	29978.62	28.41148	28144.73	17.60899	18.29408	33.35711	1.00925	-0.08073	0.450263	7.518068	-52.7721	21.63344	1020.933	31.61069	
10/27/2020 16:17	6.968458	98.09953	135.5873	29979.02	28.40883	28146.44	17.61016	18.29519	33.35666	1.009252	-0.08068	0.45037	7.517102	-52.7153	21.4479	1020.93	31.61009	
10/27/2020 16:17	6.97073	98.12805	135.6271	29979.41	28.40617	28148.16	17.61132	18.2963	33.35622	1.009254	-0.08064	0.450478	7.516137	-52.6585	21.26237	1020.927	31.60949	
10/27/2020 16:17	6.973002	98.15658	135.6669	29979.81	28.40351	28149.87	17.61249	18.29742	33.35578	1.009255	-0.08059	0.450585	7.515171	-52.6017	21.07684	1020.924	31.60889	
10/27/2020 16:17	7.02864	98.81857	136.6126	29992.61	28.36853	28179.58	17.63278	18.31672	33.34155	1.009281	-0.09596	0.415129	7.506767	-52.1058	20.84975	1020.974	31.62756	
10/27/2020 16:17	7.032058	98.85984	136.6711	29993.35	28.36588	28181.6	17.63417	18.31804	33.34072	1.009283	-0.09664	0.413574	7.506001	-52.0607	20.76514	1020.975	31.62816	
10/27/2020 16:17	7.035476	98.90111	136.7297	29994.09	28.36324	28183.63	17.63555	18.31936	33.3399	1.009285	-0.09731	0.412019	7.505235	-52.0156	20.68053	1020.976	31.62876	
10/27/2020 16:17	7.038894	98.94238	136.7883	29994.82	28.3606	28185.65	17.63693	18.32067	33.33909	1.009287	-0.09799	0.410464	7.504469	-51.9705	20.59592	1020.977	31.62936	
10/27/2020 16:17	7.069173	99.32616	137.329	30017.04	28.27878	28248.03	17.6795	18.36122	33.31441	1.009344	-0.08576	0.438675	7.495557	-51.4377	20.55602	1020.961	31.62957	

Location Properties

T3-3LT and DUP-1

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 15:59:07

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/27/2020 15:59	7.052903	98.13091	135.8642	29574.34	27.74277	28102.15	17.57658	18.2664	33.8131	1.009431	-0.0869	0.43603	7.455829	-49.0375	21.31139	1021.15	31.94	
10/27/2020 15:59	7.052903	98.13091	135.8642	29574.34	27.74277	28102.15	17.57658	18.2664	33.8131	1.009431	-0.0869	0.43603	7.455829	-49.0375	21.31139	1021.15	31.94	
10/27/2020 15:59	7.052903	98.13091	135.8642	29574.34	27.74277	28102.15	17.57658	18.2664	33.8131	1.009431	-0.0869	0.43603	7.455829	-49.0375	21.31139	1021.15	31.94	
10/27/2020 15:59	7.099665	98.74919	136.7282	29595.04	27.71609	28135.45	17.59934	18.28804	33.78945	1.009456	-0.10362	0.397468	7.437901	-47.9908	17.2404	1021.15	31.9307	
10/27/2020 15:59	7.10274	98.78983	136.785	29596.4	27.71433	28137.63	17.60084	18.28946	33.7879	1.009458	-0.10472	0.394932	7.436722	-47.9219	16.97275	1021.15	31.93009	
10/27/2020 15:59	7.105814	98.83048	136.8419	29597.76	27.71258	28139.82	17.60233	18.29089	33.78634	1.009459	-0.10582	0.392397	7.435543	-47.8531	16.7051	1021.15	31.92948	
10/27/2020 15:59	7.108889	98.87113	136.8987	29599.12	27.71082	28142.01	17.60383	18.29231	33.78479	1.009461	-0.10692	0.389862	7.434364	-47.7843	16.43746	1021.15	31.92887	
10/27/2020 15:59	7.124449	99.00629	137.0996	29627.83	27.69284	28178.52	17.62885	18.31604	33.75206	1.009485	-0.10126	0.402903	7.424231	-47.1892	15.9405	1021.124	31.93886	
10/27/2020 15:59	7.126385	99.02869	137.1315	29629.67	27.69132	28181.05	17.63058	18.31768	33.74996	1.009487	-0.10145	0.402474	7.4233	-47.1347	15.81069	1021.123	31.93906	
10/27/2020 15:59	7.12832	99.0511	137.1633	29631.51	27.6898	28183.57	17.63231	18.31932	33.74786	1.009489	-0.10164	0.402046	7.42237	-47.0803	15.68088	1021.122	31.93927	
10/27/2020 15:59	7.130256	99.07351	137.1952	29633.35	27.68829	28186.1	17.63404	18.32096	33.74576	1.00949	-0.10182	0.401617	7.42144	-47.0258	15.55108	1021.12	31.93947	

Location Properties

T3-4LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-27 11:46:37

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
10/27/2020 11:46	6.888172	93.78296	130.4869	29947.72	26.35547	29191.96	18.3187	18.97477	33.39152	1.0104	-0.09999	0.405845	7.317492	-40.8036	24.71457	1023.11	28.45	
10/27/2020 11:46	6.93766	94.44667	131.4123	29949.16	26.34809	29197.37	18.32238	18.97829	33.38992	1.010404	-0.105	0.394291	7.307714	-40.2358	21.54763	1023.11	28.44078	
10/27/2020 11:46	6.940913	94.4903	131.4731	29949.25	26.3476	29197.73	18.32262	18.97852	33.38982	1.010405	-0.10533	0.393532	7.307071	-40.1984	21.33945	1023.11	28.44018	
10/27/2020 11:46	6.944166	94.53393	131.534	29949.35	26.34711	29198.08	18.32287	18.97875	33.38971	1.010405	-0.10566	0.392772	7.306428	-40.1611	21.13128	1023.11	28.43957	
10/27/2020 11:46	6.947419	94.57756	131.5948	29949.44	26.34663	29198.44	18.32311	18.97898	33.38961	1.010406	-0.10598	0.392013	7.305785	-40.1238	20.9231	1023.11	28.43896	
10/27/2020 11:46	6.987551	95.10767	132.337	29959.72	26.33712	29213.64	18.33353	18.98886	33.37815	1.010416	-0.09857	0.409109	7.299668	-39.7694	20.61879	1023.118	28.44027	
10/27/2020 11:46	6.990652	95.14889	132.3946	29960.22	26.3365	29214.46	18.33409	18.9894	33.37759	1.010417	-0.09837	0.409579	7.299137	-39.7386	20.52243	1023.119	28.44009	
10/27/2020 11:46	6.993753	95.19011	132.4522	29960.72	26.33587	29215.29	18.33466	18.98994	33.37703	1.010417	-0.09817	0.410048	7.298606	-39.7078	20.42608	1023.119	28.43991	
10/27/2020 11:46	6.996854	95.23133	132.5098	29961.23	26.33525	29216.12	18.33522	18.99048	33.37647	1.010418	-0.09796	0.410518	7.298075	-39.677	20.32972	1023.119	28.43972	
10/27/2020 11:46	7.036545	95.77764	133.2701	29976.95	26.33187	29233.29	18.34706	19.00164	33.35897	1.010428	-0.10496	0.394385	7.291761	-39.3098	20.2053	1023.119	28.44	
10/27/2020 11:46	7.039282	95.81482	133.3219	29977.85	26.3315	29234.37	18.3478	19.00234	33.35796	1.010428	-0.10514	0.39395	7.291324	-39.2844	20.18106	1023.12	28.44	

Location Properties

BG-1LT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 12:30:19

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (j	Depth (ft)	pH (pH)	2I pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 12:30	4.215152	60.98243	87.14355	30133.28	30.16722	27426.43	17.12072	17.82718	33.18606	1.008332	-0.10569	0.392699	7.375047	-45.0305	107.1262	1020.394	31.351
10/28/2020 12:30	4.192508	60.64481	86.66288	30123.22	30.15824	27421.58	17.11738	17.82403	33.19701	1.008333	-0.10589	0.392237	7.37418	-44.9775	107.0809	1020.393	31.3508
10/28/2020 12:30	4.169863	60.3072	86.18221	30113.16	30.14926	27416.73	17.11403	17.82088	33.20797	1.008333	-0.10609	0.391775	7.373314	-44.9244	107.0357	1020.391	31.3506
10/28/2020 12:30	3.957544	56.95314	81.44993	30053.57	29.98522	27440.73	17.13016	17.83648	33.27397	1.008398	-0.09423	0.419134	7.360625	-44.1531	106.4951	1020.382	31.35031
10/28/2020 12:30	3.941628	56.70749	81.10212	30048.87	29.97544	27441.12	17.13041	17.83673	33.27915	1.008401	-0.09375	0.420232	7.359803	-44.1031	106.4577	1020.381	31.35015
10/28/2020 12:30	3.925711	56.46185	80.75432	30044.17	29.96566	27441.52	17.13066	17.83699	33.28433	1.008404	-0.09327	0.421331	7.358981	-44.053	106.4204	1020.38	31.34999
10/28/2020 12:30	3.752687	53.86645	77.06973	29999.74	29.68815	27534.33	17.19371	17.89731	33.33365	1.00854	-0.10402	0.396546	7.347699	-43.3492	105.9737	1020.397	31.35845
10/28/2020 12:30	3.740738	53.68409	76.81138	29996.51	29.67235	27538.96	17.19686	17.90033	33.33723	1.008547	-0.10429	0.395912	7.346944	-43.3025	105.9431	1020.398	31.35883
10/28/2020 12:30	3.728789	53.50172	76.55302	29993.28	29.65654	27543.6	17.2	17.90334	33.34082	1.008555	-0.10457	0.395278	7.346189	-43.2558	105.9125	1020.398	31.35922
10/28/2020 12:30	3.71684	53.31936	76.29466	29990.04	29.64074	27548.24	17.20315	17.90635	33.3444	1.008562	-0.10484	0.394645	7.345434	-43.2091	105.8819	1020.399	31.35961
10/28/2020 12:30	3.602437	51.58844	73.83902	29979.25	29.52175	27595.97	17.23561	17.93738	33.35641	1.008624	-0.09416	0.419293	7.333755	-42.5057	105.5015	1020.408	31.36818

Location Properties

T1-1HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 09:53:56

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2l pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/28/2020 9:53	5.825078	78.67701	113.35	25294.02	26.87095	24479.06	15.2873	15.91139	2030.939	1.007983	-0.08759	0.43444	7.482307	-50.8312	122.3559	1021.001	28.4098	
10/28/2020 9:53	5.764085	78.10354	112.5344	26280.76	26.83328	25434.05	15.88409	16.53213	1479.915	1.00844	-0.08797	0.433558	7.490715	-51.3227	121.9552	1021	28.40995	
10/28/2020 9:54	5.205044	70.7437	101.9485	27489	26.79618	26599.25	16.61187	17.28951	766.8079	1.008994	-0.09614	0.414726	7.471378	-50.1834	120.6756	1021.009	28.41862	
10/28/2020 9:54	5.155553	70.17757	101.1375	27911.84	26.78089	27008.28	16.86746	17.55538	513.4165	1.00919	-0.09658	0.413706	7.46987	-50.0947	120.5883	1021.009	28.41904	
10/28/2020 9:54	5.106062	69.61143	100.3265	28334.68	26.7656	27417.31	17.12304	17.82125	260.0251	1.009385	-0.09702	0.412687	7.46836	-50.0061	120.5009	1021.009	28.41945	
10/28/2020 9:54	5.056571	69.0453	99.51548	28757.52	26.75031	27826.34	17.37863	18.08712	6.633613	1.00958	-0.09746	0.411667	7.466852	-49.9174	120.4136	1021.01	28.41987	
10/28/2020 9:54	4.763755	65.00446	93.69874	28756.29	26.66006	27872.55	17.41255	18.11716	34.77502	1.009632	-0.0827	0.445713	7.448863	-48.8506	119.7608	1020.992	28.40232	
10/28/2020 9:54	4.740038	64.67828	93.22916	28758.32	26.65604	27876.59	17.41529	18.11978	34.77256	1.009636	-0.0822	0.446873	7.447601	-48.776	119.7079	1020.991	28.4017	
10/28/2020 9:54	4.716322	64.3521	92.75957	28760.35	26.65203	27880.62	17.41804	18.12241	34.77009	1.009639	-0.0817	0.448033	7.44634	-48.7014	119.6551	1020.991	28.40108	
10/28/2020 9:54	4.692606	64.02592	92.28999	28762.38	26.64802	27884.66	17.42078	18.12503	34.76763	1.009642	-0.0812	0.449193	7.445077	-48.6267	119.6023	1020.99	28.40047	
10/28/2020 9:54	4.534319	61.8275	89.12872	28733.73	26.6136	27874.64	17.41368	18.11852	34.80231	1.009647	-0.07925	0.453691	7.430511	-47.7673	119.2019	1021.007	28.40912	

Location Properties

T1-2HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 10:04:56

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH) (2f	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/28/2020 10:04	5.750188	78.76466	113.5652	30141.89	26.61078	29242.21	18.35531	19.00744	33.17652	1.010352	-0.07556	0.462195	7.330725	-41.9301	108.7182	1021.107	28.57275
10/28/2020 10:04	5.710444	78.21348	112.7712	30136.3	26.60916	29237.67	18.35216	19.00448	33.18265	1.01035	-0.07554	0.462229	7.330008	-41.8879	108.7423	1021.106	28.57213
10/28/2020 10:05	5.6707	77.66228	111.9772	30130.7	26.60753	29233.13	18.34901	19.00153	33.18877	1.010348	-0.07553	0.462263	7.329291	-41.8457	108.7664	1021.104	28.57152
10/28/2020 10:05	5.630956	77.1111	111.1832	30125.1	26.60591	29228.58	18.34586	18.99858	33.1949	1.010346	-0.07551	0.462297	7.328574	-41.8035	108.7905	1021.102	28.5709
10/28/2020 10:05	5.197889	71.12862	102.5668	30075.54	26.52671	29223.38	18.34168	18.9952	33.24964	1.010367	-0.03944	0.545512	7.317412	-41.1342	108.97	1021.11	28.57925
10/28/2020 10:05	5.166658	70.69713	101.9451	30072.22	26.52301	29222.16	18.34081	18.9944	33.2533	1.010367	-0.03706	0.550991	7.316692	-41.0912	108.9838	1021.11	28.57932
10/28/2020 10:05	5.135427	70.26564	101.3235	30068.9	26.51931	29220.94	18.33994	18.99361	33.25696	1.010367	-0.03469	0.556469	7.315972	-41.0483	108.9977	1021.109	28.57938
10/28/2020 10:05	5.104196	69.83414	100.7019	30065.58	26.51561	29219.72	18.33908	18.99282	33.26062	1.010368	-0.03231	0.561948	7.315252	-41.0053	109.0116	1021.108	28.57944
10/28/2020 10:05	4.732811	64.66826	93.26606	30013.1	26.43979	29209.83	18.33168	18.98639	33.31881	1.010385	-0.02874	0.570182	7.304708	-40.3833	109.1646	1021.101	28.57109
10/28/2020 10:05	4.707545	64.31767	92.76131	30009.77	26.4349	29209.24	18.33124	18.98601	33.32249	1.010386	-0.02786	0.572226	7.304018	-40.3424	109.1751	1021.101	28.57088
10/28/2020 10:05	4.68228	63.96709	92.25656	30006.44	26.43002	29208.65	18.3308	18.98562	33.32618	1.010387	-0.02697	0.574269	7.303328	-40.3015	109.1856	1021.1	28.57067

Location Properties

T1-2HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 10:00:01

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 10:00	6.843527	92.9199	134.0312	28546.31	26.35797	27831.93	17.4376	18.09076	244.2664	1.00974	-0.06991	0.475213	7.403129	-46.1314	115.8382	1021.097	28.53767
10/28/2020 10:00	6.839513	92.98801	134.1322	28977.79	26.34848	28254.19	17.70238	18.36522	146.73	1.009941	-0.0704	0.474106	7.402112	-46.0717	115.8073	1021.098	28.53825
10/28/2020 10:00	6.835499	93.05612	134.2333	29409.27	26.33899	28676.44	17.96717	18.63969	49.19358	1.010141	-0.07088	0.472998	7.401096	-46.0121	115.7763	1021.098	28.53883
10/28/2020 10:00	6.861978	93.48637	134.8428	29514.67	26.36865	28762.77	18.02279	18.6958	33.88147	1.010174	-0.04045	0.543174	7.387806	-45.2376	115.5278	1021.064	28.53936
10/28/2020 10:00	6.864116	93.51482	134.8838	29514.55	26.36834	28762.82	18.02282	18.69583	33.88161	1.010175	-0.03889	0.54677	7.386941	-45.1873	115.5084	1021.062	28.53967
10/28/2020 10:00	6.866254	93.54327	134.9248	29514.42	26.36803	28762.86	18.02284	18.69586	33.88174	1.010175	-0.03733	0.550365	7.386077	-45.1369	115.4889	1021.061	28.53998
10/28/2020 10:00	6.868393	93.57173	134.9658	29514.29	26.36772	28762.91	18.02287	18.69589	33.88188	1.010175	-0.03578	0.553961	7.385213	-45.0865	115.4694	1021.059	28.54029
10/28/2020 10:00	6.915851	94.21719	135.8981	29544.37	26.3588	28796.99	18.0463	18.71804	33.84741	1.010195	-0.0181	0.594726	7.375297	-44.5033	115.3149	1021.052	28.53129
10/28/2020 10:00	6.918497	94.25428	135.9514	29546.48	26.35909	28798.89	18.04761	18.71928	33.84499	1.010196	-0.01667	0.598042	7.374577	-44.4611	115.3028	1021.05	28.53091
10/28/2020 10:00	6.921143	94.29137	136.0047	29548.59	26.35939	28800.8	18.04892	18.72052	33.84256	1.010197	-0.01523	0.601358	7.373857	-44.4189	115.2907	1021.049	28.53054
10/28/2020 10:00	6.96586	94.86263	136.8383	29551.54	26.33646	28815.97	18.05921	18.73038	33.8392	1.010211	-0.03358	0.559031	7.365167	-43.9103	115.1042	1021.067	28.54735

Location Properties

T1-3HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 10:25:56

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 10:25	4.717856	65.24424	93.96754	30748.16	27.0436	29593.04	18.60087	19.23548	32.52252	1.010407	-0.08022	0.451435	7.272578	-38.5825	110.0787	1020.991	28.88983
10/28/2020 10:25	4.695546	64.92913	93.51458	30738.99	27.03833	29587.09	18.59672	19.23161	32.53216	1.010405	-0.07992	0.452142	7.272388	-38.5707	110.0816	1020.99	28.89
10/28/2020 10:26	4.673236	64.61402	93.06161	30729.82	27.03306	29581.13	18.59256	19.22774	32.54179	1.010404	-0.07961	0.452849	7.272196	-38.5589	110.0846	1020.99	28.89016
10/28/2020 10:26	4.455122	61.53047	88.63651	30824.26	26.99356	29693.62	18.67014	19.30086	32.44205	1.010473	-0.08764	0.434326	7.268085	-38.3119	110.0695	1020.981	28.89
10/28/2020 10:26	4.438707	61.29839	88.30315	30823.79	26.9909	29694.62	18.67081	19.30151	32.44252	1.010475	-0.08787	0.433787	7.267861	-38.2985	110.07	1020.981	28.89
10/28/2020 10:26	4.422293	61.06632	87.96979	30823.32	26.98825	29695.62	18.67148	19.30216	32.44298	1.010476	-0.08811	0.433248	7.267639	-38.285	110.0706	1020.98	28.89
10/28/2020 10:26	4.269392	58.95261	84.93432	30985.53	26.89059	29905.7	18.81629	19.43871	32.27333	1.010614	-0.08814	0.433182	7.2633	-38.0156	110.115	1020.989	28.89
10/28/2020 10:26	4.258088	58.79503	84.70808	30994.74	26.88527	29917.51	18.82442	19.44638	32.26367	1.010621	-0.08828	0.432844	7.263021	-37.9984	110.1168	1020.989	28.89
10/28/2020 10:26	4.246784	58.63745	84.48183	31003.96	26.87995	29929.32	18.83256	19.45406	32.25402	1.010629	-0.08843	0.432507	7.262743	-37.9813	110.1186	1020.989	28.89
10/28/2020 10:26	4.23548	58.47987	84.25559	31013.18	26.87462	29941.13	18.8407	19.46173	32.24436	1.010637	-0.08858	0.432169	7.262464	-37.9641	110.1204	1020.989	28.89
10/28/2020 10:26	4.122056	56.86529	81.93781	31054.35	26.80374	30020.17	18.89496	19.51311	32.20166	1.010698	-0.09477	0.41787	7.25966	-37.7906	110.106	1020.947	28.89

Location Properties

T1-3HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 10:20:40

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH) (2l	pH mV (m\	ORP (mV) |	Barometric Temperatu	Marked
10/28/2020 10:20	4.876215	67.54508	97.21299	29829.33	27.36416	28540.19	17.87407	18.55112	27.18115	1.009768	-0.07512	0.463217	7.380444	-44.9603	118.6077	1021	28.78043
10/28/2020 10:20	4.631923	64.14807	92.32735	29843.68	27.36083	28556.03	17.88689	18.56142	33.50795	1.009778	-0.08488	0.440695	7.366324	-44.1215	118.2203	1021.009	28.78917
10/28/2020 10:20	4.611874	63.87178	91.92956	29846.17	27.3618	28557.91	17.88819	18.56264	33.50514	1.009779	-0.0856	0.439036	7.36537	-44.065	118.1907	1021.009	28.78943
10/28/2020 10:20	4.591825	63.59549	91.53176	29848.66	27.36277	28559.79	17.88949	18.56386	33.50234	1.009779	-0.08632	0.437377	7.364416	-44.0086	118.161	1021.009	28.78969
10/28/2020 10:20	4.469074	61.84561	89.02254	29844.08	27.30988	28583.04	17.9052	18.57898	33.50748	1.009807	-0.08248	0.446238	7.35328	-43.3494	117.8568	1021.001	28.78131
10/28/2020 10:20	4.458444	61.69607	88.80782	29844.87	27.30745	28585.07	17.90658	18.58029	33.5066	1.009809	-0.08251	0.446155	7.352488	-43.3025	117.8351	1021.001	28.78113
10/28/2020 10:20	4.447813	61.54654	88.59308	29845.65	27.30502	28587.09	17.90796	18.58161	33.50571	1.009811	-0.08255	0.446073	7.351696	-43.2556	117.8134	1021.001	28.78094
10/28/2020 10:20	4.437182	61.397	88.37835	29846.44	27.30259	28589.11	17.90934	18.58292	33.50483	1.009812	-0.08258	0.44599	7.350905	-43.2087	117.7918	1021	28.78075
10/28/2020 10:20	4.364343	60.31947	86.84204	29893.71	27.2583	28657.62	17.95628	18.62745	33.45187	1.009861	-0.07753	0.457654	7.340526	-42.5946	117.5151	1020.991	28.78035
10/28/2020 10:20	4.358448	60.23381	86.71959	29895.83	27.25534	28661.2	17.95873	18.62978	33.4495	1.009864	-0.07724	0.458309	7.339834	-42.5537	117.4965	1020.991	28.7802
10/28/2020 10:21	4.352552	60.14816	86.59714	29897.95	27.25239	28664.78	17.96118	18.63211	33.44712	1.009866	-0.07696	0.458964	7.339142	-42.5127	117.4779	1020.99	28.78004

Location Properties

T1-4HT and DUP-3

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 12:01:14

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	(pH (pH)	(2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/28/2020 12:01	5.276863	73.9567	106.263	30571.79	27.94306	28944.71	18.15814	18.81406	32.71005	1.009804	-0.0947	0.418032	7.442317	-48.6764	92.06261	1020.592	30.85884
10/28/2020 12:01	5.233549	73.33865	105.3767	30563.9	27.93659	28940.64	18.1553	18.81141	32.71845	1.009804	-0.09513	0.417044	7.440833	-48.5886	92.03445	1020.591	30.85906
10/28/2020 12:01	5.190234	72.72062	104.4905	30556.02	27.93012	28936.56	18.15245	18.80877	32.72684	1.009804	-0.09556	0.416057	7.439349	-48.5007	92.00628	1020.591	30.85928
10/28/2020 12:01	5.14692	72.10258	103.6042	30548.13	27.92365	28932.49	18.14961	18.80612	32.73524	1.009804	-0.09599	0.41507	7.437865	-48.4129	91.97812	1020.59	30.8595
10/28/2020 12:01	4.725148	66.15545	95.06363	30465.96	27.90275	28865.57	18.10331	18.76262	32.82361	1.009775	-0.07883	0.454648	7.417633	-47.2103	91.59409	1020.599	30.85113
10/28/2020 12:01	4.693453	65.70745	94.42043	30459.74	27.90055	28860.83	18.10003	18.75954	32.83028	1.009774	-0.07834	0.455773	7.416299	-47.1311	91.56844	1020.599	30.85092
10/28/2020 12:01	4.661758	65.25946	93.77723	30453.52	27.89836	28856.09	18.09674	18.75646	32.83694	1.009772	-0.07785	0.456899	7.414965	-47.0519	91.54279	1020.599	30.85071
10/28/2020 12:01	4.630064	64.81146	93.13403	30447.3	27.89616	28851.35	18.09346	18.75338	32.84361	1.00977	-0.07737	0.458024	7.413631	-46.9726	91.51714	1020.599	30.85049
10/28/2020 12:01	4.32802	60.41571	86.8463	30372.87	27.8086	28826.49	18.07585	18.73722	32.92417	1.009784	-0.08389	0.442985	7.393937	-45.8047	90.94913	1020.582	30.85027
10/28/2020 12:01	4.305883	60.09734	86.39024	30367.87	27.80418	28824.05	18.07414	18.73563	32.92957	1.009784	-0.08387	0.443033	7.392653	-45.7285	90.91609	1020.581	30.8501
10/28/2020 12:01	4.283746	59.77897	85.93417	30362.87	27.79977	28821.62	18.07244	18.73405	32.93497	1.009784	-0.08385	0.443081	7.391369	-45.6523	90.88304	1020.581	30.84994

Location Properties

T1-4HTS and DUP-2

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 11:52:21

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 11:52	6.577374	91.9202	132.0305	28973.52	28.04992	27390.21	17.13285	17.80363	143.7309	1.009007	-0.08929	0.430524	7.405962	-46.5646	93.89311	1020.659	30.93126
10/28/2020 11:52	6.575565	92.00916	132.1636	29426.25	28.02778	27822.51	17.40401	18.08463	79.13582	1.009216	-0.08925	0.430614	7.404665	-46.4879	93.87505	1020.659	30.9309
10/28/2020 11:52	6.573756	92.09814	132.2966	29878.98	28.00563	28254.81	17.67517	18.36563	14.54073	1.009424	-0.08921	0.430704	7.403368	-46.4112	93.85699	1020.66	30.93054
10/28/2020 11:52	6.66762	93.38449	134.1415	29810	28.08216	28152.71	17.61301	18.29926	33.54581	1.009355	-0.09065	0.427393	7.387091	-45.4466	93.62832	1020.642	30.9303
10/28/2020 11:52	6.675609	93.49148	134.2963	29813.17	28.08032	28156.62	17.61569	18.30181	33.54223	1.009357	-0.09063	0.427426	7.386008	-45.3828	93.60949	1020.641	30.93014
10/28/2020 11:52	6.683599	93.59846	134.451	29816.35	28.07848	28160.54	17.61838	18.30435	33.53865	1.00936	-0.09062	0.42746	7.384925	-45.3189	93.59066	1020.64	30.92999
10/28/2020 11:52	6.73845	94.29369	135.4679	29837.09	28.02174	28209.01	17.65146	18.33585	33.51535	1.009402	-0.09893	0.408284	7.372884	-44.6024	93.48323	1020.649	30.93
10/28/2020 11:52	6.742663	94.34986	135.5493	29839.37	28.02099	28211.54	17.6532	18.3375	33.51278	1.009403	-0.09933	0.407362	7.372016	-44.5509	93.47393	1020.649	30.93
10/28/2020 11:52	6.746875	94.40603	135.6307	29841.65	28.02024	28214.08	17.65494	18.33915	33.51021	1.009405	-0.09973	0.406439	7.371148	-44.4993	93.46464	1020.649	30.93
10/28/2020 11:52	6.751088	94.4622	135.7121	29843.93	28.01949	28216.62	17.65668	18.3408	33.50764	1.009406	-0.10013	0.405517	7.37028	-44.4477	93.45534	1020.649	30.93
10/28/2020 11:52	6.806316	95.08652	136.6416	29862.69	27.95554	28267.01	17.69105	18.37356	33.48661	1.009452	-0.10071	0.40418	7.359822	-43.8272	93.3809	1020.658	30.93

Location Properties

T2-1HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 09:27:52

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 9:27	6.211658	85.78229	123.2351	25890.67	28.13433	24431.03	15.24276	15.88017	1924.371	1.007571	-0.11194	0.378268	7.493567	-51.5909	155.6256	1020.859	26.91766
10/28/2020 9:27	6.1595	85.39162	122.674	26930.97	28.13281	25412.69	15.85558	16.51825	1124.266	1.008028	-0.11136	0.379606	7.495942	-51.7249	154.0344	1020.856	26.91854
10/28/2020 9:27	5.575497	76.50179	110.1172	27893.83	27.375	26699.65	16.67609	17.35477	593.71	1.00887	-0.12394	0.350604	7.4766	-50.5644	150.6488	1020.897	26.91053
10/28/2020 9:27	5.528994	75.94222	109.324	28337.25	27.33717	27136.51	16.94967	17.63873	367.183	1.009086	-0.12412	0.350191	7.478268	-50.6593	150.2018	1020.897	26.91041
10/28/2020 9:28	5.48249	75.38266	108.5308	28780.68	27.29934	27573.37	17.22325	17.92269	140.656	1.009301	-0.12429	0.349778	7.479937	-50.7543	149.7548	1020.898	26.9103
10/28/2020 9:28	5.435987	74.8231	107.7376	29224.11	27.26151	28010.24	17.49683	18.20665	0	1.009517	-0.12447	0.349365	7.481606	-50.8492	149.3078	1020.899	26.91018
10/28/2020 9:28	5.084515	69.96075	100.731	29070.31	27.1272	27935.56	17.4587	18.15812	34.39939	1.009528	-0.11237	0.377279	7.46072	-49.6155	147.8798	1020.855	26.9189
10/28/2020 9:28	5.056723	69.55503	100.1518	29073.02	27.10474	27949.49	17.46815	18.16717	34.39619	1.009542	-0.11212	0.377857	7.459303	-49.5315	147.7521	1020.854	26.9191
10/28/2020 9:28	5.028932	69.1493	99.57269	29075.72	27.08229	27963.43	17.47759	18.17623	34.39298	1.009556	-0.11187	0.378435	7.457887	-49.4475	147.6245	1020.853	26.91931
10/28/2020 9:28	4.830149	66.38661	95.59879	29046.33	27.05122	27951.27	17.46905	18.16833	34.42777	1.009559	-0.10234	0.400412	7.442173	-48.5188	146.4858	1020.852	26.9196
10/28/2020 9:28	4.814	66.16261	95.27664	29046.48	27.04643	27953.87	17.47081	18.17002	34.42758	1.009561	-0.10171	0.401874	7.441087	-48.4546	146.4026	1020.851	26.91977

Location Properties

T2-2HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 09:37:54

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 9:37	5.590071	76.79454	110.6868	30374.29	26.78603	29372.31	18.44644	19.092	32.92258	1.010368	-0.08706	0.435662	7.331293	-41.9824	112.9776	1021.05	27.72949
10/28/2020 9:37	5.553081	76.27687	109.9424	30373.55	26.78302	29373.22	18.44705	19.0926	32.92338	1.01037	-0.087	0.435798	7.330161	-41.9156	113.0064	1021.05	27.72997
10/28/2020 9:37	5.516091	75.75919	109.198	30372.8	26.78001	29374.13	18.44766	19.09319	32.92419	1.010371	-0.08694	0.435933	7.329029	-41.8487	113.0351	1021.051	27.73045
10/28/2020 9:38	5.112176	70.1746	101.1585	30384.5	26.65607	29452.91	18.50122	19.14439	32.91151	1.010448	-0.09368	0.420395	7.317556	-41.1669	113.6589	1021.05	27.72124
10/28/2020 9:38	5.082999	69.76931	100.5752	30384.88	26.65003	29456.55	18.5037	19.14676	32.91111	1.010451	-0.09402	0.419608	7.316704	-41.1163	113.6954	1021.05	27.72086
10/28/2020 9:38	5.053823	69.36402	99.99201	30385.25	26.64399	29460.2	18.50617	19.14913	32.91071	1.010455	-0.09436	0.418822	7.315851	-41.0658	113.7318	1021.049	27.72047
10/28/2020 9:38	4.750726	65.16949	93.94888	30329.32	26.61937	29419.39	18.47778	19.1226	32.97141	1.010441	-0.09312	0.421678	7.306445	-40.5098	114.2447	1021.041	27.73719
10/28/2020 9:38	4.729279	64.87268	93.52141	30327.05	26.61596	29419.04	18.47752	19.12238	32.97388	1.010442	-0.09319	0.421521	7.305799	-40.4715	114.2793	1021.041	27.73777
10/28/2020 9:38	4.707831	64.57587	93.09393	30324.78	26.61254	29418.7	18.47726	19.12215	32.97634	1.010442	-0.09326	0.421365	7.305153	-40.4333	114.3139	1021.041	27.73835
10/28/2020 9:38	4.686384	64.27906	92.66644	30322.51	26.60912	29418.36	18.477	19.12193	32.97881	1.010443	-0.09333	0.421208	7.304507	-40.395	114.3485	1021.04	27.73893
10/28/2020 9:38	4.414165	60.46449	87.17929	30301.83	26.56839	29420.5	18.47817	19.12333	33.00132	1.010456	-0.07478	0.463988	7.296526	-39.923	114.707	1021.014	27.73073

Location Properties

T2-2HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 09:33:08

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
10/28/2020 9:33	6.475177	88.95432	128.1033	28823.45	27.02515	27755.12	17.35719	18.04083	126.9006	1.009483	-0.06693	0.482092	7.426882	-47.6302	127.5467	1020.941	27.42	
10/28/2020 9:33	6.460702	88.86829	127.984	29255.65	27.00736	28174.84	17.61996	18.31365	24.409	1.009685	-0.06727	0.481323	7.425422	-47.5441	127.5201	1020.94	27.42	
10/28/2020 9:33	6.406037	88.10233	126.8882	29265.28	27.03888	28168.34	17.61815	18.30942	34.1702	1.009674	-0.07409	0.465579	7.408375	-46.5375	127.3632	1020.985	27.42896	
10/28/2020 9:33	6.401392	88.03261	126.7891	29265.61	27.03602	28170.13	17.61937	18.31059	34.16981	1.009676	-0.07451	0.464616	7.407245	-46.4711	127.3483	1020.987	27.42939	
10/28/2020 9:33	6.396749	87.96288	126.6901	29265.94	27.03317	28171.93	17.62058	18.31175	34.16941	1.009677	-0.07493	0.463653	7.406116	-46.4046	127.3334	1020.989	27.42982	
10/28/2020 9:33	6.402887	87.98884	126.7358	29271.09	26.98564	28201.53	17.64065	18.331	34.16341	1.009706	-0.07968	0.452697	7.393587	-45.6641	127.234	1020.955	27.4465	
10/28/2020 9:33	6.402038	87.97471	126.7159	29272.48	26.98432	28203.55	17.64203	18.33231	34.16178	1.009708	-0.08003	0.451883	7.392678	-45.6104	127.2265	1020.954	27.44743	
10/28/2020 9:33	6.401188	87.96058	126.6961	29273.88	26.98301	28205.58	17.64341	18.33363	34.16015	1.009709	-0.08038	0.451069	7.391768	-45.5567	127.219	1020.953	27.44835	
10/28/2020 9:33	6.400339	87.94645	126.6762	29275.27	26.9817	28207.6	17.64479	18.33494	34.15852	1.009711	-0.08074	0.450254	7.390859	-45.503	127.2115	1020.953	27.44928	
10/28/2020 9:33	6.415091	88.03302	126.8237	29292.92	26.93597	28248.38	17.67255	18.36145	34.13795	1.009745	-0.07859	0.455194	7.37981	-44.8497	127.1066	1020.951	27.45791	
10/28/2020 9:33	6.415781	88.03623	126.8295	29293.88	26.93311	28250.8	17.6742	18.36302	34.13682	1.009747	-0.07859	0.455192	7.379061	-44.8054	127.0999	1020.95	27.45861	

Location Properties

T2-3HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 10:51:39

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 10:51	5.852946	81.03346	116.6211	29798.78	27.34381	28521.96	17.86378	18.53927	33.62762	1.009766	-0.04988	0.521433	7.296567	-40.0339	106.3636	1020.895	29.24084
10/28/2020 10:51	5.80113	80.45899	115.7959	30229.64	27.33975	28935.09	18.12817	18.80781	29.98824	1.009965	-0.05044	0.520127	7.296146	-40.0087	106.3997	1020.897	29.24082
10/28/2020 10:51	5.252551	72.60357	104.5026	29714.31	27.3398	28443.17	17.80905	18.48806	33.65396	1.009726	-0.04608	0.530193	7.286532	-39.4352	106.6165	1020.854	29.25784
10/28/2020 10:51	5.212059	72.0355	103.686	29707.04	27.339	28436.63	17.80454	18.48381	33.66214	1.009723	-0.04603	0.530308	7.285972	-39.4018	106.6349	1020.853	29.25849
10/28/2020 10:51	5.171568	71.46744	102.8693	29699.77	27.33819	28430.1	17.80003	18.47956	33.67031	1.00972	-0.04598	0.530423	7.28541	-39.3685	106.6534	1020.852	29.25914
10/28/2020 10:51	5.131077	70.89937	102.0527	29692.5	27.33739	28423.56	17.79552	18.47531	33.67849	1.009717	-0.04593	0.530538	7.284849	-39.3351	106.6718	1020.851	29.25978
10/28/2020 10:51	4.695113	64.78255	93.26611	29659.6	27.15843	28485.29	17.83696	18.51544	33.71592	1.009802	-0.02503	0.578744	7.275216	-38.7515	106.8413	1020.833	29.25084
10/28/2020 10:51	4.66453	64.35326	92.64927	29656.36	27.15067	28486.23	17.83756	18.51605	33.71959	1.009804	-0.02405	0.581007	7.2746	-38.7144	106.8535	1020.831	29.2508
10/28/2020 10:51	4.633948	63.92396	92.03242	29653.12	27.1429	28487.18	17.83817	18.51666	33.72326	1.009807	-0.02307	0.583271	7.273984	-38.6773	106.8657	1020.83	29.25077
10/28/2020 10:51	4.302256	59.31493	85.40406	29662.95	27.09932	28519.43	17.86011	18.53763	33.71209	1.009837	-0.04567	0.531139	7.265141	-38.1508	106.949	1020.83	29.25881
10/28/2020 10:51	4.279064	58.99149	84.93909	29662.63	27.09419	28521.8	17.86172	18.53917	33.71245	1.009839	-0.04628	0.529731	7.26457	-38.1166	106.9561	1020.83	29.25902

Location Properties

T2-3HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 10:46:32

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2l	pH mV (m\	ORP (mV) |	Barometric Temperatu	Marked
10/28/2020 10:46	6.721483	93.40394	134.3093	29416.76	27.67039	27989.21	17.49856	18.19299	33.99422	1.009395	-0.07818	0.456159	7.414302	-46.9843	118.988	1020.757	29.16
10/28/2020 10:46	6.72362	93.42509	134.3418	29418.56	27.66526	27993.5	17.50148	18.19578	33.99215	1.009399	-0.07895	0.454364	7.412954	-46.9046	118.9273	1020.758	29.16
10/28/2020 10:46	6.77516	94.08114	135.3022	29428.03	27.62261	28024.25	17.5224	18.21576	33.98122	1.009427	-0.0874	0.43488	7.39856	-46.0485	118.3459	1020.791	29.17662
10/28/2020 10:46	6.777966	94.11633	135.354	29429.26	27.62069	28026.39	17.52386	18.21716	33.97979	1.009429	-0.08797	0.433566	7.397509	-45.986	118.3034	1020.793	29.17735
10/28/2020 10:46	6.780772	94.15152	135.4057	29430.48	27.61878	28028.54	17.52532	18.21855	33.97837	1.00943	-0.08854	0.432251	7.396458	-45.9235	118.2608	1020.796	29.17807
10/28/2020 10:46	6.783578	94.18671	135.4575	29431.71	27.61686	28030.69	17.52679	18.21995	33.97696	1.009432	-0.08911	0.430937	7.395407	-45.8611	118.2183	1020.799	29.17879
10/28/2020 10:46	6.836588	94.7148	136.2537	29451.48	27.54033	28088.63	17.56622	18.25761	33.95416	1.009485	-0.07468	0.46423	7.38287	-45.115	117.7111	1020.755	29.17067
10/28/2020 10:46	6.839931	94.75063	136.3073	29452.6	27.53609	28091.86	17.56841	18.25971	33.95287	1.009488	-0.07418	0.465375	7.382021	-45.0646	117.6767	1020.754	29.17059
10/28/2020 10:46	6.843274	94.78648	136.3608	29453.71	27.53186	28095.09	17.57061	18.26181	33.95158	1.009491	-0.07368	0.466519	7.381173	-45.0141	117.6424	1020.753	29.17051
10/28/2020 10:46	6.846617	94.82231	136.4144	29454.83	27.52762	28098.31	17.57281	18.2639	33.95029	1.009493	-0.07319	0.467664	7.380324	-44.9636	117.6081	1020.751	29.17042
10/28/2020 10:46	6.887906	95.29019	137.1122	29465.42	27.37503	28186.83	17.63284	18.32144	33.93808	1.009584	-0.06508	0.486359	7.368596	-44.2548	117.1846	1020.751	29.17903

Location Properties

T2-4HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 11:36:12

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 11:36	5.695525	80.26861	115.2574	30700.81	28.26754	28893.38	18.08185	18.78069	0	1.009647	-0.11249	0.377012	7.373004	-44.6523	93.76537	1020.661	30.7193
10/28/2020 11:36	5.270504	73.93215	106.178	29848.51	28.25966	28099.06	17.57691	18.26439	33.50274	1.009273	-0.10829	0.386686	7.359505	-43.8493	94.02328	1020.678	30.71966
10/28/2020 11:36	5.237342	73.45712	105.4973	29839.4	28.25762	28091.52	17.57172	18.25949	33.51288	1.00927	-0.10817	0.38697	7.358629	-43.7973	94.04484	1020.678	30.71982
10/28/2020 11:36	5.20418	72.9821	104.8165	29830.29	28.25558	28083.99	17.56653	18.25459	33.52303	1.009267	-0.10805	0.387253	7.357754	-43.7453	94.06639	1020.678	30.71998
10/28/2020 11:36	5.171018	72.50708	104.1357	29821.19	28.25353	28076.46	17.56133	18.2497	33.53318	1.009264	-0.10793	0.387537	7.356879	-43.6933	94.08795	1020.679	30.72014
10/28/2020 11:36	4.823792	67.47976	96.94816	29743.97	28.03496	28114.26	17.58633	18.27427	33.62035	1.009349	-0.10847	0.386281	7.34476	-42.9461	94.30101	1020.688	30.72869
10/28/2020 11:36	4.799508	67.1293	96.44672	29737.88	28.02501	28113.55	17.5858	18.27381	33.6272	1.009352	-0.1084	0.386435	7.343952	-42.8969	94.31602	1020.689	30.72908
10/28/2020 11:36	4.775224	66.77883	95.94527	29731.79	28.01506	28112.84	17.58527	18.27335	33.63404	1.009355	-0.10834	0.38659	7.343144	-42.8477	94.33102	1020.689	30.72946
10/28/2020 11:36	4.522655	63.15696	90.76031	29711.21	27.9228	28140.29	17.6037	18.29119	33.65734	1.009397	-0.10071	0.40417	7.33028	-42.0802	94.45253	1020.698	30.73801
10/28/2020 11:36	4.504675	62.89826	90.39012	29708.81	27.91465	28142.15	17.60495	18.2924	33.66006	1.0094	-0.10038	0.404937	7.329474	-42.0317	94.46207	1020.698	30.73855
10/28/2020 11:36	4.486695	62.63956	90.01994	29706.4	27.9065	28144.02	17.60619	18.29361	33.66278	1.009403	-0.10005	0.405703	7.328668	-41.9832	94.47162	1020.699	30.73909

Location Properties

T2-4HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 11:30:54

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2l	pH mV (m\	ORP (mV) |	Barometric	Temperatu	Marked
10/28/2020 11:30	6.080208	85.24197	122.3747	29015.24	28.45305	27231.29	17.01441	17.70034	133.1761	1.008794	-0.11531	0.370508	7.393043	-45.8502	101.7573	1020.666	30.60785	
10/28/2020 11:30	6.060034	85.06745	122.1305	29473.46	28.41142	27673.75	17.29211	17.98794	54.57446	1.009014	-0.11585	0.369246	7.393168	-45.8551	101.4287	1020.667	30.6084	
10/28/2020 11:30	6.138477	86.21083	123.7721	29650.89	28.39762	27844.58	17.40253	18.09898	33.72586	1.009101	-0.11305	0.375726	7.379105	-45.0219	100.7944	1020.643	30.60915	
10/28/2020 11:31	6.137409	86.19657	123.7522	29655.24	28.38126	27856.63	17.41075	18.10681	33.7209	1.009112	-0.11315	0.375489	7.378153	-44.9657	100.7498	1020.642	30.60945	
10/28/2020 11:31	6.13634	86.18231	123.7323	29659.58	28.36449	27868.67	17.41896	18.11464	33.71593	1.009123	-0.11325	0.375252	7.377201	-44.9096	100.7051	1020.641	30.60975	
10/28/2020 11:31	6.135271	86.16806	123.7123	29663.93	28.34853	27880.72	17.42717	18.12247	33.71098	1.009134	-0.11335	0.375016	7.376249	-44.8534	100.6604	1020.64	30.61006	
10/28/2020 11:31	6.249943	87.69324	125.9231	29725.4	28.23239	27996.94	17.50657	18.19801	33.6413	1.009229	-0.12018	0.35928	7.364659	-44.1464	100.3815	1020.614	30.61	
10/28/2020 11:31	6.25712	87.79042	126.0635	29729.32	28.22766	28003.01	17.51072	18.20196	33.63685	1.009234	-0.12041	0.358728	7.363845	-44.0972	100.3579	1020.613	30.61	
10/28/2020 11:31	6.264297	87.88761	126.2039	29733.24	28.22292	28009.08	17.51487	18.20591	33.6324	1.009238	-0.12065	0.358177	7.36303	-44.048	100.3344	1020.611	30.61	
10/28/2020 11:31	6.384341	89.45885	128.49	29744.74	28.13861	28062.51	17.55123	18.24063	33.6194	1.009291	-0.10376	0.397134	7.352354	-43.4074	100.1681	1020.653	30.61836	
10/28/2020 11:31	6.392002	89.55964	128.6364	29746.47	28.13256	28067.18	17.55441	18.24367	33.61744	1.009296	-0.10312	0.398609	7.35164	-43.3644	100.1548	1020.654	30.61874	

Location Properties

T3-1HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 08:40:35

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/28/2020 8:40	6.48304	85.33583	123.5215	28475.5	24.38888	28811.8	18.03864	18.72767	35.11781	1.01075	-0.07161	0.471296	7.26826	-38.0008	166.2577	1020.737	24.05	
10/28/2020 8:40	6.484067	85.34601	123.5358	28462.7	24.38945	28798.53	18.02951	18.71905	35.13346	1.010743	-0.07109	0.4725	7.267385	-37.9503	167.4698	1020.734	24.05	
10/28/2020 8:40	6.530627	86.01202	124.4937	28498.46	24.41526	28820.35	18.04481	18.73323	35.08965	1.010747	-0.08254	0.446083	7.260215	-37.5338	168.4352	1020.741	24.06738	
10/28/2020 8:40	6.533139	86.04615	124.5426	28494.95	24.41665	28816.02	18.04185	18.73041	35.09394	1.010744	-0.08285	0.445373	7.259542	-37.4948	168.9642	1020.74	24.06816	
10/28/2020 8:40	6.535651	86.08028	124.5915	28491.44	24.41805	28811.69	18.03888	18.7276	35.09824	1.010742	-0.08316	0.444663	7.258868	-37.4557	169.4931	1020.739	24.06895	
10/28/2020 8:40	6.572247	86.58672	125.3229	28487.63	24.4433	28793.79	18.02684	18.71597	35.10296	1.010726	-0.07489	0.463728	7.251328	-37.0224	171.0495	1020.765	24.09453	
10/28/2020 8:40	6.574844	86.62286	125.375	28487.46	24.44497	28792.7	18.0261	18.71525	35.10316	1.010725	-0.0747	0.464175	7.250803	-36.9921	171.2007	1020.766	24.09603	
10/28/2020 8:40	6.577441	86.659	125.4271	28487.3	24.44664	28791.6	18.02537	18.71454	35.10336	1.010724	-0.07451	0.464622	7.250279	-36.9619	171.352	1020.767	24.09753	
10/28/2020 8:40	6.580039	86.69514	125.4792	28487.13	24.44831	28790.51	18.02463	18.71383	35.10357	1.010723	-0.07431	0.465068	7.249755	-36.9317	171.5033	1020.768	24.09902	
10/28/2020 8:40	6.611126	87.13319	126.1071	28496.87	24.46564	28790.72	18.02496	18.71397	35.09157	1.010718	-0.07618	0.460771	7.243028	-36.5429	172.7908	1020.752	24.10751	
10/28/2020 8:40	6.613236	87.16273	126.1495	28497.18	24.46691	28790.33	18.0247	18.71371	35.09119	1.010718	-0.0761	0.460945	7.242576	-36.5168	172.8843	1020.751	24.10839	

Location Properties

T3-2HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 08:52:21

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 8:52	6.980597	93.02225	134.3978	27825.34	25.32722	27651.55	17.30084	17.97351	622.1953	1.009934	-0.0798	0.452408	7.268794	-38.1655	166.6527	1020.68	25.2
10/28/2020 8:52	6.94876	92.84272	134.1381	28494.22	25.32839	28316.27	17.72837	18.40558	243.1344	1.010254	-0.07972	0.452597	7.281754	-38.9103	165.3702	1020.68	25.2
10/28/2020 8:52	6.916923	92.66318	133.8784	29163.11	25.32955	28981	18.15589	18.83765	0	1.010574	-0.07964	0.452787	7.294715	-39.6551	164.0877	1020.68	25.2
10/28/2020 8:52	6.118086	81.97743	118.4351	29130.03	25.36967	28925.66	18.12938	18.80168	34.42542	1.010543	-0.08863	0.43204	7.276987	-38.6346	163.6008	1020.698	25.21801
10/28/2020 8:52	6.070274	81.39869	117.5986	29290.53	25.37155	29084.11	18.23636	18.90467	34.15365	1.010622	-0.08912	0.430916	7.276246	-38.5918	163.5375	1020.699	25.21885
10/28/2020 8:52	6.022463	80.81995	116.7622	29451.03	25.37343	29242.56	18.34335	19.00767	33.88188	1.010702	-0.08961	0.429792	7.275505	-38.549	163.4742	1020.699	25.2197
10/28/2020 8:52	5.44068	73.01939	105.48	29379.54	25.40114	29156.14	18.28596	18.95149	34.03735	1.010651	-0.0804	0.451019	7.265574	-37.9713	162.3993	1020.631	25.22791
10/28/2020 8:52	5.398062	72.4516	104.659	29384.1	25.4032	29159.54	18.28832	18.9537	34.03204	1.010652	-0.08019	0.451518	7.264887	-37.9315	162.3297	1020.629	25.22865
10/28/2020 8:52	5.355443	71.88382	103.8381	29388.67	25.40527	29162.93	18.29068	18.95591	34.02673	1.010653	-0.07997	0.452017	7.264201	-37.8917	162.2602	1020.626	25.22938
10/28/2020 8:52	5.312825	71.31604	103.0171	29393.24	25.40733	29166.33	18.29304	18.95811	34.02142	1.010655	-0.07975	0.452516	7.263515	-37.8519	162.1906	1020.624	25.23012
10/28/2020 8:52	4.84502	65.04868	93.96276	29406.29	25.4169	29173.98	18.29841	18.96309	34.00634	1.010656	-0.07693	0.459021	7.254786	-37.343	161.0747	1020.631	25.22969

Location Properties

T3-2HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 08:45:40

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
10/28/2020 8:45	6.935991	91.9492	132.9833	28592.23	24.81004	28696.35	17.96358	18.65263	34.97453	1.010576	-0.07642	0.460215	7.176504	-32.7142	140.7206	1020.69	24.59	
10/28/2020 8:45	7.028198	93.1735	134.7508	28567.2	24.81702	28667.38	17.94372	18.6338	35.00519	1.010559	-0.1275	0.342384	7.173173	-32.5214	153.7645	1020.68	24.60875	
10/28/2020 8:45	7.034158	93.25264	134.8651	28565.58	24.81747	28665.51	17.94243	18.63258	35.00717	1.010558	-0.1308	0.334767	7.172957	-32.509	154.6076	1020.68	24.60996	
10/28/2020 8:45	7.040118	93.33177	134.9794	28563.96	24.81792	28663.64	17.94115	18.63137	35.00916	1.010557	-0.1341	0.327151	7.172742	-32.4965	155.4507	1020.679	24.61117	
10/28/2020 8:45	7.046078	93.41091	135.0936	28562.34	24.81838	28661.77	17.93987	18.63015	35.01114	1.010556	-0.13741	0.319535	7.172527	-32.4841	156.2939	1020.678	24.61238	
10/28/2020 8:45	7.095073	94.07258	136.052	28565.47	24.82641	28660.49	17.93908	18.62932	35.0073	1.010553	-0.07978	0.452448	7.171622	-32.4314	157.7915	1020.706	24.62702	
10/28/2020 8:45	7.099695	94.13445	136.1415	28564.96	24.82696	28659.68	17.93852	18.62879	35.00793	1.010553	-0.07852	0.455374	7.171494	-32.424	158.1999	1020.707	24.62817	
10/28/2020 8:45	7.104318	94.19633	136.231	28564.45	24.82751	28658.87	17.93797	18.62826	35.00856	1.010552	-0.07725	0.4583	7.171366	-32.4166	158.6084	1020.708	24.62932	
10/28/2020 8:45	7.10894	94.25821	136.3204	28563.93	24.82805	28658.05	17.93741	18.62773	35.00918	1.010552	-0.07598	0.461227	7.171238	-32.4092	159.0168	1020.709	24.63047	
10/28/2020 8:45	7.161252	94.95774	137.3281	28568.42	24.83028	28661.33	17.93969	18.62987	35.00368	1.010553	-0.06863	0.478183	7.170159	-32.3465	160.2493	1020.683	24.62959	
10/28/2020 8:46	7.164925	95.00694	137.3991	28568.56	24.83057	28661.32	17.93968	18.62986	35.00351	1.010553	-0.06739	0.48103	7.170079	-32.3419	160.3919	1020.682	24.62993	

Location Properties

T3-3HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 09:11:03

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 9:11	6.332199	86.24747	124.4437	30418.97	26.10293	29789.74	18.6889	19.36333	0	1.010751	-0.09253	0.42305	7.321739	-41.3404	130.5968	1020.86	26.18038
10/28/2020 9:11	5.829848	79.22961	114.3158	29859.29	26.11227	29238.16	18.3487	19.0048	33.49051	1.010493	-0.09109	0.426365	7.310978	-40.7108	131.0999	1020.859	26.18855
10/28/2020 9:11	5.791059	78.70463	113.5585	29866.76	26.1096	29246.91	18.35471	19.01049	33.48208	1.010499	-0.09101	0.426562	7.310183	-40.6642	131.1354	1020.86	26.18911
10/28/2020 9:11	5.752271	78.17964	112.8013	29874.22	26.10694	29255.66	18.36073	19.01618	33.47365	1.010504	-0.09092	0.426759	7.309388	-40.6176	131.1709	1020.86	26.18966
10/28/2020 9:11	5.353603	72.75402	104.977	29951.92	26.09929	29335.97	18.41613	19.06838	33.38693	1.010547	-0.09827	0.409811	7.300999	-40.1257	131.3665	1020.851	26.18962
10/28/2020 9:11	5.32547	72.37207	104.426	29957.34	26.09889	29341.5	18.41994	19.07198	33.38086	1.01055	-0.09857	0.409108	7.300406	-40.0909	131.3841	1020.851	26.18978
10/28/2020 9:11	5.297337	71.99011	103.8751	29962.77	26.09849	29347.03	18.42376	19.07557	33.37479	1.010553	-0.09888	0.408404	7.299813	-40.0562	131.4016	1020.85	26.18994
10/28/2020 9:11	5.269204	71.60815	103.3242	29968.19	26.09808	29352.56	18.42757	19.07917	33.36872	1.010556	-0.09918	0.4077	7.29922	-40.0214	131.4192	1020.85	26.1901
10/28/2020 9:11	4.976007	67.60475	97.55245	29970.78	26.06339	29374.17	18.44222	19.09321	33.36584	1.010577	-0.07795	0.456675	7.292427	-39.6207	131.5075	1020.859	26.19
10/28/2020 9:11	4.95503	67.31871	97.14002	29972.44	26.06163	29376.76	18.44399	19.09489	33.36399	1.010579	-0.07714	0.458542	7.291958	-39.5931	131.5155	1020.859	26.19
10/28/2020 9:11	4.934053	67.03267	96.72759	29974.09	26.05988	29379.34	18.44576	19.09657	33.36214	1.010581	-0.07633	0.460409	7.29149	-39.5655	131.5236	1020.859	26.19

Location Properties

T3-3HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 09:06:07

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2l pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 9:06	6.496274	88.1799	126.9396	24947.32	27.21524	23938.19	14.94304	15.55982	2655.218	1.007623	-0.08311	0.444766	7.446732	-48.7361	157.0208	1020.851	25.98947
10/28/2020 9:06	6.463456	88.077	126.7906	26024.71	27.20951	24972.01	15.58921	16.23181	2098.005	1.008107	-0.08322	0.444531	7.446568	-48.7232	156.8887	1020.85	25.9898
10/28/2020 9:06	6.430639	87.97411	126.6416	27102.09	27.20379	26005.84	16.23537	16.9038	1540.791	1.008591	-0.08332	0.444296	7.446403	-48.7104	156.7565	1020.85	25.99013
10/28/2020 9:06	6.173672	83.95444	120.9831	27608.81	26.70056	26750.7	16.71088	17.38795	970.2678	1.009096	-0.08175	0.447915	7.426386	-47.537	155.4834	1020.85	25.99842
10/28/2020 9:06	6.147522	83.71443	120.6433	28070.2	26.67794	27205.1	16.99516	17.68331	592.988	1.009315	-0.08174	0.447931	7.425514	-47.4845	155.3744	1020.85	25.9988
10/28/2020 9:06	6.121372	83.47443	120.3035	28531.59	26.65533	27659.5	17.27944	17.97867	215.7082	1.009534	-0.08174	0.447946	7.424642	-47.4319	155.2654	1020.85	25.99918
10/28/2020 9:06	6.095222	83.23444	119.9637	28992.97	26.63271	28113.9	17.56372	18.27403	0	1.009753	-0.08173	0.447962	7.42377	-47.3793	155.1564	1020.85	25.99956
10/28/2020 9:06	6.275459	85.57023	123.3402	28796.28	26.58694	27949.25	17.46472	18.16702	34.72672	1.009693	-0.08501	0.440396	7.406275	-46.3444	154.1747	1020.832	25.991
10/28/2020 9:06	6.278944	85.60283	123.3901	28797.57	26.57542	27956.41	17.46956	18.17167	34.72516	1.0097	-0.08513	0.440117	7.405097	-46.275	154.1058	1020.832	25.99077
10/28/2020 9:06	6.282429	85.63543	123.4401	28798.86	26.56389	27963.57	17.4744	18.17632	34.72361	1.009707	-0.08525	0.439837	7.403919	-46.2055	154.0368	1020.831	25.99053
10/28/2020 9:06	6.285914	85.66803	123.49	28800.14	26.55237	27970.73	17.47925	18.18097	34.72206	1.009714	-0.08537	0.439558	7.40274	-46.136	153.9679	1020.83	25.9903

Location Properties

T3-4HT

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 11:16:33

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/28/2020 11:16	6.147028	85.96351	123.5458	30176.44	27.97008	28555.74	17.86533	18.56123	0	1.009577	-0.1119	0.378367	7.339871	-42.6547	100.5234	1020.76	30.08001
10/28/2020 11:16	5.479803	76.40025	109.8177	29616.6	27.84749	28089	17.56809	18.25785	33.76565	1.009393	-0.11462	0.372104	7.327311	-41.896	101.2639	1020.759	30.07978
10/28/2020 11:16	5.436494	75.79216	108.9455	29627.93	27.84007	28103.46	17.57797	18.26725	33.75218	1.009403	-0.1147	0.371911	7.326538	-41.8495	101.2847	1020.76	30.07995
10/28/2020 11:16	5.393184	75.18407	108.0732	29639.27	27.83265	28117.92	17.58786	18.27665	33.73871	1.009412	-0.11478	0.371718	7.325766	-41.8031	101.3056	1020.76	30.08011
10/28/2020 11:16	4.973868	69.24368	99.54975	29570.18	27.75443	28092.24	17.56982	18.25996	33.81793	1.009423	-0.11205	0.378029	7.314375	-41.122	101.5343	1020.751	30.08
10/28/2020 11:16	4.942339	68.79765	98.90968	29564.98	27.74864	28090.26	17.56843	18.25867	33.82384	1.009423	-0.11198	0.378193	7.313637	-41.0777	101.5496	1020.751	30.08
10/28/2020 11:16	4.91081	68.35162	98.26961	29559.79	27.74284	28088.29	17.56704	18.25739	33.82976	1.009424	-0.1119	0.378357	7.312899	-41.0334	101.565	1020.75	30.08
10/28/2020 11:16	4.879282	67.9056	97.62953	29554.59	27.73705	28086.3	17.56565	18.2561	33.83567	1.009425	-0.11183	0.378521	7.312161	-40.9892	101.5803	1020.75	30.08
10/28/2020 11:16	4.542883	63.05994	90.69077	29469.7	27.65088	28049.49	17.53989	18.23217	33.93322	1.009432	-0.11409	0.373315	7.300214	-40.2799	101.7054	1020.741	30.08863
10/28/2020 11:16	4.519608	62.72675	90.2133	29464.82	27.64552	28047.58	17.53856	18.23093	33.93882	1.009432	-0.11414	0.373206	7.299462	-40.2351	101.7155	1020.741	30.08901
10/28/2020 11:16	4.496331	62.39354	89.73582	29459.93	27.64015	28045.67	17.53722	18.22969	33.94443	1.009433	-0.11419	0.373096	7.29871	-40.1904	101.7256	1020.74	30.08939

Location Properties

T3-4HTS

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 11:11:17

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2l pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/28/2020 11:11	4.872211	68.62603	98.45037	29106.43	28.67237	27207.28	16.9913	17.68473	113.0324	1.008709	-0.09985	0.406174	7.439925	-48.6425	110.6648	1020.65	29.82786	
10/28/2020 11:11	4.829389	68.13102	97.74559	29560.05	28.64986	27633.48	17.258	17.96176	32.1341	1.008915	-0.09981	0.406252	7.438601	-48.5635	110.6237	1020.65	29.82874	
10/28/2020 11:11	4.575673	64.49497	92.54099	29574.21	28.5779	27682.48	17.29192	17.99361	33.81325	1.008963	-0.11693	0.36677	7.420738	-47.4963	110.2514	1020.633	29.82053	
10/28/2020 11:11	4.555821	64.21391	92.13807	29575.47	28.57167	27686.73	17.29482	17.99638	33.81181	1.008967	-0.11775	0.364876	7.419568	-47.4265	110.2238	1020.631	29.82042	
10/28/2020 11:11	4.535969	63.93284	91.73516	29576.73	28.56543	27690.99	17.29771	17.99914	33.81037	1.008971	-0.11857	0.362981	7.418397	-47.3566	110.1962	1020.63	29.82031	
10/28/2020 11:11	4.416689	62.0937	89.12968	29623.21	28.47312	27780.39	17.35875	18.05725	33.75734	1.009045	-0.09117	0.426191	7.403514	-46.4678	109.9084	1020.613	29.83738	
10/28/2020 11:11	4.406199	61.93703	88.90674	29625.9	28.46738	27785.76	17.36242	18.06075	33.75426	1.009049	-0.09021	0.428405	7.402454	-46.4045	109.8876	1020.612	29.83801	
10/28/2020 11:11	4.395707	61.78035	88.68381	29628.6	28.46164	27791.14	17.36609	18.06424	33.75117	1.009054	-0.08925	0.430618	7.401395	-46.3412	109.8667	1020.611	29.83865	
10/28/2020 11:11	4.385216	61.62368	88.46087	29631.3	28.4559	27796.52	17.36976	18.06774	33.7481	1.009058	-0.08829	0.432831	7.400335	-46.2779	109.8459	1020.61	29.83928	
10/28/2020 11:11	4.320868	60.64961	87.07974	29658.12	28.27923	27910.11	17.44707	18.14157	33.71759	1.00917	-0.1115	0.379295	7.387732	-45.5126	109.6268	1020.593	29.83085	
10/28/2020 11:11	4.315304	60.56485	86.95957	29660.31	28.26933	27917.1	17.45184	18.14612	33.7151	1.009177	-0.11199	0.378156	7.386843	-45.4589	109.6107	1020.592	29.83081	

Location Properties

T4-1L

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 16:16:07

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 16:16	6.102758	87.60692	125.2631	32158.77	29.01658	29867.45	18.80165	19.41384	31.09575	1.00995	-0.07774	0.457167	7.682027	-62.9838	78.66431	1018.208	31.48125
10/28/2020 16:16	6.094958	87.49043	125.0975	32156.85	29.01273	29867.7	18.80182	19.41401	31.0976	1.009951	-0.07848	0.455453	7.681097	-62.9282	78.59225	1018.208	31.48105
10/28/2020 16:16	6.087158	87.37393	124.9319	32154.93	29.00888	29867.96	18.80198	19.41418	31.09944	1.009953	-0.07922	0.453739	7.680167	-62.8726	78.52017	1018.209	31.48084
10/28/2020 16:16	6.079358	87.25743	124.7664	32153.01	29.00503	29868.22	18.80214	19.41434	31.10128	1.009954	-0.07997	0.452025	7.679237	-62.817	78.4481	1018.209	31.48064
10/28/2020 16:16	6.000038	86.07276	123.0847	32189.42	28.95767	29927.2	18.84286	19.45268	31.06611	1.01	-0.08264	0.445849	7.670465	-62.2946	77.71188	1018.201	31.48033
10/28/2020 16:16	5.994697	85.9929	122.9714	32191.46	28.95392	29931.08	18.84553	19.4552	31.06415	1.010003	-0.08329	0.444365	7.669842	-62.2575	77.66031	1018.2	31.48018
10/28/2020 16:16	5.989356	85.91304	122.8581	32193.49	28.95017	29934.96	18.8482	19.45772	31.06218	1.010006	-0.08393	0.44288	7.669219	-62.2204	77.60873	1018.2	31.48002
10/28/2020 16:16	5.935736	85.11756	121.7258	32209.01	28.92663	29961.91	18.8668	19.47524	31.04722	1.010027	-0.07406	0.465661	7.662197	-61.8057	77.08315	1018.183	31.48
10/28/2020 16:16	5.931649	85.05679	121.6393	32210.44	28.92463	29964.31	18.86846	19.4768	31.04584	1.010029	-0.07362	0.466677	7.661695	-61.776	77.04402	1018.182	31.48
10/28/2020 16:16	5.927562	84.996	121.5529	32211.88	28.92263	29966.71	18.87012	19.47836	31.04445	1.010031	-0.07318	0.467692	7.661192	-61.7463	77.00489	1018.181	31.48
10/28/2020 16:16	5.923475	84.93523	121.4665	32213.31	28.92063	29969.11	18.87177	19.47992	31.04306	1.010033	-0.07274	0.468708	7.660691	-61.7166	76.96577	1018.18	31.48

Location Properties

T4-2L and DUP-4

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 15:41:19

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
10/28/2020 15:41	6.649107	95.349	136.3756	32502.18	28.85171	30274.93	19.08381	19.67871	30.76717	1.010212	-0.08101	0.449609	7.525725	-53.7384	68.72711	1018.144	32.15076	
10/28/2020 15:41	6.650807	95.3711	136.4077	32503.62	28.84912	30277.66	19.0857	19.68048	30.76581	1.010215	-0.08051	0.450775	7.524673	-53.6759	68.69473	1018.142	32.15038	
10/28/2020 15:41	6.683606	95.73485	136.9518	32521.25	28.8131	30313.52	19.11045	19.70379	30.74913	1.010244	-0.09719	0.412292	7.512521	-52.953	68.4885	1018.142	32.15031	
10/28/2020 15:41	6.685541	95.75698	136.9846	32522.29	28.81073	30315.77	19.112	19.70525	30.74814	1.010246	-0.09765	0.411227	7.511682	-52.9031	68.47142	1018.141	32.15015	
10/28/2020 15:41	6.687477	95.77911	137.0174	32523.34	28.80836	30318.02	19.11355	19.70671	30.74715	1.010248	-0.09812	0.410163	7.510841	-52.8531	68.45434	1018.14	32.14998	
10/28/2020 15:41	6.689412	95.80125	137.0502	32524.38	28.80599	30320.26	19.1151	19.70817	30.74617	1.01025	-0.09858	0.409098	7.510002	-52.8032	68.43726	1018.139	32.14982	
10/28/2020 15:41	6.713786	96.1248	137.5269	32562.47	28.73612	30393.6	19.16575	19.75584	30.71021	1.01031	-0.10011	0.405557	7.49975	-52.1872	68.33107	1018.166	32.14117	
10/28/2020 15:41	6.715527	96.14653	137.559	32564.52	28.73228	30397.59	19.16851	19.75844	30.70827	1.010313	-0.10049	0.404681	7.499043	-52.1449	68.32186	1018.167	32.14077	
10/28/2020 15:41	6.717268	96.16826	137.5912	32566.57	28.72844	30401.58	19.17126	19.76103	30.70633	1.010316	-0.10087	0.403806	7.498337	-52.1026	68.31264	1018.168	32.14038	
10/28/2020 15:41	6.742726	96.499	138.0698	32601.46	28.69247	30453.69	19.20732	19.7949	30.67348	1.010354	-0.09419	0.419229	7.489155	-51.5557	68.26053	1018.126	32.1233	
10/28/2020 15:41	6.744347	96.52014	138.1005	32603.75	28.68952	30457.43	19.2099	19.79733	30.67132	1.010357	-0.09392	0.419842	7.48854	-51.519	68.25593	1018.125	32.12238	

Location Properties

T4-3L

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 15:26:17

Time Offset = -04:00:00

Duration = 00:00:22

Readings = 12

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/28/2020 15:26	6.183418	90.43626	128.9398	32646.25	30.23506	29678.7	18.6748	19.29115	30.63141	1.009466	-0.10511	0.394028	7.53027	-54.2508	74.15789	1018.189	32.53918
10/28/2020 15:26	6.185741	90.46869	128.9864	32646.51	30.23694	29677.95	18.67429	19.29067	30.63116	1.009465	-0.1058	0.392444	7.529172	-54.1853	74.1163	1018.19	32.53942
10/28/2020 15:26	6.188065	90.50112	129.033	32646.77	30.23883	29677.21	18.67378	19.29019	30.63091	1.009464	-0.10648	0.390861	7.528075	-54.1198	74.07472	1018.19	32.53966
10/28/2020 15:26	6.248651	91.2954	130.1944	32671.18	30.09752	29772.5	18.73949	19.35212	30.60803	1.009558	-0.11026	0.382146	7.514615	-53.2959	73.76821	1018.207	32.53103
10/28/2020 15:26	6.252424	91.34506	130.2668	32673.35	30.09113	29777.78	18.74313	19.35555	30.60598	1.009563	-0.11078	0.380943	7.51369	-53.2396	73.74358	1018.208	32.53081
10/28/2020 15:26	6.256197	91.39472	130.3393	32675.53	30.08475	29783.05	18.74677	19.35899	30.60394	1.009568	-0.1113	0.379741	7.512764	-53.1834	73.71896	1018.209	32.53058
10/28/2020 15:26	6.259971	91.44438	130.4118	32677.71	30.07837	29788.33	18.75042	19.36242	30.6019	1.009573	-0.11183	0.378539	7.511838	-53.1272	73.69433	1018.209	32.53036
10/28/2020 15:26	6.308641	92.06777	131.3191	32687.56	30.00759	29834.1	18.78197	19.39217	30.59268	1.009619	-0.11683	0.366986	7.500804	-52.4625	73.508	1018.174	32.53024
10/28/2020 15:26	6.31198	92.11095	131.3821	32688.51	30.00178	29837.98	18.78465	19.39469	30.59179	1.009623	-0.11714	0.366274	7.500044	-52.4165	73.49316	1018.173	32.53007
10/28/2020 15:26	6.31532	92.15413	131.445	32689.46	29.99597	29841.86	18.78732	19.39721	30.5909	1.009627	-0.11745	0.365563	7.499284	-52.3705	73.47832	1018.172	32.5299
10/28/2020 15:26	6.399981	93.25	133.0371	32739.33	29.92526	29924.31	18.84434	19.4508	30.54431	1.009692	-0.0998	0.406286	7.489395	-51.7783	73.3361	1018.111	32.52147
10/28/2020 15:26	6.404751	93.31165	133.1267	32741.83	29.92071	29928.96	18.84755	19.45382	30.54198	1.009696	-0.09909	0.407924	7.488737	-51.7389	73.32593	1018.108	32.52108

Location Properties

T4-4L

Location Name = Device Location

Report Properties

Start Time = 2020-10-28 15:03:08

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
10/28/2020 15:03	6.395653	94.52511	134.4524	31420.5	31.2469	28077.57	17.61733	18.25042	151.9411	1.008348	-0.07389	0.466033	7.569824	-56.7908	90.0526	1018.4	32.65	
10/28/2020 15:03	6.395864	94.67408	134.6658	31957.51	31.2263	28563.54	17.92301	18.5663	76.24837	1.008582	-0.07373	0.466415	7.571658	-56.8998	89.55687	1018.4	32.65	
10/28/2020 15:03	6.396075	94.82306	134.8793	32494.53	31.2057	29049.51	18.22869	18.88218	0.555605	1.008815	-0.07356	0.466796	7.573492	-57.0088	89.06114	1018.401	32.65	
10/28/2020 15:03	6.396286	94.97203	135.0927	33031.54	31.1851	29535.47	18.53437	19.19806	0	1.009049	-0.0734	0.467178	7.575325	-57.1178	88.56541	1018.401	32.65	
10/28/2020 15:03	6.413246	95.15621	135.3235	32342.06	31.26038	28887.88	18.12919	18.77712	30.91951	1.008723	-0.08253	0.446126	7.551348	-55.7006	87.74936	1018.4	32.6413	
10/28/2020 15:03	6.415154	95.1959	135.3777	32343.33	31.25473	28891.78	18.13188	18.77966	30.91829	1.008727	-0.08287	0.445335	7.549975	-55.6202	87.64332	1018.4	32.64092	
10/28/2020 15:03	6.417063	95.23559	135.4318	32344.61	31.24908	28895.68	18.13457	18.78219	30.91706	1.008731	-0.08321	0.444544	7.548601	-55.5397	87.53728	1018.4	32.64055	
10/28/2020 15:03	6.425529	95.4156	135.6777	32410.9	31.28287	28938.23	18.16403	18.80985	30.85385	1.008742	-0.08926	0.430602	7.533567	-54.6453	86.6722	1018.391	32.64891	
10/28/2020 15:03	6.426179	95.42994	135.6972	32415.05	31.28542	28940.67	18.16572	18.81144	30.84989	1.008742	-0.08968	0.429611	7.532527	-54.5835	86.6079	1018.391	32.64913	
10/28/2020 15:03	6.42683	95.44428	135.7167	32419.2	31.28797	28943.12	18.16742	18.81303	30.84593	1.008743	-0.09011	0.42862	7.531487	-54.5218	86.54361	1018.39	32.64936	
10/28/2020 15:03	6.42748	95.45863	135.7361	32423.35	31.29053	28945.57	18.16911	18.81462	30.84197	1.008743	-0.09054	0.427629	7.530446	-54.46	86.47932	1018.39	32.64959	

Location Properties

T4-1HB

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 09:20:30

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/29/2020 9:20	5.273641	71.71422	104.0677	30777.72	25.43377	30524.82	19.2331	19.84114	32.49104	1.011352	-0.08899	0.431224	7.261722	-40.4576	194.0021	1013.537	25.97917
10/29/2020 9:20	5.025305	68.3313	99.15818	30788.85	25.42272	30542.26	19.24509	19.85247	32.47929	1.011364	-0.08867	0.431944	7.257499	-40.2139	191.2473	1013.513	25.98791
10/29/2020 9:20	5.009263	68.11261	98.8409	30789.39	25.42177	30543.34	19.24582	19.85317	32.47873	1.011365	-0.08869	0.431905	7.257217	-40.1976	191.0731	1013.513	25.98845
10/29/2020 9:20	4.993221	67.89391	98.52362	30789.92	25.42083	30544.42	19.24656	19.85387	32.47816	1.011366	-0.08871	0.431866	7.256934	-40.1813	190.8989	1013.512	25.98899
10/29/2020 9:20	4.97718	67.67522	98.20634	30790.46	25.41988	30545.49	19.2473	19.85457	32.47759	1.011366	-0.08872	0.431826	7.256652	-40.165	190.7248	1013.511	25.98952
10/29/2020 9:20	4.768077	64.82848	94.07481	30782.34	25.41826	30538.37	19.24234	19.84994	32.48616	1.011363	-0.09207	0.424118	7.252493	-39.9211	188.4715	1013.502	25.99852
10/29/2020 9:20	4.753631	64.63179	93.78934	30782.15	25.418	30538.34	19.24232	19.84992	32.48635	1.011363	-0.09222	0.423763	7.252219	-39.9051	188.3141	1013.501	25.99911
10/29/2020 9:20	4.739185	64.4351	93.50388	30781.97	25.41774	30538.31	19.24229	19.8499	32.48655	1.011363	-0.09237	0.423408	7.251944	-39.8891	188.1567	1013.5	25.9997
10/29/2020 9:20	4.72474	64.2384	93.21841	30781.79	25.41748	30538.28	19.24227	19.84988	32.48674	1.011363	-0.09253	0.423053	7.25167	-39.8731	187.9994	1013.499	26.00029
10/29/2020 9:20	4.560905	61.97984	89.94728	30761.61	25.39077	30533.71	19.23884	19.84692	32.50805	1.011368	-0.08242	0.446358	7.248265	-39.6753	186.6511	1013.517	26.0085
10/29/2020 9:20	4.549168	61.81885	89.71392	30760.57	25.38959	30533.37	19.23859	19.84669	32.50915	1.011368	-0.08206	0.447188	7.248025	-39.6614	186.5425	1013.518	26.00905

Location Properties

T4-1HS

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 09:14:23

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/29/2020 9:14	6.449753	87.58914	127.1554	31030.72	25.28719	30861.44	19.46531	20.05993	32.22613	1.011568	-0.08247	0.446262	7.184459	-35.9833	156.9566	1013.65	25.36
10/29/2020 9:14	6.449753	87.58914	127.1554	31030.72	25.28719	30861.44	19.46531	20.05993	32.22613	1.011568	-0.08247	0.446262	7.184459	-35.9833	156.9566	1013.65	25.36
10/29/2020 9:14	6.561142	88.98399	129.175	30692.67	25.28426	30526.93	19.23306	19.8425	32.5814	1.011394	-0.07914	0.453941	7.183921	-35.9523	181.0567	1013.603	25.36
10/29/2020 9:14	6.568225	89.07269	129.3034	30671.17	25.28407	30505.66	19.21829	19.82868	32.60399	1.011383	-0.07893	0.45443	7.183887	-35.9504	182.5891	1013.601	25.36
10/29/2020 9:14	6.575308	89.16138	129.4318	30649.67	25.28388	30484.39	19.20352	19.81485	32.62658	1.011372	-0.07871	0.454918	7.183852	-35.9484	184.1216	1013.598	25.36
10/29/2020 9:14	6.58239	89.25008	129.5602	30628.18	25.2837	30463.12	19.18876	19.80103	32.64917	1.011361	-0.0785	0.455406	7.183818	-35.9464	185.654	1013.595	25.36
10/29/2020 9:14	6.63713	90.02035	130.6782	30711.71	25.28488	30545.5	19.24594	19.85457	32.56097	1.011404	-0.0801	0.451709	7.184461	-35.9833	187.3421	1013.592	25.37734
10/29/2020 9:14	6.642422	90.09045	130.7798	30706.97	25.28486	30540.81	19.24269	19.85152	32.56592	1.011401	-0.08009	0.451734	7.184477	-35.9842	188.0262	1013.591	25.37813
10/29/2020 9:14	6.647713	90.16056	130.8815	30702.25	25.28484	30536.12	19.23943	19.84847	32.57087	1.011399	-0.08008	0.45176	7.184493	-35.9851	188.7102	1013.59	25.37891
10/29/2020 9:14	6.653004	90.23067	130.9831	30697.52	25.28482	30531.42	19.23617	19.84542	32.57582	1.011397	-0.08007	0.451786	7.184508	-35.986	189.3942	1013.589	25.3797
10/29/2020 9:14	6.704202	90.93791	132.012	30733.19	25.2841	30567.32	19.26107	19.86876	32.53812	1.011415	-0.07846	0.45551	7.185118	-36.0211	191.0035	1013.607	25.39706

Location Properties

T4-2HB

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 09:48:10

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
10/29/2020 9:48	4.670454	64.2947	93.15464	31062.65	26.15606	30391.58	19.14736	19.75453	32.19301	1.011078	-0.10107	0.403348	7.378189	-47.286	154.5213	1013.421	27.92976
10/29/2020 9:48	4.655476	64.08517	92.85168	31061.81	26.15241	30392.83	19.14819	19.75534	32.19387	1.01108	-0.10137	0.402652	7.377719	-47.2278	154.4218	1013.42	27.92992
10/29/2020 9:48	4.640498	63.87564	92.54871	31060.97	26.14876	30394.08	19.14903	19.75616	32.19474	1.011082	-0.10167	0.401955	7.376192	-47.1695	154.3223	1013.42	27.93008
10/29/2020 9:48	4.486603	61.68564	89.3916	31080.77	26.10857	30436.33	19.17799	19.78362	32.17423	1.011115	-0.09491	0.417562	7.364022	-46.4606	153.4892	1013.446	27.93874
10/29/2020 9:48	4.474967	61.52105	89.15405	31081.4	26.10565	30438.61	19.17955	19.7851	32.17358	1.011117	-0.09473	0.417972	7.363134	-46.4088	153.4194	1013.447	27.93914
10/29/2020 9:48	4.463332	61.35647	88.9165	31082.03	26.10272	30440.89	19.18111	19.78658	32.17293	1.011119	-0.09455	0.418383	7.362245	-46.357	153.3496	1013.448	27.93954
10/29/2020 9:48	4.342525	59.66313	86.46616	31059.47	26.03182	30459.2	19.19319	19.79848	32.1963	1.011149	-0.07634	0.460401	7.351231	-45.7106	152.1082	1013.415	27.93965
10/29/2020 9:48	4.333743	59.53941	86.28737	31058.79	26.02771	30460.87	19.19432	19.79957	32.197	1.011151	-0.07537	0.462622	7.350471	-45.6661	152.0332	1013.414	27.93982
10/29/2020 9:48	4.32496	59.41569	86.10857	31058.12	26.02361	30462.54	19.19544	19.80065	32.1977	1.011153	-0.07441	0.464842	7.349712	-45.6217	151.9582	1013.413	27.93999
10/29/2020 9:48	4.316178	59.29197	85.92977	31057.44	26.01951	30464.22	19.19657	19.80174	32.19841	1.011155	-0.07345	0.467062	7.348953	-45.5772	151.8831	1013.412	27.94016
10/29/2020 9:48	4.23472	58.14798	84.27813	31048.09	25.99411	30469.55	19.20004	19.80521	32.2081	1.011165	-0.09059	0.42753	7.338898	-44.9934	150.7191	1013.437	27.94852

Location Properties

T4-2HS and DUP-5

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 09:36:42

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/29/2020 9:36	6.859908	93.98417	136.2469	30773.45	25.92719	30238.65	19.05034	19.65512	68.6436	1.011072	-0.06865	0.478131	7.408173	-48.9924	168.1778	1013.492	27.33925
10/29/2020 9:36	6.879363	94.37135	136.7926	30946.58	25.94301	30399.04	19.15066	19.75937	32.3138	1.011143	-0.07957	0.452953	7.396075	-48.296	166.4283	1013.456	27.34837
10/29/2020 9:36	6.881513	94.40327	136.838	30943.25	25.94132	30396.73	19.14904	19.75788	32.31726	1.011142	-0.07947	0.453165	7.395166	-48.2437	166.3165	1013.454	27.34896
10/29/2020 9:36	6.883663	94.4352	136.8835	30939.91	25.93962	30394.43	19.14743	19.75638	32.32072	1.011141	-0.07938	0.453377	7.394258	-48.1914	166.2048	1013.451	27.34954
10/29/2020 9:36	6.885812	94.46712	136.9289	30936.58	25.93793	30392.12	19.14581	19.75488	32.32418	1.011141	-0.07929	0.453589	7.393349	-48.1391	166.093	1013.449	27.35012
10/29/2020 9:36	6.902764	94.69624	137.2704	30949.74	25.96015	30392.38	19.14618	19.75505	32.31045	1.011135	-0.08748	0.434693	7.383246	-47.5536	164.7322	1013.52	27.34982
10/29/2020 9:36	6.90399	94.71431	137.2967	30950.21	25.96154	30392.05	19.14597	19.75484	32.30996	1.011134	-0.08809	0.433281	7.382507	-47.5109	164.6354	1013.523	27.35
10/29/2020 9:36	6.905216	94.73238	137.323	30950.69	25.96293	30391.73	19.14576	19.75462	32.30946	1.011133	-0.08871	0.43187	7.381769	-47.4682	164.5386	1013.525	27.35019
10/29/2020 9:36	6.925215	94.99368	137.7076	30967.31	25.95167	30414.47	19.16144	19.7694	32.29212	1.011148	-0.08725	0.435222	7.373524	-46.9884	163.2758	1013.543	27.36668
10/29/2020 9:37	6.926453	95.01009	137.7318	30968.24	25.95158	30415.44	19.16211	19.77003	32.29115	1.011149	-0.08735	0.434999	7.372952	-46.9552	163.1923	1013.545	27.36741
10/29/2020 9:37	6.927691	95.02651	137.756	30969.18	25.95149	30416.41	19.16278	19.77066	32.29017	1.011149	-0.08745	0.434777	7.37238	-46.922	163.1087	1013.547	27.36815

Location Properties

T4-3HB

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 10:05:04

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) |	Barometric Temperatu	Marked
10/29/2020 10:05	4.711185	65.06036	94.2263	31210.85	26.37649	30411.31	19.16291	19.76735	32.04013	1.011025	-0.08524	0.439866	7.311028	-43.4343	115.1282	1013.38	28.42009
10/29/2020 10:05	4.533432	62.60489	90.67259	31193.22	26.33431	30418.01	19.16721	19.77171	32.05825	1.011041	-0.09788	0.410717	7.303785	-43.01	114.9834	1013.406	28.42
10/29/2020 10:05	4.520562	62.42545	90.41315	31192.98	26.33174	30419.23	19.16803	19.7725	32.0585	1.011042	-0.09807	0.410278	7.303233	-42.9777	114.9727	1013.407	28.42
10/29/2020 10:05	4.507692	62.24601	90.15371	31192.74	26.32917	30420.45	19.16886	19.77329	32.05875	1.011044	-0.09826	0.409839	7.302681	-42.9454	114.9621	1013.408	28.42
10/29/2020 10:05	4.392202	60.61644	87.79994	31168.2	26.29608	30415.27	19.16498	19.76992	32.08399	1.01105	-0.09559	0.415999	7.296992	-42.6138	114.7491	1013.417	28.41165
10/29/2020 10:05	4.383531	60.49503	87.62446	31166.83	26.29381	30415.22	19.16493	19.76989	32.0854	1.011051	-0.09568	0.415792	7.296594	-42.5906	114.7368	1013.418	28.41128
10/29/2020 10:05	4.374859	60.37363	87.44897	31165.46	26.29153	30415.17	19.16488	19.76986	32.0868	1.011052	-0.09577	0.415586	7.296196	-42.5674	114.7246	1013.419	28.41092
10/29/2020 10:05	4.366187	60.25223	87.27349	31164.09	26.28926	30415.12	19.16483	19.76983	32.08821	1.011052	-0.09585	0.415379	7.295798	-42.5441	114.7123	1013.419	28.41055
10/29/2020 10:05	4.280307	59.05026	85.53594	31168.68	26.27131	30429.78	19.17485	19.77935	32.0835	1.011065	-0.10519	0.393842	7.289832	-42.1987	114.5636	1013.419	28.42781
10/29/2020 10:05	4.274131	58.96358	85.41068	31168.46	26.26987	30430.39	19.17526	19.77975	32.08371	1.011066	-0.10558	0.392952	7.289447	-42.1764	114.5528	1013.419	28.42846
10/29/2020 10:05	4.267954	58.8769	85.28542	31168.25	26.26843	30431	19.17567	19.78015	32.08393	1.011066	-0.10596	0.392061	7.289063	-42.1541	114.542	1013.42	28.42912

Location Properties

T4-3HS

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 09:59:10

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/29/2020 9:59	5.242544	72.22918	104.6376	31071.51	26.20556	30372.15	19.1343	19.7419	32.18379	1.011054	-0.09723	0.412206	7.40137	-48.6407	143.9305	1013.399	28.24958
10/29/2020 9:59	5.09431	70.15743	101.6407	31085.41	26.19565	30391.37	19.14755	19.75439	32.16943	1.011067	-0.11024	0.382206	7.392227	-48.1086	142.8496	1013.382	28.25832
10/29/2020 9:59	5.083453	70.00647	101.4222	31085.82	26.19522	30392.01	19.14799	19.75481	32.16901	1.011067	-0.11065	0.381243	7.391598	-48.0721	142.7796	1013.381	28.25887
10/29/2020 9:59	5.072596	69.8555	101.2038	31086.23	26.19479	30392.66	19.14843	19.75523	32.16859	1.011068	-0.11107	0.380279	7.39097	-48.0356	142.7097	1013.381	28.25941
10/29/2020 9:59	5.061739	69.70454	100.9853	31086.64	26.19436	30393.3	19.14888	19.75565	32.16816	1.011068	-0.11149	0.379316	7.390341	-47.9991	142.6397	1013.38	28.25996
10/29/2020 9:59	4.962518	68.32126	98.98887	31099.74	26.15373	30429.21	19.17345	19.77898	32.15461	1.011098	-0.09106	0.426448	7.38175	-47.4972	141.7083	1013.416	28.25978
10/29/2020 9:59	4.954953	68.21572	98.8364	31100.52	26.15172	30431.11	19.17475	19.78022	32.1538	1.0111	-0.09038	0.427999	7.381176	-47.4638	141.6446	1013.417	28.25995
10/29/2020 9:59	4.947388	68.11018	98.68393	31101.3	26.14971	30433.01	19.17605	19.78146	32.153	1.011102	-0.08971	0.42955	7.380603	-47.4304	141.5809	1013.418	28.26011
10/29/2020 9:59	4.87347	67.09415	97.20788	31130.09	26.13993	30466.74	19.19938	19.80338	32.12327	1.011122	-0.08449	0.441592	7.373444	-47.0119	140.7302	1013.359	28.26843
10/29/2020 9:59	4.868171	67.0209	97.10174	31131.59	26.13872	30468.91	19.20087	19.80479	32.12172	1.011123	-0.08387	0.443018	7.372957	-46.9835	140.6742	1013.357	28.2688
10/29/2020 9:59	4.862872	66.94766	96.99561	31133.1	26.1375	30471.08	19.20237	19.8062	32.12016	1.011125	-0.08325	0.444443	7.372471	-46.9551	140.6182	1013.356	28.26917

Location Properties

T4-4HB

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 10:31:48

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
10/29/2020 10:31	5.348184	74.99335	108.3889	31759.9	27.18138	30489.57	19.22338	19.81822	31.48625	1.010831	-0.08881	0.431625	7.359991	-46.385	111.4338	1013.125	29.27
10/29/2020 10:31	5.14267	72.00503	104.09	31699.81	27.09758	30478.71	19.21525	19.81116	31.54597	1.01085	-0.08235	0.446524	7.349675	-45.7786	111.2933	1013.141	29.2869
10/29/2020 10:31	5.128761	71.80396	103.8004	31696.25	27.0927	30478.02	19.21474	19.81071	31.5495	1.010851	-0.08235	0.446533	7.349038	-45.7408	111.2865	1013.14	29.28766
10/29/2020 10:31	5.114852	71.60289	103.5107	31692.7	27.08782	30477.33	19.21423	19.81027	31.55302	1.010852	-0.08234	0.446541	7.3484	-45.7031	111.2797	1013.139	29.28841
10/29/2020 10:31	5.100943	71.40182	103.2211	31689.14	27.08294	30476.65	19.21371	19.80982	31.55655	1.010853	-0.08234	0.44655	7.347763	-45.6654	111.2729	1013.138	29.28917
10/29/2020 10:31	4.897619	68.4388	98.96116	31659.62	27.0305	30477.62	19.21401	19.81045	31.58599	1.010869	-0.08329	0.444355	7.338809	-45.1392	111.1615	1013.165	29.28066
10/29/2020 10:32	4.884293	68.24478	98.68216	31657.11	27.02651	30477.44	19.21386	19.81034	31.58848	1.01087	-0.08322	0.444522	7.3382	-45.1035	111.1538	1013.167	29.28058
10/29/2020 10:32	4.870967	68.05077	98.40316	31654.61	27.02253	30477.26	19.21371	19.81022	31.59098	1.010871	-0.08315	0.444689	7.337592	-45.0677	111.1461	1013.168	29.2805
10/29/2020 10:32	4.857641	67.85675	98.12416	31652.11	27.01854	30477.09	19.21356	19.81011	31.59347	1.010872	-0.08308	0.444857	7.336983	-45.0319	111.1384	1013.17	29.28043
10/29/2020 10:32	4.670507	65.20019	94.29445	31659.73	26.91949	30540.08	19.25659	19.85105	31.58587	1.010934	-0.07854	0.455316	7.329592	-44.5936	111.0452	1013.187	29.29783
10/29/2020 10:32	4.657959	65.02043	94.03555	31659.41	26.91401	30542.85	19.25846	19.85285	31.58619	1.010937	-0.07836	0.455729	7.329076	-44.5631	111.0387	1013.188	29.29843

Location Properties

T4-4HS

Location Name = Device Location

Report Properties

Start Time = 2020-10-29 10:25:24

Time Offset = -04:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728541

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Dissc	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2l	pH mV (m\	ORP (mV) |	Barometric Temperatu	Marked
10/29/2020 10:25	6.781297	94.73917	136.9876	31440.3	27.06858	30245.32	19.05301	19.65946	31.80631	1.010737	-0.11547	0.37013	7.432496	-50.5813	145.1185	1013.231	29.12
10/29/2020 10:25	6.803973	94.99811	137.3719	31436.77	26.98565	30288.08	19.0821	19.68725	31.80988	1.010784	-0.0398	0.54467	7.423059	-50.0194	143.9083	1013.204	29.12
10/29/2020 10:25	6.805556	95.0156	137.3981	31437.07	26.98091	30291	19.08409	19.68915	31.80958	1.010787	-0.03757	0.54982	7.422443	-49.9829	143.8252	1013.203	29.12
10/29/2020 10:25	6.807138	95.0331	137.4242	31437.36	26.97617	30293.93	19.08608	19.69105	31.80928	1.01079	-0.03534	0.55497	7.421827	-49.9463	143.7421	1013.201	29.12
10/29/2020 10:25	6.808721	95.05061	137.4503	31437.66	26.97143	30296.85	19.08808	19.69295	31.80898	1.010793	-0.03311	0.56012	7.421212	-49.9098	143.659	1013.199	29.12
10/29/2020 10:25	6.826629	95.25668	137.7623	31475.91	26.933	30355.2	19.12829	19.73088	31.77034	1.010834	-0.07908	0.454063	7.413419	-49.452	142.6874	1013.218	29.12868
10/29/2020 10:25	6.827917	95.27145	137.7845	31477.51	26.92947	30358.71	19.1307	19.73316	31.76872	1.010837	-0.07944	0.453247	7.412869	-49.4195	142.618	1013.218	29.12906
10/29/2020 10:25	6.829205	95.28622	137.8067	31479.1	26.92594	30362.21	19.13312	19.73544	31.76711	1.01084	-0.07979	0.452431	7.412319	-49.387	142.5486	1013.218	29.12945
10/29/2020 10:25	6.854629	95.51608	138.163	31465.12	26.88894	30369.44	19.13786	19.74013	31.78122	1.010854	-0.13093	0.334467	7.40544	-48.982	141.5445	1013.227	29.12116
10/29/2020 10:25	6.856147	95.53069	138.1855	31465.17	26.88643	30370.88	19.13884	19.74107	31.78117	1.010856	-0.134	0.327393	7.404972	-48.9545	141.4793	1013.228	29.12094
10/29/2020 10:25	6.857666	95.54529	138.208	31465.22	26.88393	30372.33	19.13983	19.74201	31.78112	1.010857	-0.13707	0.320318	7.404503	-48.9269	141.414	1013.229	29.12071

Location Properties

BG-2HT

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 13:36:17

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
11/17/2020 13:36	4.812567	62.04474	88.91664	33394.6	22.08858	35360.95	22.56527	22.98462	29.94496	1.014778	-0.10291	0.399105	7.489028	-33.0426	57.4297	1026.09	26.38
11/17/2020 13:36	4.812567	62.04474	88.91664	33394.6	22.08858	35360.95	22.56527	22.98462	29.94496	1.014778	-0.10291	0.399105	7.489028	-33.0426	57.4297	1026.09	26.38
11/17/2020 13:36	4.812567	62.04474	88.91664	33394.6	22.08858	35360.95	22.56527	22.98462	29.94496	1.014778	-0.10291	0.399105	7.489028	-33.0426	57.4297	1026.09	26.38
11/17/2020 13:36	4.812567	62.04474	88.91664	33394.6	22.08858	35360.95	22.56527	22.98462	29.94496	1.014778	-0.10291	0.399105	7.489028	-33.0426	57.4297	1026.09	26.38
11/17/2020 13:36	4.814332	62.06474	88.94614	33386.62	22.08858	35352.5	22.55931	22.97913	29.95212	1.014773	-0.11184	0.378497	7.486722	-32.9111	57.27464	1026.099	26.3702
11/17/2020 13:36	4.814444	62.066	88.94801	33386.11	22.08858	35351.97	22.55893	22.97878	29.95257	1.014773	-0.11241	0.377192	7.486577	-32.9027	57.26482	1026.1	26.36958
11/17/2020 13:36	4.814555	62.06727	88.94988	33385.61	22.08858	35351.43	22.55855	22.97843	29.95303	1.014773	-0.11298	0.375886	7.486431	-32.8944	57.255	1026.101	26.36896
11/17/2020 13:36	4.813943	62.09989	88.98965	33407.18	22.10754	35360.72	22.56551	22.98447	29.93368	1.014773	-0.15557	0.277631	7.488214	-32.9991	57.14676	1026.074	26.34483
11/17/2020 13:36	4.81396	62.10187	88.99219	33407.96	22.1084	35360.93	22.56568	22.9846	29.93299	1.014773	-0.15772	0.272665	7.488236	-33.0006	57.13797	1026.073	26.34349
11/17/2020 13:36	4.813977	62.10385	88.99473	33408.74	22.10926	35361.14	22.56584	22.98474	29.93229	1.014773	-0.15988	0.2677	7.488259	-33.002	57.12918	1026.072	26.34216
11/17/2020 13:36	4.813993	62.10583	88.99727	33409.52	22.11012	35361.34	22.56601	22.98487	29.93159	1.014773	-0.16203	0.262735	7.488282	-33.0035	57.12038	1026.071	26.34082

Location Properties

T3-1HT

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 10:44:19

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
11/17/2020 10:44	7.582313	93.78878	135.0669	30030.09	20.41921	32909.48	20.8064	21.39116	18.99834	1.013871	-0.12967	0.337381	7.443029	-30.2188	136.2953	1028.579	18.8686	
11/17/2020 10:44	7.72603	95.56277	137.6071	29896.55	20.57323	32658.16	20.63831	21.22781	33.44872	1.013706	-0.10704	0.389582	7.439351	-30.0095	135.7057	1028.545	18.88564	
11/17/2020 10:44	7.733806	95.6756	137.7671	29894.66	20.58771	32646.12	20.63027	21.21998	33.45083	1.013697	-0.10653	0.390752	7.438981	-29.9885	135.6669	1028.544	18.88678	
11/17/2020 10:44	7.741581	95.78843	137.9271	29892.77	20.6022	32634.08	20.62224	21.21215	33.45294	1.013687	-0.10602	0.391922	7.43861	-29.9675	135.6282	1028.543	18.88793	
11/17/2020 10:44	7.820455	96.8195	139.405	29870.97	20.64875	32578.59	20.5847	21.17609	33.47734	1.013647	-0.10961	0.383657	7.435271	-29.775	135.0416	1028.559	18.89785	
11/17/2020 10:44	7.826457	96.89619	139.515	29868.55	20.65305	32573.02	20.58092	21.17246	33.48005	1.013643	-0.10944	0.384032	7.435055	-29.7626	135.0036	1028.559	18.89858	
11/17/2020 10:44	7.832459	96.97287	139.6249	29866.13	20.65734	32567.44	20.57714	21.16884	33.48275	1.013639	-0.10928	0.384408	7.43484	-29.7502	134.9655	1028.559	18.89932	
11/17/2020 10:44	7.838461	97.04955	139.7348	29863.71	20.66164	32561.87	20.57335	21.16521	33.48546	1.013636	-0.10912	0.384783	7.434624	-29.7378	134.9275	1028.56	18.90005	
11/17/2020 10:44	7.886488	97.65012	140.5969	29834.35	20.67537	32520.56	20.54493	21.13837	33.51842	1.013611	-0.12133	0.356627	7.43204	-29.5901	134.4098	1028.559	18.92548	
11/17/2020 10:44	7.8902	97.69738	140.6647	29832.65	20.67675	32517.78	20.54303	21.13656	33.52032	1.013609	-0.12197	0.355145	7.431857	-29.5796	134.3746	1028.56	18.9268	
11/17/2020 10:44	7.893912	97.74465	140.7326	29830.96	20.67813	32514.99	20.54112	21.13474	33.52222	1.013607	-0.12261	0.353663	7.431674	-29.5691	134.3393	1028.56	18.92812	

Location Properties

T3-2HT

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 10:53:35

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
11/17/2020 10:53	4.649333	57.61431	82.9497	30061.92	20.64382	32790.16	20.73185	21.3136	33.2647	1.01376	-0.09859	0.40906	7.393905	-27.3831	113.08	1028.487	20.56829	
11/17/2020 10:53	4.647794	57.59686	82.92448	30064.21	20.64443	32792.24	20.73331	21.31495	33.26215	1.013761	-0.09834	0.409656	7.39374	-27.3737	113.0583	1028.488	20.56866	
11/17/2020 10:53	4.646255	57.5794	82.89927	30066.51	20.64505	32794.32	20.73478	21.31631	33.25961	1.013762	-0.09808	0.410251	7.393576	-27.3642	113.0367	1028.488	20.56902	
11/17/2020 10:53	4.644715	57.56194	82.87405	30068.8	20.64566	32796.41	20.73624	21.31766	33.25706	1.013763	-0.09782	0.410846	7.393411	-27.3548	113.0151	1028.489	20.56938	
11/17/2020 10:53	4.623855	57.29255	82.48754	30034.2	20.65918	32749.44	20.70385	21.28714	33.29538	1.013735	-0.10695	0.389792	7.390614	-27.1947	112.704	1028.507	20.56965	
11/17/2020 10:53	4.622466	57.27523	82.46265	30032.91	20.65993	32747.52	20.70253	21.28589	33.29681	1.013734	-0.10715	0.38932	7.390444	-27.185	112.6829	1028.508	20.56981	
11/17/2020 10:53	4.621077	57.25792	82.43775	30031.63	20.66069	32745.61	20.70121	21.28464	33.29823	1.013733	-0.10736	0.388849	7.390274	-27.1753	112.6618	1028.509	20.56997	
11/17/2020 10:53	4.619688	57.2406	82.41285	30030.34	20.66145	32743.69	20.69989	21.2834	33.29966	1.013731	-0.10756	0.388377	7.390104	-27.1656	112.6407	1028.51	20.57012	
11/17/2020 10:53	4.610008	57.13511	82.25462	30015.5	20.6779	32716.3	20.6812	21.2656	33.31612	1.013713	-0.11091	0.380663	7.388047	-27.0476	112.358	1028.457	20.5787	
11/17/2020 10:53	4.609142	57.12476	82.23947	30014.11	20.6789	32714.1	20.67969	21.26416	33.31767	1.013712	-0.11125	0.379874	7.387897	-27.039	112.3391	1028.455	20.57908	
11/17/2020 10:53	4.608275	57.11441	82.22433	30012.71	20.6799	32711.9	20.67818	21.26273	33.31921	1.01371	-0.11159	0.379086	7.387748	-27.0305	112.3201	1028.453	20.57946	

Location Properties

T3-2HTS

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 10:04:15

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2l pH mV	m\ ORP (mV)	Barometric Temperatu	Marked
11/17/2020 10:04	6.495085	77.80428	112.3618	29093.09	18.88059	32943.56	20.79318	21.41331	34.37242	1.014228	-0.09945	0.407079	7.449834	-30.4327	196.5776	1029.03	15.48
11/17/2020 10:04	6.495085	77.80428	112.3618	29093.09	18.88059	32943.56	20.79318	21.41331	34.37242	1.014228	-0.09945	0.407079	7.449834	-30.4327	196.5776	1029.03	15.48
11/17/2020 10:04	6.495085	77.80428	112.3618	29093.09	18.88059	32943.56	20.79318	21.41331	34.37242	1.014228	-0.09945	0.407079	7.449834	-30.4327	196.5776	1029.03	15.48
11/17/2020 10:04	6.436875	77.2	111.4812	29298.87	18.89196	33168.41	20.94978	21.55947	34.13113	1.014344	-0.11882	0.362415	7.442546	-30.0169	199.9774	1028.974	15.48
11/17/2020 10:04	6.43326	77.16248	111.4265	29311.65	18.89267	33182.37	20.95951	21.56854	34.11615	1.014351	-0.12002	0.359642	7.442093	-29.9911	200.1885	1028.97	15.48
11/17/2020 10:04	6.429646	77.12496	111.3718	29324.43	18.89337	33196.33	20.96923	21.57762	34.10117	1.014359	-0.12122	0.356869	7.441641	-29.9652	200.3996	1028.967	15.48
11/17/2020 10:04	6.426032	77.08745	111.3172	29337.2	18.89408	33210.29	20.97895	21.58669	34.08619	1.014366	-0.12242	0.354096	7.441188	-29.9394	200.6107	1028.964	15.48
11/17/2020 10:04	6.39275	76.76804	110.846	29308.12	18.92075	33158.25	20.94354	21.55286	34.12028	1.014333	-0.10836	0.386528	7.438361	-29.7804	200.3822	1028.962	15.49748
11/17/2020 10:04	6.389811	76.73871	110.803	29311.9	18.92223	33161.46	20.94581	21.55495	34.11585	1.014334	-0.10821	0.386884	7.438053	-29.763	200.456	1028.961	15.49827
11/17/2020 10:04	6.386872	76.70937	110.76	29315.68	18.92372	33164.68	20.94809	21.55704	34.11142	1.014336	-0.10805	0.38724	7.437746	-29.7456	200.5298	1028.959	15.49906
11/17/2020 10:04	6.371964	76.62374	110.6241	29329.25	19.03662	33099.31	20.90586	21.51455	34.09565	1.014277	-0.10092	0.403689	7.434321	-29.5564	200.3054	1028.952	15.52458

Location Properties

T3-3HT

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 10:28:19

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
11/17/2020 10:28	4.760024	58.29491	84.0266	29722.95	20.03711	32835.46	20.74889	21.34305	33.64404	1.013921	-0.12013	0.359382	7.378181	-26.4183	142.6794	1028.736	18.23068	
11/17/2020 10:28	4.732764	57.97148	83.56099	29744.82	20.03791	32859.06	20.76534	21.35839	33.61931	1.013933	-0.1236	0.351387	7.376455	-26.3191	142.3094	1028.75	18.25503	
11/17/2020 10:28	4.731064	57.95134	83.53189	29746.38	20.03813	32860.64	20.76644	21.35941	33.61755	1.013934	-0.12369	0.351171	7.37634	-26.3125	142.288	1028.75	18.25593	
11/17/2020 10:28	4.729364	57.93121	83.50278	29747.93	20.03834	32862.21	20.76754	21.36044	33.61578	1.013935	-0.12378	0.350955	7.376225	-26.3059	142.2666	1028.749	18.25683	
11/17/2020 10:28	4.727664	57.91108	83.47368	29749.49	20.03855	32863.79	20.76864	21.36146	33.61402	1.013936	-0.12388	0.350739	7.376111	-26.2993	142.2452	1028.748	18.25773	
11/17/2020 10:28	4.704511	57.64137	83.0807	29756.84	20.05474	32860.68	20.76688	21.35944	33.60572	1.01393	-0.12436	0.34963	7.375499	-26.2663	141.9364	1028.714	18.24135	
11/17/2020 10:28	4.702951	57.6231	83.05418	29757.54	20.05554	32860.89	20.76705	21.35958	33.60493	1.01393	-0.12444	0.349443	7.375443	-26.2631	141.9154	1028.713	18.24095	
11/17/2020 10:28	4.701391	57.60484	83.02766	29758.24	20.05634	32861.11	20.76722	21.35972	33.60414	1.01393	-0.12452	0.349256	7.375386	-26.2599	141.8945	1028.711	18.24054	
11/17/2020 10:28	4.699831	57.58657	83.00114	29758.94	20.05715	32861.32	20.76739	21.35986	33.60335	1.01393	-0.1246	0.349069	7.375329	-26.2568	141.8735	1028.71	18.24014	
11/17/2020 10:28	4.681578	57.36474	82.68213	29728.32	20.06919	32819.18	20.73836	21.33247	33.63797	1.013905	-0.11996	0.35978	7.373483	-26.151	141.603	1028.736	18.26603	
11/17/2020 10:28	4.680307	57.34955	82.66017	29727.17	20.07006	32817.31	20.73708	21.33125	33.63926	1.013904	-0.11977	0.360215	7.373392	-26.1458	141.5849	1028.736	18.26675	

Location Properties

T3-3HTS

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 10:21:06

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
11/17/2020 10:21	7.946376	95.85906	138.3612	29501.92	19.13257	33229.33	20.97742	21.59907	0	1.014309	-0.13003	0.336539	7.529696	-35.0587	161.5457	1028.899	17.86949	
11/17/2020 10:21	8.033403	96.83309	139.7573	29201.86	19.21397	32830.14	20.7237	21.33959	34.24439	1.014098	-0.13113	0.334007	7.519114	-34.4541	161.7548	1028.882	17.88712	
11/17/2020 10:21	8.037552	96.89899	139.8504	29201.65	19.22552	32821.68	20.71815	21.33409	34.24464	1.014091	-0.13137	0.333463	7.518381	-34.4123	161.7342	1028.881	17.88826	
11/17/2020 10:21	8.041699	96.9649	139.9435	29201.43	19.23707	32813.22	20.71259	21.32859	34.2449	1.014084	-0.1316	0.332919	7.517649	-34.3704	161.7135	1028.881	17.88941	
11/17/2020 10:21	8.045848	97.0308	140.0366	29201.22	19.24862	32804.75	20.70704	21.32309	34.24515	1.014077	-0.13184	0.332374	7.516916	-34.3286	161.6929	1028.88	17.89055	
11/17/2020 10:21	8.090111	97.54857	140.7868	29200.84	19.23907	32811.17	20.71122	21.32726	34.24559	1.014082	-0.12019	0.359252	7.509176	-33.8849	161.3836	1028.889	17.89821	
11/17/2020 10:21	8.093635	97.59221	140.8496	29200.8	19.24082	32809.9	20.71039	21.32644	34.24564	1.014081	-0.11974	0.360287	7.50861	-33.8525	161.3637	1028.889	17.89892	
11/17/2020 10:21	8.097158	97.63584	140.9124	29200.77	19.24256	32808.63	20.70956	21.32561	34.24568	1.01408	-0.11929	0.361321	7.508045	-33.8202	161.3438	1028.889	17.89962	
11/17/2020 10:21	8.131893	98.13068	141.6165	29234.19	19.25758	32835.61	20.72871	21.34314	34.20653	1.014091	-0.1087	0.385758	7.500732	-33.4014	161.0371	1028.864	17.89961	
11/17/2020 10:21	8.134305	98.16335	141.6632	29235.7	19.2584	32836.73	20.72951	21.34388	34.20476	1.014091	-0.10803	0.387298	7.500255	-33.374	161.0175	1028.863	17.89976	
11/17/2020 10:21	8.136717	98.19601	141.7099	29237.21	19.25921	32837.86	20.73032	21.34461	34.20299	1.014092	-0.10736	0.388838	7.499776	-33.3467	160.998	1028.862	17.89991	

Location Properties

T3-4HT

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 11:17:35

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
11/17/2020 11:17	4.802427	61.08561	87.77248	31931.71	21.76631	34033.76	21.62543	22.12194	31.31683	1.014152	-0.11386	0.373855	7.424685	-29.2742	87.64745	1028.205	22.47877
11/17/2020 11:17	4.801068	61.07011	87.74998	31931.36	21.76845	34031.9	21.62417	22.12074	31.31718	1.01415	-0.11347	0.37474	7.424635	-29.2714	87.63783	1028.206	22.47912
11/17/2020 11:17	4.782948	60.87692	87.46986	31939.21	21.7801	34032.19	21.62462	22.12092	31.30948	1.014148	-0.10942	0.384095	7.423464	-29.2058	87.3718	1028.232	22.48775
11/17/2020 11:17	4.781844	60.86492	87.45249	31939.35	21.78117	34031.61	21.62423	22.12054	31.30934	1.014147	-0.10904	0.384966	7.423401	-29.2022	87.35712	1028.234	22.48828
11/17/2020 11:17	4.780741	60.85291	87.43513	31939.49	21.78223	34031.02	21.62384	22.12016	31.3092	1.014146	-0.10866	0.385838	7.423337	-29.1987	87.34243	1028.236	22.48881
11/17/2020 11:17	4.779638	60.84091	87.41776	31939.64	21.7833	34030.43	21.62346	22.11978	31.30906	1.014146	-0.10828	0.38671	7.423274	-29.1951	87.32775	1028.238	22.48934
11/17/2020 11:17	4.768489	60.70981	87.22523	31956.92	21.81574	34026.38	21.6213	22.11715	31.29213	1.014136	-0.13118	0.333885	7.422184	-29.1327	87.17072	1028.203	22.49843
11/17/2020 11:17	4.767637	60.70013	87.21108	31957.93	21.81751	34026.23	21.62123	22.11705	31.29114	1.014135	-0.13226	0.331412	7.42211	-29.1285	87.15837	1028.202	22.49903
11/17/2020 11:17	4.766784	60.69046	87.19693	31958.94	21.81928	34026.08	21.62116	22.11695	31.29015	1.014135	-0.13333	0.328938	7.422036	-29.1243	87.14602	1028.201	22.49963
11/17/2020 11:17	4.765932	60.68079	87.18279	31959.95	21.82105	34025.93	21.62109	22.11685	31.28916	1.014134	-0.1344	0.326465	7.421962	-29.1201	87.13367	1028.2	22.50022
11/17/2020 11:17	4.759636	60.5968	87.06226	31947.91	21.82014	34013.75	21.61253	22.10893	31.30095	1.014128	-0.12096	0.357464	7.420823	-29.055	87.01188	1028.2	22.49982

Location Properties

T3-4HTS

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 11:08:06

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
11/17/2020 11:08	6.471586	81.59962	117.3377	31350.38	21.3584	33693.96	21.37871	21.90107	31.89755	1.01407	-0.11605	0.368792	7.477889	-32.316	100.4433	1028.355	21.55939
11/17/2020 11:08	6.449033	81.31474	116.9284	31352.81	21.35628	33698.03	21.38151	21.90372	31.89507	1.014073	-0.11653	0.367684	7.477862	-32.3144	100.4269	1028.357	21.55984
11/17/2020 11:08	6.631701	83.58593	120.1964	31312.99	21.36445	33649.58	21.3478	21.87223	31.93564	1.014045	-0.11251	0.376961	7.476851	-32.2574	100.1176	1028.358	21.57672
11/17/2020 11:08	6.635051	83.62672	120.2552	31311.43	21.3644	33647.94	21.34665	21.87116	31.93723	1.014044	-0.11246	0.377066	7.476928	-32.262	100.098	1028.358	21.57748
11/17/2020 11:08	6.638402	83.6675	120.3141	31309.86	21.36435	33646.29	21.3455	21.87009	31.93882	1.014043	-0.11242	0.377171	7.477005	-32.2665	100.0785	1028.359	21.57824
11/17/2020 11:08	6.641752	83.70828	120.3729	31308.3	21.3643	33644.65	21.34435	21.86902	31.94042	1.014042	-0.11237	0.377276	7.477082	-32.2711	100.059	1028.36	21.57899
11/17/2020 11:08	6.942023	87.52355	125.8541	31330.49	21.37986	33657.74	21.35384	21.87753	31.91779	1.014046	-0.11479	0.37171	7.47611	-32.2143	99.84127	1028.342	21.58822
11/17/2020 11:08	6.959866	87.74935	126.1786	31330.82	21.38076	33657.47	21.35367	21.87736	31.91746	1.014045	-0.11483	0.371615	7.476047	-32.2106	99.82521	1028.341	21.58897
11/17/2020 11:08	6.977709	87.97516	126.503	31331.14	21.38167	33657.2	21.3535	21.87718	31.91712	1.014045	-0.11487	0.37152	7.475983	-32.2069	99.80916	1028.34	21.58971
11/17/2020 11:08	7.198508	90.72751	130.4621	31278.72	21.37711	33604.03	21.31621	21.84262	31.97063	1.014018	-0.11251	0.376951	7.475293	-32.1667	99.61446	1028.34	21.60686
11/17/2020 11:08	7.215022	90.93483	130.7602	31276.7	21.3772	33601.79	21.31465	21.84117	31.97269	1.014017	-0.11245	0.377089	7.475242	-32.1637	99.60081	1028.34	21.60786

Location Properties

T4-4HB

Location Name = Device Location

Report Properties

Start Time = 2020-11-17 11:54:34

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2(pH mV	m\ ORP (mV)	Barometric Temperatu	Marked
11/17/2020 11:54	4.992955	64.1859	92.15527	33781.07	21.8892	35915.02	22.95184	23.34476	29.60238	1.015122	-0.12217	0.354677	7.493948	-33.3079	97.96886	1027.623	21.8612
11/17/2020 11:54	4.990869	64.16153	92.11987	33782.13	21.89202	35914.08	22.95124	23.34415	29.60145	1.015121	-0.12199	0.3551	7.493739	-33.296	97.94499	1027.622	21.86085
11/17/2020 11:54	4.961637	63.85067	91.66848	33841.87	21.90575	35967.55	22.98932	23.37891	29.54922	1.015146	-0.12783	0.341634	7.490708	-33.1237	97.54062	1027.638	21.86045
11/17/2020 11:54	4.959776	63.83036	91.63896	33845.09	21.90725	35969.89	22.991	23.38042	29.54639	1.015147	-0.12806	0.341085	7.49051	-33.1124	97.51504	1027.638	21.8603
11/17/2020 11:54	4.957915	63.81004	91.60944	33848.32	21.90876	35972.22	22.99269	23.38194	29.54357	1.015148	-0.1283	0.340535	7.490312	-33.1011	97.48946	1027.639	21.86014
11/17/2020 11:54	4.956054	63.78972	91.57993	33851.55	21.91026	35974.55	22.99437	23.38346	29.54075	1.015149	-0.12854	0.339986	7.490114	-33.0898	97.46387	1027.639	21.85999
11/17/2020 11:54	4.939066	63.56165	91.25159	33816.81	21.94897	35909.42	22.94923	23.34113	29.5711	1.015104	-0.10873	0.385676	7.488008	-32.9722	97.13362	1027.639	21.85132
11/17/2020 11:54	4.937706	63.54499	91.22755	33816.39	21.95101	35907.49	22.94791	23.33987	29.57146	1.015103	-0.10793	0.387528	7.48785	-32.9634	97.11028	1027.639	21.85092
11/17/2020 11:54	4.936345	63.52834	91.2035	33815.97	21.95305	35905.56	22.94659	23.33862	29.57183	1.015101	-0.10713	0.38938	7.487693	-32.9545	97.08695	1027.64	21.85051
11/17/2020 11:54	4.934984	63.51169	91.17945	33815.55	21.95509	35903.63	22.94528	23.33736	29.57219	1.0151	-0.10632	0.391232	7.487536	-32.9457	97.06361	1027.64	21.85011
11/17/2020 11:54	4.920835	63.35893	90.95576	33800.31	21.99062	35861.62	22.9164	23.31005	29.58553	1.015069	-0.12813	0.340928	7.485158	-32.8077	96.7587	1027.648	21.85022

Location Properties

BG-1LT

Location Name = Device Location

Report Properties

Start Time = 2020-11-18 08:36:53

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (P	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
11/18/2020 8:36	5.77205	67.72696	98.39985	29096.34	17.93546	33634.78	21.24453	21.8626	34.36858	1.014786	0.002675	0.642653	7.454011	-32.1108	194.5895	1034.15	13.24
11/18/2020 8:36	5.77205	67.72696	98.39985	29096.34	17.93546	33634.78	21.24453	21.8626	34.36858	1.014786	0.002675	0.642653	7.454011	-32.1108	194.5895	1034.15	13.24
11/18/2020 8:36	5.77205	67.72696	98.39985	29096.34	17.93546	33634.78	21.24453	21.8626	34.36858	1.014786	0.002675	0.642653	7.454011	-32.1108	194.5895	1034.15	13.24
11/18/2020 8:36	5.77205	67.72696	98.39985	29096.34	17.93546	33634.78	21.24453	21.8626	34.36858	1.014786	0.002675	0.642653	7.454011	-32.1108	194.5895	1034.15	13.24
11/18/2020 8:37	5.723257	67.34772	97.8271	29142.87	18.09393	33571.1	21.20541	21.82122	34.31371	1.01472	-0.05233	0.515782	7.452209	-32.0222	199.8276	1034.13	13.22049
11/18/2020 8:37	5.720239	67.32427	97.79167	29145.75	18.10373	33567.16	21.20299	21.81866	34.31032	1.014716	-0.05573	0.507935	7.452098	-32.0167	200.1516	1034.129	13.21929
11/18/2020 8:37	5.717221	67.30082	97.75624	29148.63	18.11353	33563.23	21.20057	21.8161	34.30693	1.014712	-0.05913	0.500087	7.451986	-32.0112	200.4755	1034.128	13.21808
11/18/2020 8:37	5.691935	67.19374	97.57903	29192.12	18.20594	33545.19	21.19097	21.80437	34.25584	1.014684	-0.07301	0.468072	7.453445	-32.0989	200.369	1034.096	13.22906
11/18/2020 8:37	5.689618	67.17973	97.55718	29195.2	18.21392	33542.83	21.18959	21.80284	34.25223	1.014681	-0.07497	0.463554	7.453467	-32.1006	200.4917	1034.094	13.22908
11/18/2020 8:37	5.687301	67.16572	97.53532	29198.27	18.22191	33540.48	21.18821	21.80131	34.24861	1.014678	-0.07693	0.459036	7.453488	-32.1024	200.6144	1034.093	13.22909
11/18/2020 8:37	5.684984	67.1517	97.51347	29201.35	18.22989	33538.12	21.18683	21.79978	34.245	1.014675	-0.07889	0.454519	7.453509	-32.1042	200.7371	1034.091	13.22911

Location Properties

T3-2LT

Location Name = Device Location

Report Properties

Start Time = 2020-11-18 09:24:51

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH)	2(pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
11/18/2020 9:24	8.423311	94.58037	137.7525	25973.25	16.24361	31153.15	19.55323	20.24955	875.7012	1.013853	-0.06723	0.48141	7.622479	-41.4833	119.1575	1034.582	14.09803
11/18/2020 9:24	8.411013	94.66472	137.8717	26373.43	16.26583	31630.42	19.85302	20.55977	570.6523	1.014079	-0.06804	0.479542	7.621915	-41.4517	119.1532	1034.579	14.09853
11/18/2020 9:24	8.398714	94.74907	137.9909	26773.6	16.28805	32107.68	20.1528	20.86999	265.6035	1.014304	-0.06885	0.477674	7.62135	-41.4201	119.1488	1034.577	14.09904
11/18/2020 9:24	8.386415	94.83342	138.11	27173.77	16.31027	32584.95	20.45259	21.18022	0	1.01453	-0.06966	0.475806	7.620786	-41.3886	119.1444	1034.574	14.09954
11/18/2020 9:24	8.435996	95.42486	138.9776	27093.91	16.38083	32433.29	20.35818	21.08164	36.90867	1.014443	-0.09315	0.421616	7.611383	-40.869	118.9484	1034.681	14.09973
11/18/2020 9:25	8.438906	95.46655	139.0381	27095.71	16.38665	32431.13	20.35691	21.08023	36.90621	1.014441	-0.09452	0.418468	7.610805	-40.8369	118.9355	1034.685	14.09988
11/18/2020 9:25	8.441816	95.50826	139.0985	27097.52	16.39247	32428.96	20.35563	21.07882	36.90374	1.014439	-0.09588	0.415321	7.610226	-40.8047	118.9226	1034.688	14.10004
11/18/2020 9:25	8.472445	95.9438	139.7226	27118.13	16.43895	32419.19	20.3506	21.07247	36.87571	1.014425	-0.08489	0.440671	7.604176	-40.4646	118.693	1034.67	14.1
11/18/2020 9:25	8.474739	95.97528	139.7681	27119.42	16.4425	32418.1	20.34998	21.07177	36.87395	1.014424	-0.08491	0.440621	7.603715	-40.4389	118.679	1034.671	14.1
11/18/2020 9:25	8.477034	96.00677	139.8137	27120.72	16.44606	32417.02	20.34936	21.07106	36.87218	1.014423	-0.08493	0.440571	7.603253	-40.4132	118.6649	1034.673	14.1
11/18/2020 9:25	8.479328	96.03825	139.8592	27122.01	16.44962	32415.93	20.34875	21.07035	36.87042	1.014422	-0.08495	0.440521	7.602792	-40.3874	118.6509	1034.674	14.1

Location Properties

T3-3LT

Location Name = Device Location

Report Properties

Start Time = 2020-11-18 09:11:57

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conce	RDO Saturi	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft) (	pH (pH) (2ç	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
11/18/2020 9:11	8.29547	94.46832	137.509	27164.12	16.74712	32247.25	20.24311	20.96071	36.81327	1.014279	-0.11218	0.377725	7.599785	-40.2557	134.0044	1034.56	14.04
11/18/2020 9:11	8.29547	94.46832	137.509	27164.12	16.74712	32247.25	20.24311	20.96071	36.81327	1.014279	-0.11218	0.377725	7.599785	-40.2557	134.0044	1034.56	14.04
11/18/2020 9:12	8.346645	95.07168	138.3853	27143.32	16.76635	32208.52	20.21707	20.93554	36.84148	1.014255	-0.12266	0.353554	7.590958	-39.7561	140.3466	1034.569	14.04
11/18/2020 9:12	8.350023	95.11151	138.4432	27141.94	16.76762	32205.96	20.21535	20.93387	36.84335	1.014254	-0.12335	0.351958	7.590375	-39.7232	140.7653	1034.57	14.04
11/18/2020 9:12	8.353402	95.15134	138.501	27140.57	16.76889	32203.4	20.21363	20.93221	36.84521	1.014252	-0.12404	0.350363	7.589793	-39.6902	141.1839	1034.57	14.04
11/18/2020 9:12	8.35678	95.19117	138.5589	27139.2	16.77016	32200.84	20.21192	20.93055	36.84707	1.01425	-0.12473	0.348767	7.58921	-39.6572	141.6026	1034.571	14.04
11/18/2020 9:12	8.378084	95.53036	139.037	27140.35	16.78373	32192.31	20.2065	20.925	36.84552	1.014243	-0.12093	0.357534	7.584995	-39.4219	141.4377	1034.518	14.03141
11/18/2020 9:12	8.380396	95.56154	139.0817	27139.84	16.78485	32190.9	20.20557	20.92408	36.8462	1.014242	-0.12104	0.357281	7.584572	-39.3981	141.5993	1034.516	14.03103
11/18/2020 9:12	8.382709	95.59272	139.1263	27139.34	16.78596	32189.49	20.20463	20.92317	36.84688	1.014241	-0.12115	0.357028	7.584149	-39.3744	141.7609	1034.514	14.03065
11/18/2020 9:12	8.385021	95.6239	139.171	27138.84	16.78708	32188.08	20.2037	20.92225	36.84756	1.014241	-0.12126	0.356774	7.583726	-39.3506	141.9225	1034.512	14.03027
11/18/2020 9:12	8.410738	95.98247	139.69	27170.31	16.86168	32171.05	20.19456	20.91118	36.80489	1.014218	-0.10913	0.384762	7.578465	-39.0616	141.9003	1034.537	14.03895

Location Properties

T3-4LT

Location Name = Device Location

Report Properties

Start Time = 2020-11-18 08:58:28

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 728623

Instrument Properties

Device Model = In-Situ Bluetooth Device

Device SN = 723997

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH)	2(pH mV	m\ ORP (mV)	Barometric Temperatu	Marked
11/18/2020 8:58	8.087309	93.08845	135.3543	26853.87	17.3393	31433.65	19.77407	20.43187	402.8816	1.013794	-0.03675	0.55172	7.555644	-37.8344	153.8428	1034.304	14.55889
11/18/2020 8:58	8.076135	93.16248	135.4596	27273.36	17.36999	31912.47	20.07541	20.7431	249.2318	1.014018	-0.03163	0.563515	7.555223	-37.8121	153.8313	1034.303	14.5591
11/18/2020 8:58	8.06496	93.23653	135.5648	27692.84	17.40068	32391.29	20.37675	21.05434	95.58187	1.014241	-0.02652	0.575311	7.554803	-37.7897	153.8198	1034.302	14.55931
11/18/2020 8:58	8.095055	93.7429	136.2965	27838.62	17.45498	32526.26	20.45995	21.14207	35.92133	1.014293	-0.14807	0.294946	7.549076	-37.4678	153.4532	1034.345	14.56839
11/18/2020 8:58	8.097794	93.77483	136.3428	27837.96	17.46747	32516.3	20.4535	21.1356	35.92216	1.014286	-0.15211	0.285624	7.548712	-37.4474	153.4296	1034.346	14.56899
11/18/2020 8:58	8.100532	93.80677	136.3891	27837.32	17.47996	32506.35	20.44704	21.12913	35.923	1.014278	-0.15615	0.276302	7.548349	-37.4269	153.4061	1034.348	14.56958
11/18/2020 8:58	8.103271	93.83871	136.4354	27836.67	17.49245	32496.39	20.44059	21.12265	35.92384	1.014271	-0.16019	0.266979	7.547986	-37.4065	153.3825	1034.35	14.57017
11/18/2020 8:58	8.142089	94.3397	137.1609	27841.15	17.55404	32457.15	20.41545	21.09715	35.91806	1.014238	-0.10377	0.397131	7.543292	-37.1485	153.0488	1034.375	14.56115
11/18/2020 8:58	8.144572	94.37256	137.2085	27840.96	17.55761	32454.34	20.41362	21.09532	35.91831	1.014236	-0.10411	0.396343	7.542959	-37.13	153.0259	1034.377	14.56095
11/18/2020 8:58	8.147056	94.40542	137.2561	27840.76	17.56118	32451.52	20.4118	21.09349	35.91856	1.014234	-0.10445	0.395554	7.542627	-37.1116	153.003	1034.379	14.56076
11/18/2020 8:58	8.173938	94.78809	137.8014	27858.99	17.59988	32444.83	20.40842	21.08914	35.89505	1.014223	-0.15623	0.276112	7.538518	-36.8802	152.6794	1034.345	14.5604

Location Properties

BG-1LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 15:06:54

Time Offset = -05:00:00

Duration = 00:00:26

Readings = 14

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	(Barometric	Temperatu	Marked
3/2/2021 15:06	7.464232	80.04443	132.4068	17158.57	15.45854	20982.65	12.62892	13.63872	58.28083	1.008715	-0.09117	0.426187	7.429826	-24.9443	42.88245	1022.209	14.11093	
3/2/2021 15:06	7.448632	79.88718	132.1455	17151.66	15.46936	20968.81	12.62011	13.62973	58.30407	1.008706	-0.09185	0.424611	7.429071	-24.9033	42.88388	1022.21	14.11059	
3/2/2021 15:06	7.230338	77.90511	128.8316	17155.38	15.6132	20903.23	12.58039	13.5871	58.29115	1.008649	-0.08233	0.446565	7.420676	-24.4455	42.6755	1022.201	14.1104	
3/2/2021 15:07	7.217741	77.78545	128.6319	17152.26	15.62242	20894.88	12.57513	13.58167	58.30163	1.008644	-0.08225	0.44677	7.420132	-24.4158	42.6661	1022.201	14.11026	
3/2/2021 15:07	7.205145	77.66577	128.4323	17149.13	15.63164	20886.54	12.56987	13.57625	58.3121	1.008638	-0.08216	0.446976	7.419588	-24.3862	42.6567	1022.201	14.11011	
3/2/2021 15:07	7.047358	76.17999	125.9556	17180.07	15.87841	20804.82	12.52172	13.52313	58.207	1.008555	-0.08441	0.441772	7.411694	-23.9663	42.61017	1022.217	14.11	
3/2/2021 15:07	7.036368	76.07787	125.7852	17181.88	15.89269	20800.11	12.51895	13.52007	58.20086	1.008551	-0.08436	0.441889	7.411184	-23.939	42.60479	1022.218	14.11	
3/2/2021 15:07	7.025378	75.97574	125.6148	17183.69	15.90697	20795.41	12.51618	13.51701	58.19472	1.008546	-0.08431	0.442007	7.410674	-23.9117	42.5994	1022.219	14.11	
3/2/2021 15:07	7.014389	75.87362	125.4444	17185.5	15.92125	20790.7	12.51341	13.51395	58.18858	1.008541	-0.08426	0.442124	7.410164	-23.8844	42.59402	1022.22	14.11	
3/2/2021 15:07	6.917428	74.92181	123.8614	17174.17	15.99162	20743.29	12.48386	13.48314	58.22699	1.008505	-0.08243	0.446354	7.403419	-23.5159	42.67404	1022.228	14.11	
3/2/2021 15:07	6.909979	74.84997	123.7419	17174.42	15.99999	20739.57	12.4816	13.48072	58.22615	1.008502	-0.0824	0.446411	7.402961	-23.4911	42.67673	1022.228	14.11	
3/2/2021 15:07	6.90253	74.77812	123.6223	17174.66	16.00835	20735.85	12.47935	13.4783	58.2253	1.008499	-0.08238	0.446468	7.402504	-23.4664	42.67941	1022.229	14.11	
3/2/2021 15:07	6.895082	74.70628	123.5027	17174.91	16.01671	20732.13	12.47709	13.47588	58.22445	1.008496	-0.08235	0.446524	7.402046	-23.4416	42.68209	1022.23	14.11	
3/2/2021 15:07	6.812284	73.99394	122.3107	17205.81	16.09471	20732.18	12.47873	13.47592	58.11992	1.008482	-0.09197	0.424331	7.395021	-23.0538	42.85015	1022.256	14.11	

Location Properties

T1-1HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 12:53:43

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 12:53	8.902722	96.26408	159.2138	16153.51	16.1997	19417.28	11.62311	12.62123	61.90604	1.007809	-0.09048	0.427781	7.591475	-33.9834	87.87984	1022.905	15.05109
3/2/2021 12:53	8.903365	96.27196	159.2265	16153.71	16.20015	19417.31	11.62314	12.62125	61.9053	1.007809	-0.09091	0.426784	7.590563	-33.9327	87.86614	1022.903	15.05071
3/2/2021 12:53	8.904008	96.27985	159.2392	16153.9	16.2006	19417.34	11.62317	12.62127	61.90455	1.007809	-0.09134	0.425786	7.589651	-33.882	87.85244	1022.902	15.05033
3/2/2021 12:53	8.923732	96.49385	159.6019	16154.58	16.20406	19416.62	11.62276	12.6208	61.90196	1.007808	-0.08799	0.433526	7.579941	-33.3438	87.57831	1022.961	15.05884
3/2/2021 12:53	8.924641	96.50394	159.6189	16154.74	16.20432	19416.7	11.62281	12.62085	61.90135	1.007808	-0.08787	0.433794	7.579255	-33.3057	87.56207	1022.963	15.05904
3/2/2021 12:53	8.92555	96.51402	159.6358	16154.9	16.20457	19416.77	11.62287	12.6209	61.90074	1.007808	-0.08775	0.434063	7.578569	-33.2677	87.54585	1022.964	15.05924
3/2/2021 12:53	8.923726	96.55868	159.6947	16154.68	16.22031	19409.5	11.61844	12.61618	61.90155	1.007802	-0.08815	0.433142	7.568408	-32.7044	87.32739	1022.907	15.04243
3/2/2021 12:53	8.923974	96.56449	159.7037	16154.68	16.22113	19409.13	11.61821	12.61594	61.90157	1.007801	-0.08813	0.433198	7.56775	-32.6679	87.31227	1022.905	15.04176
3/2/2021 12:53	8.924222	96.5703	159.7128	16154.68	16.22195	19408.76	11.61799	12.6157	61.90158	1.007801	-0.08811	0.433254	7.567092	-32.6314	87.29715	1022.903	15.04109
3/2/2021 12:54	8.924469	96.57612	159.7218	16154.67	16.22277	19408.39	11.61776	12.61546	61.90158	1.007801	-0.08808	0.43331	7.566434	-32.5949	87.28202	1022.901	15.04041
3/2/2021 12:54	8.933178	96.67616	159.8947	16165.88	16.2424	19413.11	11.6212	12.61852	61.85868	1.0078	-0.08409	0.442508	7.558728	-32.1702	87.09469	1022.953	15.04056

Location Properties

T1-2HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 13:05:43

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Saturi	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft) |	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/2/2021 13:05	6.711492	74.07657	122.4253	18006.18	16.7788	21360.28	12.90458	13.88418	55.53649	1.008675	-0.0981	0.410207	7.367475	-21.579	83.76813	1022.897	15.00954	
3/2/2021 13:05	6.632795	73.30116	121.133	18002.53	16.89302	21300.86	12.86776	13.84556	55.54776	1.008625	-0.08843	0.432503	7.364779	-21.4325	83.69991	1022.898	15.00961	
3/2/2021 13:05	6.627649	73.25096	121.0494	18002.51	16.89894	21297.98	12.86599	13.84368	55.54781	1.008622	-0.08834	0.432724	7.364601	-21.423	83.69495	1022.898	15.00976	
3/2/2021 13:05	6.622502	73.20078	120.9658	18002.5	16.90487	21295.1	12.86421	13.84181	55.54786	1.00862	-0.08824	0.432945	7.364424	-21.4134	83.68998	1022.899	15.0099	
3/2/2021 13:05	6.556169	72.62883	120.0012	18010.44	16.96371	21276.21	12.85293	13.82954	55.52335	1.0086	-0.07452	0.464595	7.361639	-21.2624	83.52164	1022.874	15.01	
3/2/2021 13:05	6.551884	72.59052	119.9368	18010.76	16.96818	21274.44	12.85185	13.82838	55.52235	1.008598	-0.0737	0.466487	7.361467	-21.2531	83.51263	1022.873	15.01	
3/2/2021 13:05	6.547599	72.5522	119.8724	18011.09	16.97266	21272.67	12.85078	13.82723	55.52135	1.008596	-0.07288	0.468378	7.361296	-21.2438	83.5036	1022.872	15.01	
3/2/2021 13:05	6.543315	72.51389	119.808	18011.41	16.97714	21270.89	12.8497	13.82608	55.52036	1.008594	-0.07206	0.470269	7.361124	-21.2345	83.49458	1022.87	15.01	
3/2/2021 13:05	6.506915	72.18017	119.249	18033.03	17.08538	21244.56	12.83446	13.80897	55.45382	1.008561	-0.07716	0.458511	7.359515	-21.1518	83.40615	1022.87	15.01	
3/2/2021 13:06	6.503998	72.15427	119.2054	18034.17	17.09136	21243.05	12.83358	13.80798	55.45029	1.008559	-0.07711	0.458627	7.359387	-21.1451	83.39874	1022.87	15.01	
3/2/2021 13:06	6.501081	72.12836	119.1619	18035.32	17.09733	21241.54	12.8327	13.807	55.44676	1.008558	-0.07706	0.458742	7.359261	-21.1385	83.39131	1022.869	15.01	

Location Properties

T1-2HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 13:01:27

Time Offset = -05:00:00

Duration = 00:00:22

Readings = 12

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/2/2021 13:01	8.897395	96.57828	159.6934	16226.57	16.38387	19422.97	11.63021	12.62493	61.62731	1.00778	-0.08854	0.43225	7.470315	-27.2663	85.37496	1022.87	14.98004	
3/2/2021 13:01	8.902091	96.68658	159.8647	16215.13	16.4175	19394.37	11.61223	12.60634	61.67081	1.00776	-0.08323	0.444491	7.469285	-27.2119	85.29506	1022.861	14.99755	
3/2/2021 13:01	8.902875	96.69913	159.8849	16214.62	16.42024	19392.54	11.61109	12.60515	61.67275	1.007758	-0.08308	0.444843	7.469206	-27.2078	85.28943	1022.861	14.99812	
3/2/2021 13:01	8.903659	96.71169	159.9051	16214.11	16.42298	19390.71	11.60995	12.60396	61.67469	1.007757	-0.08293	0.445195	7.469127	-27.2037	85.2838	1022.86	14.99868	
3/2/2021 13:01	8.920788	96.96748	160.3261	16216.13	16.45587	19378.58	11.60265	12.59608	61.66701	1.007745	-0.071	0.472721	7.468057	-27.1446	85.19157	1022.894	14.99926	
3/2/2021 13:01	8.921702	96.98175	160.3494	16216.01	16.45807	19377.46	11.60197	12.59535	61.66744	1.007744	-0.07036	0.474183	7.467987	-27.1408	85.18574	1022.896	14.99958	
3/2/2021 13:01	8.922617	96.99601	160.3728	16215.9	16.46026	19376.36	11.60129	12.59463	61.66788	1.007743	-0.06973	0.475644	7.467917	-27.1369	85.17991	1022.897	14.99991	
3/2/2021 13:01	8.923531	97.01028	160.3961	16215.78	16.46246	19375.24	11.60061	12.59391	61.66831	1.007742	-0.06909	0.477106	7.467847	-27.1331	85.17408	1022.898	15.00023	
3/2/2021 13:01	8.935804	97.17947	160.6736	16219.9	16.48756	19369.07	11.59704	12.5899	61.65267	1.007735	-0.07638	0.460289	7.467182	-27.0997	85.11046	1022.907	14.99126	
3/2/2021 13:01	8.936707	97.1923	160.6947	16220.12	16.48937	19368.54	11.59673	12.58955	61.65181	1.007734	-0.07648	0.460059	7.467131	-27.097	85.10571	1022.908	14.99086	
3/2/2021 13:01	8.93761	97.20513	160.7157	16220.35	16.49118	19368	11.59641	12.5892	61.65096	1.007734	-0.07658	0.459829	7.467079	-27.0943	85.10098	1022.909	14.99046	
3/2/2021 13:01	8.951924	97.3992	161.0238	16219.46	16.50937	19358.91	11.59083	12.58329	61.65434	1.007726	-0.07735	0.458069	7.466368	-27.0579	85.02987	1022.851	14.98208	

Location Properties

T1-3HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 13:30:59

Time Offset = -05:00:00

Duration = 00:00:22

Readings = 12

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 13:30	6.707215	74.10256	122.3753	17281.45	17.03363	20382.89	12.26828	13.24888	57.86557	1.00814	-0.07764	0.457389	7.363667	-21.3795	64.05344	1022.397	15.12579
3/2/2021 13:31	6.702339	74.05211	122.2916	17279.86	17.03738	20379.29	12.26599	13.24654	57.87089	1.008138	-0.07703	0.458807	7.363482	-21.3694	64.04716	1022.397	15.12667
3/2/2021 13:31	6.697464	74.00166	122.2079	17278.27	17.04112	20375.68	12.26369	13.24419	57.87621	1.008135	-0.07641	0.460224	7.363296	-21.3592	64.04087	1022.398	15.12755
3/2/2021 13:31	6.606182	73.10963	120.7173	17260.15	17.0844	20334.5	12.23752	13.21743	57.93697	1.008107	-0.08093	0.449814	7.360826	-21.2247	64.01994	1022.356	15.12017
3/2/2021 13:31	6.600907	73.05728	120.6299	17258.63	17.08757	20331.25	12.23545	13.21531	57.94208	1.008105	-0.08092	0.449831	7.360664	-21.2159	64.01686	1022.355	15.12021
3/2/2021 13:31	6.595632	73.00494	120.5426	17257.1	17.09074	20327.99	12.23338	13.21319	57.94719	1.008102	-0.08091	0.449848	7.360503	-21.2071	64.01379	1022.353	15.12026
3/2/2021 13:31	6.590356	72.95259	120.4553	17255.57	17.09391	20324.74	12.23131	13.21108	57.9523	1.0081	-0.0809	0.449865	7.360341	-21.1983	64.01071	1022.351	15.1203
3/2/2021 13:31	6.537926	72.41213	119.5543	17237.66	17.17497	20266.7	12.19477	13.17335	58.01254	1.008056	-0.08291	0.445241	7.357582	-21.0497	63.88115	1022.325	15.12025
3/2/2021 13:31	6.533754	72.3701	119.4842	17236.5	17.17953	20263.26	12.19259	13.17112	58.01641	1.008054	-0.0831	0.444788	7.357408	-21.0403	63.87482	1022.322	15.12008
3/2/2021 13:31	6.529582	72.32807	119.414	17235.35	17.1841	20259.81	12.19042	13.16888	58.02029	1.008051	-0.0833	0.444336	7.357234	-21.0309	63.86849	1022.32	15.11991
3/2/2021 13:31	6.486838	71.88511	118.6807	17197.57	17.21839	20199.88	12.15182	13.12992	58.14781	1.008015	-0.07993	0.452115	7.355533	-20.9272	63.82759	1022.346	15.12
3/2/2021 13:31	6.483876	71.85449	118.6299	17195.54	17.22153	20196.06	12.14938	13.12744	58.15466	1.008012	-0.07982	0.452361	7.355191	-20.9196	63.8232	1022.346	15.12

Location Properties

T1-3HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 13:27:28

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/2/2021 13:27	7.898524	86.39703	142.7909	17134.98	16.48304	20463.93	12.311	13.30155	58.36016	1.00828	-0.08633	0.437342	7.458968	-26.6463	66.93864	1022.585	15.12104	
3/2/2021 13:27	7.889184	86.30481	142.6377	17134.88	16.48625	20462.31	12.31	13.3005	58.36049	1.008279	-0.08638	0.437226	7.458042	-26.5951	66.93864	1022.586	15.12065	
3/2/2021 13:27	7.879845	86.21259	142.4845	17134.79	16.48947	20460.69	12.30901	13.29945	58.36081	1.008277	-0.08643	0.437111	7.457116	-26.5439	66.93864	1022.588	15.12027	
3/2/2021 13:27	7.794587	85.35024	141.0489	17139.18	16.59694	20415.92	12.28178	13.27035	58.34587	1.008236	-0.08266	0.445812	7.445917	-25.9279	66.94247	1022.571	15.12026	
3/2/2021 13:27	7.788114	85.28628	140.9424	17139.37	16.60279	20413.42	12.28026	13.26872	58.34521	1.008234	-0.08251	0.446165	7.445146	-25.8854	66.94241	1022.571	15.12009	
3/2/2021 13:27	7.781641	85.22231	140.836	17139.56	16.60865	20410.92	12.27874	13.2671	58.34455	1.008231	-0.08236	0.446517	7.444375	-25.8429	66.94235	1022.571	15.11993	
3/2/2021 13:27	7.701768	84.40158	139.4714	17133.16	16.64499	20386.46	12.26343	13.2512	58.36635	1.008213	-0.09703	0.41267	7.434915	-25.3185	66.92738	1022.554	15.12836	
3/2/2021 13:27	7.696547	84.34821	139.3826	17132.96	16.64862	20384.53	12.26224	13.24994	58.36704	1.008211	-0.09761	0.411332	7.434278	-25.2833	66.92679	1022.553	15.12873	
3/2/2021 13:27	7.691326	84.29484	139.2939	17132.75	16.65226	20382.6	12.26104	13.24869	58.36773	1.008209	-0.09819	0.409994	7.433641	-25.2481	66.9262	1022.552	15.1291	
3/2/2021 13:27	7.686105	84.24147	139.2051	17132.55	16.6559	20380.66	12.25985	13.24743	58.36843	1.008208	-0.09877	0.408655	7.433005	-25.2129	66.92561	1022.551	15.12947	
3/2/2021 13:27	7.612749	83.49866	137.9745	17129.09	16.68554	20362.84	12.24875	13.23585	58.38021	1.008194	-0.08431	0.442009	7.424374	-24.733	66.91275	1022.576	15.121	

Location Properties

T1-4HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 14:47:50

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (p	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 14:47	6.352317	70.39089	116.1631	16871.12	17.27621	19790.74	11.88548	12.86398	59.2729	1.0078	-0.07458	0.464444	7.333198	-19.6953	54.68534	1021.982	14.43975
3/2/2021 14:47	6.349576	70.36602	116.1214	16872.67	17.2811	19790.39	11.88533	12.86375	59.26746	1.007799	-0.07436	0.46496	7.333022	-19.6858	54.68623	1021.981	14.43991
3/2/2021 14:47	6.346834	70.34115	116.0797	16874.21	17.28598	19790.03	11.88519	12.86352	59.26202	1.007798	-0.07414	0.465476	7.332847	-19.6763	54.68711	1021.98	14.44008
3/2/2021 14:47	6.319973	70.07986	115.6425	16869.41	17.31413	19771.94	11.87385	12.85176	59.2789	1.007784	-0.09466	0.41814	7.331667	-19.6128	54.58941	1021.963	14.43155
3/2/2021 14:47	6.317953	70.06066	115.6104	16869.87	17.31719	19771.11	11.87336	12.85122	59.2773	1.007783	-0.09554	0.416104	7.331557	-19.6069	54.58601	1021.962	14.43117
3/2/2021 14:48	6.315932	70.04147	115.5782	16870.32	17.32025	19770.29	11.87288	12.85069	59.2757	1.007782	-0.09642	0.414068	7.331446	-19.6009	54.58261	1021.961	14.43079
3/2/2021 14:48	6.313911	70.02226	115.5461	16870.78	17.3233	19769.47	11.87239	12.85016	59.27409	1.007781	-0.09731	0.412032	7.331336	-19.595	54.57921	1021.96	14.43041
3/2/2021 14:48	6.285497	69.7985	115.1695	16858.41	17.35838	19739.49	11.85341	12.83067	59.31759	1.00776	-0.09193	0.424421	7.329696	-19.5057	54.50203	1021.986	14.43896
3/2/2021 14:48	6.283648	69.78292	115.1433	16857.81	17.36063	19737.8	11.85234	12.82957	59.31968	1.007758	-0.09207	0.424101	7.329596	-19.5002	54.49679	1021.987	14.43918
3/2/2021 14:48	6.281799	69.76734	115.1171	16857.22	17.36287	19736.11	11.85127	12.82847	59.32178	1.007757	-0.09221	0.423781	7.329495	-19.4948	54.49155	1021.988	14.43941
3/2/2021 14:48	6.27995	69.75176	115.091	16856.62	17.36512	19734.41	11.85021	12.82737	59.32388	1.007756	-0.09235	0.423461	7.329394	-19.4893	54.48631	1021.989	14.43964

Location Properties

T1-4HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 14:42:33

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 14:42	8.132592	88.38949	146.0284	16671	16.28901	19998.33	12.00316	12.99892	59.98454	1.008082	-0.08379	0.443219	7.467541	-27.1014	59.8466	1021.9	14.50005
3/2/2021 14:42	8.114217	88.19139	145.7006	16665.06	16.29136	19990.1	11.99782	12.99356	60.00552	1.008078	-0.08368	0.443452	7.466461	-27.0414	59.84657	1021.899	14.4999
3/2/2021 14:42	7.929303	86.29131	142.5538	16681.51	16.31132	20000.7	12.00513	13.00045	59.94663	1.00808	-0.08299	0.445061	7.454192	-26.3626	59.75171	1021.917	14.50857
3/2/2021 14:42	7.917356	86.16597	142.3464	16681.73	16.31222	20000.55	12.00505	13.00036	59.94582	1.008079	-0.08305	0.444905	7.453391	-26.3182	59.74752	1021.917	14.50893
3/2/2021 14:42	7.905409	86.04063	142.139	16681.96	16.31313	20000.41	12.00497	13.00027	59.94501	1.008079	-0.08312	0.444749	7.45259	-26.2738	59.74332	1021.918	14.50929
3/2/2021 14:42	7.769919	84.63533	139.8108	16680.06	16.40113	19957.94	11.97894	12.97266	59.95181	1.008043	-0.08221	0.446852	7.440536	-25.6113	59.66436	1021.927	14.50961
3/2/2021 14:42	7.760615	84.53918	139.6515	16680.2	16.40564	19956.04	11.97779	12.97142	59.95132	1.008041	-0.08215	0.446997	7.439776	-25.5694	59.65911	1021.928	14.50976
3/2/2021 14:42	7.751311	84.44304	139.4922	16680.33	16.41015	19954.14	11.97664	12.97019	59.95084	1.008039	-0.08208	0.447142	7.439016	-25.5276	59.65387	1021.929	14.50991
3/2/2021 14:42	7.742007	84.34689	139.3329	16680.47	16.41466	19952.24	11.97548	12.96896	59.95036	1.008037	-0.08202	0.447287	7.438256	-25.4858	59.64862	1021.93	14.51007
3/2/2021 14:42	7.63823	83.28539	137.5687	16676.12	16.45864	19927.02	11.95987	12.95256	59.96598	1.008017	-0.08356	0.443746	7.428658	-24.9539	59.59546	1021.904	14.49278
3/2/2021 14:42	7.630987	83.21095	137.4451	16675.89	16.46239	19925.04	11.95864	12.95127	59.96682	1.008015	-0.0836	0.443636	7.427995	-24.9173	59.59153	1021.903	14.49203

Location Properties

T2-1HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 12:07:03

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/2/2021 12:07	8.909395	95.64637	158.2783	15166.39	16.05287	18285.71	10.9284	11.88571	742.8589	1.007305	-0.07697	0.458943	7.459238	-26.6185	106.9567	1023.313	15.09806	
3/2/2021 12:07	8.901539	95.67266	158.3206	15390.75	16.0667	18552.43	11.08785	12.05908	520.7079	1.007424	-0.07704	0.45878	7.458229	-26.5631	106.8738	1023.314	15.09858	
3/2/2021 12:07	8.893682	95.69894	158.363	15615.12	16.08052	18819.15	11.2473	12.23245	298.5571	1.007544	-0.07711	0.458617	7.45722	-26.5076	106.791	1023.316	15.0991	
3/2/2021 12:07	8.885827	95.72523	158.4053	15839.48	16.09434	19085.87	11.40675	12.40582	76.40613	1.007664	-0.07718	0.458454	7.456211	-26.4522	106.7081	1023.317	15.09963	
3/2/2021 12:07	8.910828	96.0022	158.8561	15833.19	16.10033	19075.81	11.3995	12.39928	63.15849	1.007657	-0.08942	0.430218	7.445241	-25.8425	106.2704	1023.274	15.09973	
3/2/2021 12:07	8.912473	96.0211	158.887	15831.48	16.10594	19071.26	11.39666	12.39632	63.1653	1.007654	-0.08992	0.429065	7.444507	-25.8018	106.2393	1023.273	15.09989	
3/2/2021 12:07	8.914118	96.04	158.9179	15829.77	16.11154	19066.71	11.39381	12.39336	63.1721	1.007651	-0.09042	0.427912	7.443773	-25.7611	106.2082	1023.272	15.10005	
3/2/2021 12:07	8.939358	96.32963	159.4024	15814.28	16.10978	19048.84	11.38218	12.38174	63.234	1.007642	-0.09389	0.419904	7.435315	-25.2921	105.8501	1023.322	15.10851	
3/2/2021 12:07	8.941009	96.34824	159.4333	15813.19	16.10983	19047.49	11.38131	12.38087	63.23837	1.007641	-0.09429	0.418992	7.434715	-25.2589	105.8252	1023.324	15.1089	
3/2/2021 12:07	8.942658	96.36686	159.4642	15812.09	16.10988	19046.15	11.38044	12.38	63.24275	1.007641	-0.09468	0.41808	7.434116	-25.2256	105.8004	1023.325	15.10928	
3/2/2021 12:07	8.944309	96.38548	159.4951	15811	16.10994	19044.81	11.37957	12.37912	63.24712	1.00764	-0.09508	0.417168	7.433516	-25.1923	105.7756	1023.327	15.10967	

Location Properties

T2-2HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 12:21:06

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 12:21	6.875915	76.06503	125.7346	18331.91	16.77868	21746.74	13.15891	14.13538	54.54968	1.008869	-0.09561	0.415948	7.35892	-21.1041	97.42194	1023.141	15.52
3/2/2021 12:21	6.787548	75.15209	124.2146	18340.4	16.91383	21690.43	13.12453	14.09878	54.52444	1.008816	-0.08575	0.43868	7.359462	-21.138	97.03944	1023.115	15.52848
3/2/2021 12:21	6.781352	75.09135	124.1132	18341.22	16.92099	21687.89	13.123	14.09713	54.522	1.008814	-0.08535	0.4396	7.359497	-21.1402	97.02301	1023.114	15.5288
3/2/2021 12:21	6.775156	75.0306	124.0118	18342.04	16.92814	21685.35	13.12147	14.09548	54.51955	1.008811	-0.08496	0.44052	7.359532	-21.1425	97.00658	1023.112	15.52912
3/2/2021 12:21	6.688263	74.19893	122.6301	18344.97	16.98754	21659.76	13.10579	14.07884	54.51085	1.008787	-0.09601	0.415016	7.359874	-21.1647	96.9248	1023.171	15.53811
3/2/2021 12:21	6.683062	74.14815	122.5457	18345.22	16.99214	21657.8	13.10459	14.07757	54.51011	1.008786	-0.09638	0.414165	7.359897	-21.1661	96.91573	1023.173	15.53864
3/2/2021 12:21	6.67786	74.09737	122.4613	18345.47	16.99674	21655.84	13.10339	14.0763	54.50936	1.008784	-0.09675	0.413313	7.359921	-21.1676	96.90665	1023.176	15.53917
3/2/2021 12:21	6.672658	74.04659	122.3769	18345.72	17.00134	21653.89	13.1022	14.07503	54.50861	1.008782	-0.09712	0.412462	7.359944	-21.1691	96.89758	1023.178	15.5397
3/2/2021 12:21	6.630214	73.64689	121.706	18376.8	17.08916	21647.71	13.09985	14.07101	54.41645	1.008763	-0.09913	0.407834	7.360801	-21.2256	96.83537	1023.152	15.52221
3/2/2021 12:21	6.626724	73.61385	121.6508	18378.26	17.09412	21647	13.09948	14.07055	54.41215	1.008761	-0.09944	0.407102	7.360846	-21.2285	96.83141	1023.152	15.52158
3/2/2021 12:21	6.623234	73.58082	121.5957	18379.71	17.09908	21646.29	13.09911	14.07009	54.40784	1.00876	-0.09976	0.406369	7.360891	-21.2314	96.82746	1023.152	15.52096

Location Properties

T2-2HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 12:12:18

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 12:12	8.231778	89.82433	148.5167	16044.54	16.7267	19055.76	11.39762	12.38624	62.32699	1.007537	-0.07562	0.462061	7.348444	-20.5054	103.2318	1023.22	15.34892
3/2/2021 12:12	8.213181	89.6247	148.186	16039.48	16.72996	19048.31	11.39284	12.3814	62.34627	1.007532	-0.07515	0.463147	7.348419	-20.5042	103.2115	1023.22	15.34966
3/2/2021 12:12	8.084156	88.22044	145.8576	16025.93	16.73335	19030.75	11.3815	12.36999	62.39888	1.007523	-0.08775	0.434083	7.348257	-20.4952	103.0087	1023.178	15.34966
3/2/2021 12:12	8.073343	88.10386	145.6644	16025.41	16.73429	19029.73	11.38085	12.36932	62.40091	1.007522	-0.0881	0.433258	7.348247	-20.4947	102.9943	1023.176	15.34984
3/2/2021 12:12	8.062531	87.98728	145.4712	16024.89	16.73523	19028.7	11.3802	12.36866	62.40294	1.007522	-0.08846	0.432433	7.348237	-20.4942	102.9799	1023.174	15.35003
3/2/2021 12:12	8.05172	87.8707	145.278	16024.37	16.73617	19027.68	11.37955	12.36799	62.40496	1.007521	-0.08882	0.431607	7.348228	-20.4937	102.9654	1023.172	15.35022
3/2/2021 12:12	7.952039	86.79925	143.508	16018.34	16.73649	19020.38	11.37481	12.36325	62.42846	1.007517	-0.08984	0.429244	7.347795	-20.4704	102.8108	1023.197	15.36718
3/2/2021 12:12	7.944822	86.72139	143.3793	16017.84	16.73661	19019.74	11.3744	12.36283	62.4304	1.007517	-0.09011	0.428637	7.347773	-20.4692	102.7997	1023.198	15.36798
3/2/2021 12:12	7.937606	86.64353	143.2505	16017.34	16.73673	19019.09	11.37398	12.36241	62.43235	1.007517	-0.09037	0.42803	7.34775	-20.4679	102.7886	1023.198	15.36877
3/2/2021 12:12	7.930389	86.56567	143.1217	16016.84	16.73684	19018.45	11.37357	12.36199	62.4343	1.007517	-0.09063	0.427423	7.347727	-20.4667	102.7775	1023.198	15.36957
3/2/2021 12:12	7.841702	85.63068	141.5691	16023	16.76721	19012.67	11.37033	12.35824	62.41029	1.007508	-0.08826	0.432899	7.347579	-20.4605	102.6442	1023.173	15.36948

Location Properties

T2-3HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 12:39:05

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	Barometric Temperatu	Marked
3/2/2021 12:39	6.645907	74.10487	122.4266	18324.85	17.3106	21479.5	12.99329	13.96167	54.5707	1.008637	-0.07301	0.468063	7.373392	-21.9401	90.51237	1023.129	15.4
3/2/2021 12:39	6.60694	73.76252	121.8537	18360.94	17.31985	21517.33	13.01838	13.98626	54.4635	1.008654	-0.0848	0.440877	7.373174	-21.9315	90.34811	1023.138	15.39172
3/2/2021 12:39	6.604529	73.74004	121.8162	18362.56	17.32141	21518.49	13.01917	13.98702	54.45867	1.008655	-0.08544	0.439402	7.373163	-21.9311	90.34226	1023.138	15.39137
3/2/2021 12:39	6.602118	73.71755	121.7787	18364.19	17.32296	21519.64	13.01996	13.98777	54.45384	1.008655	-0.08608	0.437927	7.373153	-21.9307	90.33641	1023.138	15.39103
3/2/2021 12:39	6.599708	73.69508	121.7412	18365.81	17.32451	21520.8	13.02075	13.98852	54.44901	1.008655	-0.08672	0.436452	7.373143	-21.9302	90.33056	1023.139	15.39068
3/2/2021 12:39	6.571401	73.41025	121.266	18378.56	17.39728	21500.72	13.00888	13.97547	54.41125	1.008631	-0.08602	0.438069	7.372954	-21.9259	90.3354	1023.131	15.39036
3/2/2021 12:39	6.569469	73.39163	121.2349	18379.74	17.40082	21500.41	13.00874	13.97526	54.40773	1.008631	-0.08617	0.437716	7.372942	-21.9255	90.3329	1023.13	15.39021
3/2/2021 12:39	6.567537	73.37301	121.2038	18380.93	17.40436	21500.09	13.0086	13.97506	54.40422	1.00863	-0.08632	0.437362	7.37293	-21.9252	90.33041	1023.13	15.39006
3/2/2021 12:39	6.565606	73.35439	121.1727	18382.11	17.40791	21499.78	13.00846	13.97485	54.40071	1.008629	-0.08648	0.437008	7.372917	-21.9248	90.32792	1023.13	15.38991
3/2/2021 12:39	6.534341	73.07259	120.6957	18356.77	17.4626	21443.94	12.97269	13.93856	54.47583	1.00859	-0.08341	0.444409	7.373673	-21.9694	90.26372	1023.104	15.39
3/2/2021 12:39	6.532415	73.0546	120.6654	18355.95	17.46649	21441.12	12.9709	13.93672	54.47827	1.008588	-0.08326	0.444438	7.373701	-21.9712	90.26113	1023.103	15.39

Location Properties

T2-3HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 12:35:06

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 12:35	8.16018	89.17602	147.4494	16318.01	16.74076	19374.3	11.60493	12.5933	61.28159	1.007692	-0.08676	0.43635	7.485541	-28.1448	93.25943	1023.269	15.48
3/2/2021 12:35	8.00728	87.50406	144.6832	16301.7	16.74397	19353.57	11.5915	12.57982	61.34332	1.007681	-0.08709	0.435596	7.471885	-27.3869	93.25351	1023.261	15.4714
3/2/2021 12:35	7.994627	87.36575	144.4544	16300.38	16.74433	19351.85	11.59038	12.5787	61.34826	1.00768	-0.08741	0.43486	7.47087	-27.3305	93.25416	1023.261	15.47103
3/2/2021 12:35	7.981973	87.22745	144.2256	16299.07	16.74469	19350.12	11.58927	12.57758	61.35321	1.007679	-0.08773	0.434123	7.469855	-27.274	93.25481	1023.26	15.47065
3/2/2021 12:35	7.969319	87.08914	143.9968	16297.75	16.74506	19348.4	11.58815	12.57646	61.35815	1.007679	-0.08805	0.433386	7.46884	-27.2176	93.25546	1023.26	15.47028
3/2/2021 12:35	7.842325	85.82019	141.8864	16292.19	16.77718	19327.72	11.57526	12.56302	61.37913	1.007662	-0.08035	0.45114	7.457614	-26.5957	93.20361	1023.26	15.47901
3/2/2021 12:35	7.833251	85.72623	141.7305	16291.52	16.77787	19326.26	11.57434	12.56207	61.38162	1.007661	-0.08005	0.451829	7.456826	-26.552	93.20132	1023.26	15.47923
3/2/2021 12:35	7.824176	85.63229	141.5745	16290.86	16.78023	19324.81	11.57342	12.56112	61.38412	1.00766	-0.07975	0.452519	7.456038	-26.5083	93.19905	1023.26	15.47945
3/2/2021 12:35	7.728781	84.62191	139.8956	16292.54	16.84055	19300.43	11.5586	12.54528	61.3778	1.007637	-0.07699	0.458885	7.446072	-25.9569	93.15479	1023.226	15.47964
3/2/2021 12:35	7.72198	84.55116	139.7781	16292.49	16.84385	19298.93	11.55768	12.54431	61.37797	1.007636	-0.07674	0.459468	7.445405	-25.92	93.15189	1023.224	15.4798
3/2/2021 12:35	7.715179	84.48042	139.6605	16292.45	16.84714	19297.44	11.55677	12.54334	61.37813	1.007635	-0.07649	0.460051	7.444737	-25.883	93.14899	1023.223	15.47997

Location Properties

T2-4HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 14:28:19

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 14:28	6.360161	70.6398	116.5387	17001.46	17.29956	19933.21	11.97891	12.95659	58.81847	1.007867	-0.08657	0.436784	7.343505	-20.2739	67.01267	1021.773	14.69132
3/2/2021 14:28	6.358799	70.63002	116.5218	17000.95	17.30215	19931.45	11.97781	12.95545	58.82024	1.007866	-0.08657	0.43679	7.343498	-20.2737	67.00708	1021.771	14.69059
3/2/2021 14:28	6.357439	70.62025	116.5049	17000.44	17.30474	19929.7	11.9767	12.9543	58.822	1.007864	-0.08657	0.436796	7.343491	-20.2735	67.00149	1021.77	14.68986
3/2/2021 14:28	6.347398	70.55773	116.4004	17027.53	17.3942	19921.55	11.97289	12.94901	58.72844	1.007843	-0.0976	0.411349	7.341779	-20.1831	66.85556	1021.806	14.69898
3/2/2021 14:28	6.346418	70.55141	116.3896	17028.54	17.39887	19920.65	11.97237	12.94842	58.72496	1.007842	-0.09809	0.410224	7.341705	-20.1793	66.84772	1021.807	14.6992
3/2/2021 14:28	6.345439	70.5451	116.3788	17029.54	17.40354	19919.75	11.97186	12.94784	58.72148	1.007841	-0.09858	0.409098	7.341632	-20.1755	66.83987	1021.807	14.69942
3/2/2021 14:28	6.33719	70.49254	116.2892	17018.22	17.43873	19890.87	11.95358	12.92906	58.76057	1.00782	-0.07862	0.455143	7.340845	-20.1317	66.79932	1021.825	14.69125
3/2/2021 14:28	6.336599	70.48878	116.2828	17018.22	17.44205	19889.4	11.95268	12.92811	58.76054	1.007818	-0.07795	0.456689	7.340778	-20.128	66.79462	1021.826	14.69105
3/2/2021 14:28	6.336009	70.48504	116.2765	17018.23	17.44538	19887.93	11.95177	12.92715	58.76051	1.007817	-0.07728	0.458234	7.34071	-20.1244	66.78993	1021.828	14.69085
3/2/2021 14:28	6.335419	70.48129	116.2701	17018.24	17.4487	19886.46	11.95087	12.9262	58.76049	1.007816	-0.07661	0.45978	7.340642	-20.1207	66.78524	1021.829	14.69065
3/2/2021 14:28	6.32339	70.37999	116.1009	17028.62	17.45068	19897.71	11.95825	12.93351	58.72468	1.007821	-0.08466	0.441191	7.341308	-20.159	66.62177	1021.838	14.69034

Location Properties

T2-4HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 14:21:39

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Concn	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	(Barometric	Temperatu	Marked
3/2/2021 14:21	8.301712	89.67954	148.1947	16607.23	15.97548	20065.97	12.04111	13.04288	60.21473	1.00817	-0.07585	0.461534	7.47332	-27.3952	74.42362	1021.77	14.91006	
3/2/2021 14:21	8.285354	89.50719	147.9095	16605.97	15.97832	20063.13	12.03932	13.04103	60.2193	1.008168	-0.07643	0.460189	7.471944	-27.319	74.75861	1021.77	14.90945	
3/2/2021 14:21	8.268995	89.33485	147.6243	16604.71	15.98116	20060.29	12.03752	13.03919	60.22386	1.008167	-0.07701	0.458844	7.470569	-27.2429	75.09361	1021.771	14.90884	
3/2/2021 14:21	8.100736	87.62664	144.7912	16589.58	16.01353	20027.07	12.0165	13.01759	60.27882	1.008144	-0.0765	0.460035	7.461082	-26.7183	74.93592	1021.778	14.91024	
3/2/2021 14:21	8.086654	87.48116	144.5502	16588.4	16.01611	20024.44	12.01484	13.01589	60.28311	1.008143	-0.07671	0.459547	7.460106	-26.6643	75.06357	1021.779	14.91006	
3/2/2021 14:21	8.072572	87.33567	144.3092	16587.22	16.0187	20021.82	12.01318	13.01418	60.2874	1.008141	-0.07692	0.45906	7.45913	-26.6102	75.19122	1021.779	14.90987	
3/2/2021 14:21	8.05849	87.19018	144.0681	16586.03	16.02128	20019.19	12.01153	13.01248	60.29168	1.008139	-0.07713	0.458572	7.458154	-26.5562	75.31887	1021.78	14.90969	
3/2/2021 14:21	7.910773	85.68242	141.5629	16599.45	16.11161	19993.77	11.99673	12.99595	60.24295	1.008111	-0.08919	0.430743	7.448143	-26.0102	75.30983	1021.745	14.91	
3/2/2021 14:21	7.899995	85.57223	141.38	16599.67	16.11638	19991.83	11.99556	12.99469	60.24216	1.008109	-0.08975	0.429455	7.447431	-25.9712	75.32851	1021.743	14.91	
3/2/2021 14:21	7.889216	85.46203	141.1971	16599.89	16.12115	19989.9	11.99439	12.99343	60.24137	1.008107	-0.09031	0.428166	7.446719	-25.9321	75.34721	1021.742	14.91	
3/2/2021 14:21	7.753551	84.08428	138.9144	16595.18	16.18266	19956.01	11.9735	12.9714	60.25847	1.00808	-0.08946	0.430126	7.438627	-25.4839	75.32195	1021.766	14.91	

Location Properties

T3-1HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 11:06:29

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 11:06	7.246539	79.40363	131.338	16530.58	16.85735	19574.97	11.73761	12.72373	60.49395	1.007771	-0.10416	0.396223	7.314953	-18.6505	107.666	1023.77	13.95
3/2/2021 11:06	7.246539	79.40363	131.338	16530.58	16.85735	19574.97	11.73761	12.72373	60.49395	1.007771	-0.10416	0.396223	7.314953	-18.6505	107.666	1023.77	13.95
3/2/2021 11:06	7.167812	78.51163	129.8488	16266.1	16.90008	19243.21	11.52242	12.50809	61.47905	1.007598	-0.09498	0.417402	7.30358	-18.0183	130.2879	1023.715	13.95915
3/2/2021 11:06	7.162742	78.45419	129.7529	16249.06	16.90283	19221.84	11.50856	12.4942	61.54249	1.007587	-0.09439	0.418766	7.302847	-17.9776	131.7448	1023.711	13.95974
3/2/2021 11:06	7.157672	78.39674	129.657	16232.03	16.90559	19200.48	11.4947	12.48031	61.60593	1.007576	-0.09379	0.42013	7.302115	-17.9369	133.2016	1023.708	13.96033
3/2/2021 11:06	7.152602	78.3393	129.5611	16215	16.90834	19179.11	11.48084	12.46642	61.66938	1.007565	-0.0932	0.421494	7.301383	-17.8961	134.6585	1023.704	13.96092
3/2/2021 11:06	7.091471	77.76438	128.6064	16266.44	16.9289	19231.08	11.515	12.5002	61.47675	1.007587	-0.06979	0.475503	7.29637	-17.6183	137.853	1023.737	13.95971
3/2/2021 11:06	7.086723	77.71589	128.5257	16262.08	16.93091	19225.04	11.51111	12.49628	61.49294	1.007584	-0.0685	0.478476	7.295856	-17.5898	138.5688	1023.737	13.95989
3/2/2021 11:06	7.081974	77.6674	128.445	16257.72	16.93292	19219	11.50721	12.49235	61.50914	1.00758	-0.06721	0.481449	7.295342	-17.5613	139.2846	1023.737	13.96006
3/2/2021 11:06	7.077226	77.61891	128.3643	16253.36	16.93493	19212.97	11.50332	12.48843	61.52534	1.007577	-0.06592	0.484422	7.294829	-17.5328	140.0004	1023.737	13.96024
3/2/2021 11:06	7.015927	77.00594	127.34	16258.67	17.0072	19187.96	11.48827	12.47217	61.50566	1.007551	-0.08852	0.432296	7.288929	-17.2079	142.728	1023.704	13.96871

Location Properties

T3-2HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 11:23:40

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 11:23	6.227142	69.59415	114.9253	16555.71	17.89594	19154.78	11.4807	12.45061	60.40212	1.007367	-0.09183	0.424654	7.23932	-14.4854	126.9837	1023.437	13.97923
3/2/2021 11:23	6.228046	69.60695	114.9462	16556.47	17.89824	19154.68	11.48067	12.45054	60.39935	1.007367	-0.09183	0.424652	7.239574	-14.4997	127.0107	1023.438	13.97945
3/2/2021 11:23	6.225729	69.65765	115.0149	16551.74	17.9271	19137.01	11.46959	12.43905	60.4166	1.007352	-0.10825	0.386778	7.242842	-14.6838	127.9532	1023.378	13.97104
3/2/2021 11:23	6.225892	69.66387	115.0244	16551.75	17.92913	19136.15	11.46906	12.4385	60.41659	1.007352	-0.10896	0.385138	7.243062	-14.6962	128.0044	1023.376	13.97081
3/2/2021 11:23	6.226053	69.67009	115.034	16551.75	17.93116	19135.3	11.46854	12.43795	60.41657	1.007351	-0.10968	0.383499	7.243282	-14.7086	128.0556	1023.374	13.97058
3/2/2021 11:23	6.226215	69.67632	115.0435	16551.75	17.93319	19134.45	11.46801	12.43739	60.41656	1.00735	-0.11039	0.38186	7.243502	-14.721	128.1068	1023.371	13.97035
3/2/2021 11:23	6.233108	69.78158	115.2183	16573.5	17.98085	19139.45	11.47197	12.44064	60.33729	1.007343	-0.08255	0.446063	7.245918	-14.8586	128.4514	1023.407	13.97907
3/2/2021 11:23	6.233386	69.78749	115.2278	16574.39	17.98359	19139.32	11.47193	12.44056	60.33403	1.007342	-0.08163	0.448198	7.246095	-14.8686	128.4858	1023.407	13.9793
3/2/2021 11:23	6.233663	69.7934	115.2373	16575.29	17.98632	19139.2	11.47189	12.44048	60.33078	1.007342	-0.0807	0.450333	7.246271	-14.8786	128.5201	1023.407	13.97953
3/2/2021 11:23	6.225554	69.72871	115.1269	16558.75	18.01117	19109.64	11.45301	12.42126	60.39103	1.007322	-0.08222	0.446828	7.248737	-15.0172	128.0861	1023.408	13.97123
3/2/2021 11:24	6.225334	69.72802	115.1256	16558.45	18.01321	19108.42	11.45225	12.42048	60.39215	1.007321	-0.08176	0.44788	7.248895	-15.0262	128.0745	1023.409	13.97103

Location Properties

T3-2HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 11:14:02

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 11:14	7.14615	79.08534	130.719	16558.29	17.37978	19378.8	11.61859	12.59622	60.39271	1.007577	-0.07558	0.462146	7.300783	-17.8912	149.1334	1023.704	14.13
3/2/2021 11:14	7.137957	78.99662	130.572	16557.81	17.38116	19377.64	11.61786	12.59547	60.39447	1.007576	-0.07535	0.462682	7.300453	-17.8729	149.0843	1023.704	14.13
3/2/2021 11:14	7.129765	78.9079	130.425	16557.33	17.38254	19376.48	11.61713	12.59471	60.39622	1.007575	-0.07511	0.463219	7.300122	-17.8545	149.0353	1023.703	14.13
3/2/2021 11:14	7.121573	78.81918	130.278	16556.85	17.38391	19375.32	11.61639	12.59396	60.39797	1.007574	-0.07488	0.463755	7.299792	-17.8362	148.9862	1023.702	14.13
3/2/2021 11:14	7.056753	78.12871	129.1324	16551.75	17.40339	19360.93	11.60733	12.58461	60.41656	1.007563	-0.08277	0.445566	7.296605	-17.6602	148.4135	1023.692	14.12145
3/2/2021 11:14	7.051568	78.07309	129.0402	16551.35	17.40466	19359.91	11.60669	12.58394	60.41805	1.007563	-0.08306	0.444898	7.296364	-17.6469	148.3736	1023.691	14.12108
3/2/2021 11:14	7.046383	78.01747	128.9479	16550.94	17.40593	19358.88	11.60604	12.58327	60.41953	1.007562	-0.08335	0.44423	7.296123	-17.6336	148.3336	1023.69	14.1207
3/2/2021 11:14	7.041198	77.96185	128.8556	16550.53	17.4072	19357.85	11.60539	12.58261	60.42102	1.007561	-0.08364	0.443562	7.295882	-17.6203	148.2937	1023.689	14.12033
3/2/2021 11:14	6.976777	77.29523	127.7498	16522.9	17.44035	19311.24	11.57556	12.55231	60.52209	1.007532	-0.09346	0.420893	7.292444	-17.4286	147.8567	1023.708	14.12905
3/2/2021 11:14	6.972526	77.25078	127.6761	16521.57	17.44221	19308.88	11.57406	12.55077	60.52695	1.00753	-0.09404	0.41957	7.292225	-17.4164	147.8256	1023.708	14.12928
3/2/2021 11:14	6.968274	77.20633	127.6023	16520.24	17.44407	19306.53	11.57255	12.54924	60.53181	1.007529	-0.09461	0.418247	7.292006	-17.4042	147.7946	1023.709	14.12951

Location Properties

T3-3HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 11:46:41

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Saturi	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft) (	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 11:46	6.583049	72.67603	120.136	17142.11	17.08551	20194.92	12.14624	13.1267	58.33589	1.008037	-0.09718	0.412318	7.318293	-18.85	108.6212	1023.433	14.58195	
3/2/2021 11:46	6.581479	72.66148	120.1115	17141.17	17.08838	20192.51	12.14471	13.12513	58.33907	1.008035	-0.09737	0.411894	7.318313	-18.8513	108.6213	1023.432	14.58143	Marked
3/2/2021 11:46	6.55945	72.45966	119.7739	17099.46	17.10645	20135.18	12.10755	13.08787	58.48147	1.008003	-0.08951	0.430009	7.318891	-18.8851	108.4048	1023.448	14.58938	
3/2/2021 11:46	6.557985	72.44596	119.751	17097.3	17.10825	20131.82	12.10539	13.08568	58.48884	1.008001	-0.08919	0.430745	7.318923	-18.8869	108.3955	1023.448	14.58948	
3/2/2021 11:46	6.55652	72.43227	119.728	17095.14	17.11004	20128.46	12.10323	13.0835	58.4962	1.007999	-0.08887	0.431481	7.318954	-18.8888	108.3862	1023.449	14.58957	
3/2/2021 11:46	6.546392	72.37404	119.6255	17093.19	17.17565	20096.52	12.08349	13.06274	58.50286	1.007971	-0.09197	0.424343	7.31893	-18.8905	108.134	1023.449	14.58964	
3/2/2021 11:46	6.545549	72.36805	119.6152	17092.39	17.17913	20094.02	12.08191	13.06111	58.50557	1.007969	-0.09198	0.424306	7.318938	-18.8911	108.1177	1023.449	14.5898	
3/2/2021 11:46	6.544705	72.36206	119.605	17091.6	17.18261	20091.51	12.08034	13.05948	58.50827	1.007968	-0.092	0.424269	7.318946	-18.8917	108.1015	1023.45	14.58996	
3/2/2021 11:46	6.543862	72.35606	119.5947	17090.81	17.18609	20089.01	12.07876	13.05785	58.51097	1.007966	-0.09202	0.424232	7.318955	-18.8924	108.0852	1023.45	14.59013	
3/2/2021 11:46	6.527205	72.1722	119.2933	17085.32	17.18877	20081.35	12.0738	13.05288	58.52979	1.007961	-0.09242	0.423304	7.318733	-18.8813	108.123	1023.475	14.5985	
3/2/2021 11:47	6.526273	72.16309	119.2783	17085.05	17.19032	20080.33	12.07316	13.05221	58.5307	1.007961	-0.09251	0.423104	7.318723	-18.8809	108.119	1023.476	14.59886	

Location Properties

T3-3HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 11:38:54

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Saturi	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft) (	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 11:38	8.767859	96.57941	159.6771	16120.73	17.22762	18931.09	11.32492	12.30521	62.03195	1.007383	-0.08731	0.435077	7.323442	-19.146	117.4821	1023.797	14.51015
3/2/2021 11:38	8.770764	96.61249	159.7317	16120.08	17.22783	18930.24	11.32437	12.30466	62.03444	1.007383	-0.08754	0.434564	7.323009	-19.1219	117.4691	1023.798	14.50999
3/2/2021 11:38	8.783004	96.79947	160.0299	16119.66	17.26765	18912.87	11.31371	12.29336	62.03605	1.007367	-0.09966	0.406603	7.317305	-18.8065	117.3026	1023.764	14.51867
3/2/2021 11:39	8.78441	96.81795	160.06	16119.48	17.26966	18911.8	11.31306	12.29267	62.03673	1.007366	-0.10031	0.405097	7.316914	-18.7848	117.291	1023.763	14.51908
3/2/2021 11:39	8.785817	96.83643	160.09	16119.31	17.27167	18910.74	11.3124	12.29198	62.03741	1.007365	-0.10097	0.40359	7.316524	-18.7632	117.2794	1023.762	14.51949
3/2/2021 11:39	8.787224	96.85491	160.1201	16119.13	17.27368	18909.68	11.31174	12.29129	62.03809	1.007364	-0.10162	0.402083	7.316133	-18.7416	117.2679	1023.761	14.5199
3/2/2021 11:39	8.801868	97.03455	160.4205	16100.55	17.29059	18880.73	11.29321	12.27248	62.10969	1.007347	-0.09385	0.420008	7.311572	-18.4881	117.0381	1023.803	14.52822
3/2/2021 11:39	8.802764	97.0463	160.4398	16099.75	17.29215	18879.14	11.2922	12.27144	62.11277	1.007346	-0.09378	0.420171	7.311255	-18.4706	117.0248	1023.804	14.52876
3/2/2021 11:39	8.80366	97.05806	160.4592	16098.96	17.29371	18877.54	11.29118	12.2704	62.11584	1.007345	-0.09371	0.420333	7.310939	-18.453	117.0115	1023.805	14.52929
3/2/2021 11:39	8.795587	97.0572	160.4449	16097.75	17.31384	18867.63	11.28506	12.26396	62.12047	1.007336	-0.08093	0.449806	7.306859	-18.2269	116.7772	1023.782	14.52107
3/2/2021 11:39	8.79546	97.06034	160.4495	16097.4	17.3151	18866.68	11.28446	12.26334	62.12185	1.007335	-0.08021	0.451477	7.306584	-18.2116	116.7622	1023.782	14.52081

Location Properties

T3-4HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 13:56:50

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/2/2021 13:56	6.160462	68.75909	113.4139	17652.69	17.45677	20624.13	12.43382	13.40569	56.64859	1.008181	-0.09169	0.42499	7.336319	-19.8818	55.8926	1021.711	15.65931
3/2/2021 13:56	6.158872	68.74529	113.3905	17652.17	17.46113	20621.52	12.43219	13.40399	56.65025	1.008179	-0.09212	0.424001	7.336277	-19.8797	55.89442	1021.71	15.65954
3/2/2021 13:56	6.144073	68.61485	113.1735	17658.4	17.4887	20616.11	12.42912	13.40047	56.63028	1.008172	-0.08651	0.436932	7.335534	-19.8408	55.85724	1021.727	15.65967
3/2/2021 13:56	6.142963	68.60485	113.1568	17658.54	17.49146	20615.01	12.42844	13.39976	56.62981	1.00817	-0.08631	0.437395	7.335489	-19.8384	55.85623	1021.728	15.65984
3/2/2021 13:56	6.141854	68.59486	113.1401	17658.69	17.49422	20613.91	12.42777	13.39904	56.62935	1.008169	-0.08611	0.437857	7.335443	-19.8361	55.85522	1021.728	15.66001
3/2/2021 13:57	6.140745	68.58487	113.1234	17658.83	17.49698	20612.8	12.4271	13.39832	56.62888	1.008168	-0.08591	0.43832	7.335398	-19.8337	55.85421	1021.729	15.66018
3/2/2021 13:57	6.12342	68.46762	112.9254	17687.88	17.53478	20629.32	12.43858	13.40906	56.53592	1.008169	-0.0704	0.474097	7.33445	-19.7818	55.74829	1021.755	15.66
3/2/2021 13:57	6.122345	68.45975	112.9122	17689.29	17.53706	20629.92	12.43901	13.40945	56.53141	1.008169	-0.06961	0.475925	7.334394	-19.7787	55.74289	1021.757	15.66
3/2/2021 13:57	6.121272	68.45187	112.8989	17690.7	17.53934	20630.52	12.43944	13.40984	56.5269	1.008169	-0.06881	0.477752	7.334337	-19.7756	55.7375	1021.758	15.66
3/2/2021 13:57	6.110948	68.36756	112.7528	17693.72	17.57688	20616.8	12.4311	13.40092	56.51723	1.008155	-0.08136	0.448819	7.333488	-19.7322	55.59758	1021.725	15.66
3/2/2021 13:57	6.110152	68.3615	112.7424	17694.39	17.57931	20616.47	12.43092	13.40071	56.51508	1.008155	-0.08164	0.448162	7.333432	-19.7293	55.58928	1021.724	15.66

Location Properties

T3-4HTS

Location Name = Device Location

Report Properties

Start Time = 2021-03-02 13:51:20

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/2/2021 13:51	8.722131	94.36314	155.9057	16398.58	16.05792	19778.29	11.85101	12.85588	0	1.00801	-0.06878	0.477833	7.500307	-28.9039	58.91963	1021.732	15.62049	
3/2/2021 13:51	8.448259	91.47571	151.1262	16306.32	16.17068	19614.19	11.75064	12.74923	61.327	1.007912	-0.0691	0.477096	7.475783	-27.5518	58.92986	1021.757	15.62913	
3/2/2021 13:51	8.426727	91.25258	150.7563	16299.6	16.17906	19602.26	11.74304	12.74147	61.35173	1.007905	-0.06902	0.477268	7.474144	-27.4612	58.92954	1021.758	15.62938	
3/2/2021 13:51	8.405195	91.02946	150.3864	16292.88	16.18743	19590.33	11.73543	12.73372	61.37647	1.007897	-0.06895	0.47744	7.472504	-27.3707	58.92923	1021.759	15.62963	
3/2/2021 13:51	8.24477	89.35607	147.6165	16267.06	16.23306	19538.82	11.70277	12.70023	61.47398	1.007864	-0.06759	0.480569	7.453881	-26.3392	58.91744	1021.776	15.62966	
3/2/2021 13:51	8.232417	89.22736	147.4034	16265.58	16.2373	19535.14	11.70045	12.69784	61.47956	1.007861	-0.06754	0.48069	7.452577	-26.2671	58.917	1021.777	15.62984	
3/2/2021 13:51	8.220065	89.09863	147.1904	16264.09	16.24153	19531.45	11.69814	12.69544	61.48515	1.007859	-0.06749	0.480812	7.451273	-26.195	58.91655	1021.778	15.63001	
3/2/2021 13:51	8.207713	88.96991	146.9773	16262.61	16.24576	19527.76	11.69582	12.69305	61.49074	1.007856	-0.06744	0.480933	7.449968	-26.1229	58.91611	1021.779	15.63018	
3/2/2021 13:51	8.089121	87.83736	145.0862	16257.09	16.29295	19500.04	11.67867	12.67503	61.51165	1.007834	-0.08043	0.450965	7.43483	-25.284	58.91219	1021.744	15.63	
3/2/2021 13:51	8.080511	87.7523	144.9447	16256.34	16.29604	19497.76	11.67724	12.67354	61.51447	1.007832	-0.08099	0.44966	7.433774	-25.2255	58.9118	1021.743	15.63	
3/2/2021 13:51	8.0719	87.66725	144.8031	16255.59	16.29913	19495.47	11.67581	12.67206	61.5173	1.007831	-0.08156	0.448355	7.432719	-25.167	58.9114	1021.742	15.63	

Location Properties

BG-2HT

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 10:35:51

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/3/2021 10:35	7.00261	78.0311	127.6123	21813.8	15.85924	26427.79	16.22024	17.14662	45.86725	1.011375	-0.0869	0.436025	7.493625	-28.3822	98.85564	1015.123	15.59
3/3/2021 10:35	7.000638	78.01694	127.5892	21813.89	15.86075	26426.98	16.21764	17.14448	45.8689	1.011372	-0.08818	0.433092	7.493648	-28.384	98.81699	1015.128	15.59
3/3/2021 10:35	7.00228	78.04302	127.6182	21804.17	15.92224	26390.95	16.22492	17.15026	45.84251	1.011375	-0.08664	0.436635	7.493342	-28.3677	98.59869	1015.033	15.58144
3/3/2021 10:35	7.001574	78.03866	127.6104	21803.72	15.9259	26388.83	16.22424	17.14969	45.84186	1.011374	-0.08707	0.435638	7.493336	-28.3677	98.57236	1015.03	15.58102
3/3/2021 10:35	7.000866	78.03429	127.6025	21803.27	15.92956	26386.72	16.22356	17.14912	45.84121	1.011374	-0.0875	0.434641	7.49333	-28.3676	98.54604	1015.027	15.58059
3/3/2021 10:36	7.000159	78.02992	127.5947	21802.83	15.93322	26384.6	16.22288	17.14855	45.84056	1.011373	-0.08794	0.433644	7.493324	-28.3675	98.51971	1015.024	15.58017
3/3/2021 10:36	6.98718	77.91534	127.3987	21806.99	15.95505	26362.45	16.20979	17.13502	45.85494	1.011358	-0.08504	0.440327	7.493227	-28.3646	98.40711	1015.057	15.58019
3/3/2021 10:36	6.986441	77.9093	127.3881	21806.99	15.95754	26360.54	16.20912	17.13433	45.85519	1.011358	-0.08496	0.440519	7.493218	-28.3643	98.39417	1015.057	15.58001
3/3/2021 10:36	6.985703	77.90326	127.3774	21806.99	15.96003	26358.63	16.20845	17.13364	45.85545	1.011357	-0.08487	0.440712	7.493208	-28.3639	98.38123	1015.057	15.57982
3/3/2021 10:36	6.973747	77.8389	127.2753	21818.82	16.0099	26342.52	16.19853	17.12264	45.83116	1.011339	-0.08243	0.446351	7.493073	-28.3606	98.05338	1015.067	15.56324
3/3/2021 10:36	6.972908	77.83338	127.2663	21819.43	16.01267	26341.28	16.19778	17.12183	45.83039	1.011338	-0.08227	0.446708	7.493065	-28.3604	98.03558	1015.068	15.56249

Location Properties

T4-1HB

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 12:32:41

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV)	Barometric	Temperatu	Marked
3/3/2021 12:32	7.272975	78.12978	128.0835	18636.19	14.86874	23107.7	14.0113	15.02	53.65904	1.009879	-0.08365	0.44354	7.434795	-24.9439	116.1809	1016.367	13.56894	
3/3/2021 12:32	7.265404	78.05289	127.9572	18636.32	14.87271	23105.68	14.01008	15.01869	53.65866	1.009878	-0.08331	0.444316	7.434354	-24.9191	116.1554	1016.368	13.56931	
3/3/2021 12:32	7.159215	77.00845	126.2351	18660.03	14.89956	23120.37	14.02051	15.02824	53.59052	1.009881	-0.09737	0.411882	7.430029	-24.6761	115.8118	1016.351	13.56109	
3/3/2021 12:32	7.152302	76.93987	126.1222	18661.15	14.90166	23120.61	14.02073	15.0284	53.58729	1.009881	-0.09795	0.410556	7.429707	-24.658	115.7883	1016.351	13.56085	
3/3/2021 12:32	7.145389	76.87129	126.0092	18662.27	14.90376	23120.85	14.02095	15.02855	53.58406	1.00988	-0.09852	0.40923	7.429385	-24.6399	115.7648	1016.351	13.56061	
3/3/2021 12:32	7.138476	76.80271	125.8963	18663.39	14.90586	23121.09	14.02116	15.02871	53.58083	1.00988	-0.0991	0.407903	7.429063	-24.6218	115.7413	1016.35	13.56037	
3/3/2021 12:32	7.091524	76.3095	125.0857	18648.12	14.95031	23077.9	13.99384	15.00064	53.62473	1.009851	-0.09585	0.415396	7.425346	-24.4144	115.4539	1016.35	13.56892	
3/3/2021 12:32	7.087251	76.26604	125.0142	18647.9	14.95289	23076.23	13.99281	14.99955	53.62535	1.00985	-0.09598	0.415087	7.42509	-24.4002	115.434	1016.35	13.56914	
3/3/2021 12:32	7.082978	76.22259	124.9426	18647.69	14.95546	23074.56	13.99178	14.99846	53.62596	1.009849	-0.09611	0.414779	7.424835	-24.3859	115.4141	1016.35	13.56936	
3/3/2021 12:32	7.078705	76.17913	124.8711	18647.47	14.95803	23072.89	13.99075	14.99738	53.62658	1.009848	-0.09625	0.414471	7.42458	-24.3716	115.3942	1016.349	13.56957	
3/3/2021 12:33	7.027151	75.65017	123.9966	18620.7	14.9822	23026.62	13.96084	14.9673	53.7037	1.00982	-0.09552	0.416153	7.421881	-24.2216	115.2148	1016.315	13.56973	

Location Properties

T4-1HS

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 12:26:15

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/3/2021 12:26	8.623577	92.7592	152.0489	18193.58	15.05976	22457.29	13.58744	14.59724	54.96443	1.00952	-0.086	0.438111	7.620914	-35.5221	105.8301	1016.46	13.47	
3/3/2021 12:26	8.623577	92.7592	152.0489	18193.58	15.05976	22457.29	13.58744	14.59724	54.96443	1.00952	-0.086	0.438111	7.620914	-35.5221	105.8301	1016.46	13.47	
3/3/2021 12:26	8.40546	90.44225	148.2426	18185.77	15.07699	22438.54	13.57553	14.58505	54.98804	1.009508	-0.08556	0.439125	7.599271	-34.294	123.8629	1016.422	13.45135	
3/3/2021 12:26	8.391093	90.28964	147.9919	18185.26	15.07812	22437.3	13.57475	14.58425	54.9896	1.009507	-0.08553	0.439192	7.597845	-34.2131	125.0507	1016.42	13.45012	
3/3/2021 12:26	8.376726	90.13702	147.7411	18184.74	15.07926	22436.07	13.57396	14.58344	54.99115	1.009507	-0.0855	0.439258	7.59642	-34.1322	126.2385	1016.417	13.44889	
3/3/2021 12:26	8.362359	89.98441	147.4904	18184.23	15.08039	22434.83	13.57318	14.58264	54.99271	1.009506	-0.08547	0.439325	7.594994	-34.0513	127.4263	1016.415	13.44766	
3/3/2021 12:26	8.24589	88.76601	145.4938	18190.37	15.07968	22442.79	13.5784	14.58781	54.97413	1.00951	-0.08583	0.438497	7.58412	-33.4364	127.4236	1016.438	13.45903	
3/3/2021 12:26	8.234977	88.65091	145.3049	18190.44	15.08011	22442.64	13.57832	14.58772	54.97394	1.00951	-0.08584	0.438488	7.583068	-33.3768	127.9009	1016.438	13.45904	
3/3/2021 12:26	8.224064	88.53581	145.116	18190.5	15.08053	22442.5	13.57823	14.58762	54.97374	1.00951	-0.08584	0.438478	7.582015	-33.3171	128.3783	1016.438	13.45905	
3/3/2021 12:26	8.21315	88.42072	144.9272	18190.57	15.08096	22442.35	13.57815	14.58753	54.97355	1.00951	-0.08584	0.438468	7.580962	-33.2575	128.8556	1016.438	13.45905	
3/3/2021 12:26	8.114726	87.38895	143.2362	18204.84	15.11686	22440.98	13.57817	14.58664	54.93044	1.009503	-0.09523	0.416821	7.568265	-32.5387	129.4293	1016.457	13.46852	

Location Properties

T4-1L

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 10:03:02

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	(Barometric	Temperatu	Marked
3/3/2021 10:03	8.417846	88.27209	144.7139	17022.91	13.98715	21557.41	12.96821	14.01232	58.74437	1.009232	-0.06275	0.491748	7.522178	-29.8088	113.7934	1015.452	15.53692	
3/3/2021 10:03	8.405635	88.14622	144.5075	17022.57	13.98852	21556.27	12.96751	14.01158	58.74553	1.009231	-0.06328	0.490527	7.521307	-29.7598	113.7569	1015.453	15.53802	
3/3/2021 10:03	8.393424	88.02034	144.3011	17022.24	13.98989	21555.13	12.96668	14.01084	58.74667	1.00923	-0.06381	0.489305	7.520436	-29.7107	113.7205	1015.455	15.53913	
3/3/2021 10:03	8.267787	86.77738	142.2539	17023.02	14.02176	21539.52	12.95747	14.00069	58.74399	1.009218	-0.08152	0.448451	7.509717	-29.1057	113.3205	1015.432	15.55636	
3/3/2021 10:03	8.258934	86.68865	142.1081	17022.99	14.02367	21538.5	12.95685	14.00002	58.74408	1.009217	-0.08337	0.444178	7.508995	-29.0649	113.2925	1015.431	15.55746	
3/3/2021 10:03	8.25008	86.59992	141.9622	17022.97	14.02558	21537.47	12.95622	13.99935	58.74416	1.009216	-0.08522	0.439906	7.508272	-29.0242	113.2644	1015.431	15.55857	
3/3/2021 10:03	8.241226	86.51119	141.8164	17022.94	14.0275	21536.44	12.9556	13.99868	58.74426	1.009215	-0.08707	0.435634	7.50755	-28.9834	113.2364	1015.431	15.55968	
3/3/2021 10:03	8.152085	85.6265	140.3715	17015.82	14.07583	21502.32	12.93461	13.97651	58.76884	1.009191	-0.07748	0.457771	7.498214	-28.463	112.9106	1015.509	15.56816	
3/3/2021 10:03	8.145496	85.56115	140.2644	17015.51	14.07864	21500.47	12.93348	13.97531	58.76991	1.00919	-0.07734	0.458096	7.497576	-28.4273	112.8878	1015.512	15.56889	
3/3/2021 10:03	8.138908	85.4958	140.1573	17015.21	14.08144	21498.63	12.93235	13.97411	58.77097	1.009188	-0.0772	0.45842	7.496939	-28.3916	112.865	1015.515	15.56962	
3/3/2021 10:03	8.049862	84.62666	138.7216	17021.18	14.1186	21486.91	12.92569	13.96649	58.75034	1.009177	-0.08762	0.434366	7.488832	-27.9365	112.5716	1015.474	15.59454	

Location Properties

T4-2HB

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 12:55:21

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/3/2021 12:55	7.520126	80.76794	132.3955	18613.3	14.79234	23121.15	14.01808	15.02875	53.72501	1.009898	-0.11973	0.360311	7.459618	-26.3516	112.5067	1016.25	13.28
3/3/2021 12:55	7.520126	80.76794	132.3955	18613.3	14.79234	23121.15	14.01808	15.02875	53.72501	1.009898	-0.11973	0.360311	7.459618	-26.3516	112.5067	1016.25	13.28
3/3/2021 12:55	7.342306	78.91669	129.3508	18587.97	14.90605	23027.54	13.95939	14.9679	53.79824	1.009833	-0.04358	0.535958	7.454101	-26.0435	111.9633	1016.229	13.28
3/3/2021 12:55	7.326705	78.75426	129.0837	18585.75	14.91603	23019.33	13.95424	14.96256	53.80466	1.009827	-0.0369	0.551368	7.453617	-26.0164	111.9156	1016.227	13.28
3/3/2021 12:55	7.311103	78.59184	128.8166	18583.52	14.926	23011.11	13.94909	14.95722	53.81108	1.009821	-0.03022	0.566779	7.453133	-25.9894	111.8679	1016.225	13.28
3/3/2021 12:55	7.295502	78.42941	128.5495	18581.3	14.93598	23002.9	13.94395	14.95189	53.81751	1.009816	-0.02354	0.58219	7.452649	-25.9624	111.8202	1016.223	13.28
3/3/2021 12:55	7.260343	78.17677	128.1212	18586.03	14.94571	23003.56	13.94463	14.95231	53.80386	1.009815	-0.08932	0.430455	7.450382	-25.8366	111.5878	1016.195	13.27136
3/3/2021 12:55	7.251695	78.09184	127.9809	18585.23	14.95066	22999.87	13.94233	14.94991	53.80616	1.009812	-0.08925	0.430611	7.450061	-25.8187	111.5558	1016.193	13.27097
3/3/2021 12:55	7.243047	78.0069	127.8407	18584.44	14.95562	22996.17	13.94003	14.94751	53.80846	1.009809	-0.08918	0.430767	7.449739	-25.8008	111.5237	1016.19	13.27058
3/3/2021 12:55	7.234399	77.92197	127.7004	18583.64	14.96058	22992.48	13.93773	14.94512	53.81075	1.009807	-0.08912	0.430923	7.449419	-25.7829	111.4917	1016.188	13.27019
3/3/2021 12:55	7.19424	77.55248	127.0879	18594.18	15.04815	22958.07	13.91735	14.92275	53.78027	1.009775	-0.08287	0.44534	7.447287	-25.6704	111.2289	1016.182	13.27902

Location Properties

T4-2HS

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 12:52:07

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	2: pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
3/3/2021 12:52	8.796292	94.61924	155.0989	18741.68	14.90739	23217.24	14.08472	15.0912	53.35702	1.009929	-0.07997	0.452014	7.547217	-31.3246	95.2233	1016.3	13.26
3/3/2021 12:52	8.682646	93.45367	153.1786	18737.55	14.9393	23194.62	14.07065	15.0765	53.36876	1.009912	-0.07736	0.458042	7.535605	-30.6666	111.7584	1016.272	13.25063
3/3/2021 12:52	8.675302	93.37836	153.0546	18737.29	14.94136	23193.16	14.06974	15.07555	53.36951	1.009911	-0.07719	0.458431	7.534854	-30.6241	112.8269	1016.27	13.25002
3/3/2021 12:52	8.667957	93.30303	152.9305	18737.02	14.94342	23191.7	14.06883	15.0746	53.37027	1.00991	-0.07702	0.45882	7.534104	-30.5816	113.8954	1016.268	13.24941
3/3/2021 12:52	8.660614	93.22771	152.8064	18736.76	14.94548	23190.24	14.06792	15.07365	53.37103	1.009909	-0.07685	0.45921	7.533354	-30.5391	114.9639	1016.266	13.24881
3/3/2021 12:52	8.595037	92.58868	151.7514	18747.78	14.94715	23202.97	14.07638	15.08193	53.33966	1.009915	-0.0819	0.447557	7.527625	-30.2171	115.1147	1016.27	13.25022
3/3/2021 12:52	8.589132	92.52766	151.654	18748.16	14.94805	23202.95	14.07639	15.08192	53.33856	1.009915	-0.08206	0.447192	7.527065	-30.1855	115.5532	1016.27	13.25003
3/3/2021 12:52	8.583227	92.46851	151.5566	18748.55	14.94896	23202.93	14.0764	15.0819	53.33746	1.009915	-0.08222	0.446827	7.526505	-30.1539	115.9916	1016.269	13.24985
3/3/2021 12:52	8.545013	92.08263	150.9285	18750.41	14.99765	23178.56	14.06163	15.06607	53.33216	1.009895	-0.093	0.421962	7.520016	-29.7899	116.7227	1016.321	13.25847
3/3/2021 12:52	8.541649	92.04898	150.8734	18750.69	15.00005	23177.59	14.06105	15.06543	53.33138	1.009894	-0.09358	0.420619	7.51957	-29.7649	116.8168	1016.323	13.25886
3/3/2021 12:52	8.538284	92.01534	150.8183	18750.96	15.00244	23176.62	14.06047	15.0648	53.3306	1.009893	-0.09417	0.419275	7.519124	-29.7398	116.9109	1016.325	13.25925

Location Properties

T4-2L

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 09:54:05

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/3/2021 9:54	8.386724	88.53873	145.1728	18537.83	13.93159	23507.51	14.24794	15.27989	53.94374	1.010224	-0.10627	0.391357	7.495255	-28.2849	132.1353	1015.549	14.24675
3/3/2021 9:54	8.371345	88.38533	144.9205	18536.71	13.93892	23501.89	14.24446	15.27623	53.94702	1.01022	-0.10651	0.390809	7.494514	-28.2438	132.0753	1015.549	14.24819
3/3/2021 9:54	8.355964	88.23193	144.6682	18535.58	13.94625	23496.27	14.24097	15.27258	53.9503	1.010216	-0.10674	0.390261	7.493773	-28.2027	132.0154	1015.55	14.24964
3/3/2021 9:54	8.220942	86.91247	142.4894	18530.96	14.00861	23455.04	14.21567	15.24577	53.96373	1.010186	-0.10193	0.401371	7.485574	-27.7427	131.3277	1015.508	14.25756
3/3/2021 9:54	8.21082	86.81239	142.3244	18530.43	14.01401	23451.28	14.21336	15.24333	53.96531	1.010183	-0.10172	0.401846	7.484973	-27.7092	131.2811	1015.506	14.25848
3/3/2021 9:54	8.200697	86.7123	142.1594	18529.89	14.01941	23447.52	14.21105	15.24089	53.96687	1.01018	-0.10152	0.402322	7.484373	-27.6757	131.2345	1015.504	14.2594
3/3/2021 9:54	8.190574	86.61221	141.9944	18529.35	14.02481	23443.76	14.20873	15.23845	53.96844	1.010178	-0.10131	0.402797	7.483772	-27.6422	131.1879	1015.502	14.26032
3/3/2021 9:54	8.077684	85.56948	140.272	18526.75	14.06408	23418.28	14.19311	15.22188	53.976	1.010159	-0.10152	0.40231	7.476269	-27.2219	130.5813	1015.501	14.27708
3/3/2021 9:54	8.069823	85.49531	140.1495	18526.53	14.06719	23416.23	14.19185	15.22055	53.97666	1.010158	-0.10144	0.402485	7.475764	-27.1936	130.5403	1015.5	14.27802
3/3/2021 9:54	8.061962	85.42113	140.027	18526.3	14.07029	23414.19	14.1906	15.21922	53.97733	1.010156	-0.10137	0.40266	7.475258	-27.1653	130.4992	1015.5	14.27897
3/3/2021 9:54	8.054101	85.34696	139.9045	18526.07	14.07339	23412.14	14.18934	15.21789	53.97799	1.010155	-0.10129	0.402835	7.474753	-27.137	130.4581	1015.499	14.27991

Location Properties

T4-3HB

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 13:14:21

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/3/2021 13:14	7.910187	84.93056	139.1884	18753.15	14.78393	23299.59	14.13571	15.14473	53.32471	1.00999	-0.09307	0.4218	7.468313	-26.8385	105.118	1015.961	13.019	
3/3/2021 13:14	7.894082	84.76811	138.9209	18751.17	14.79236	23292.42	14.13122	15.14007	53.33017	1.009985	-0.09269	0.422681	7.467948	-26.8185	105.1012	1015.961	13.01939	
3/3/2021 13:14	7.737223	83.14868	136.2672	18750.33	14.83748	23266.46	14.11531	15.1232	53.33242	1.009964	-0.0656	0.485173	7.462527	-26.5166	104.9121	1016.011	13.01961	
3/3/2021 13:14	7.725918	83.03383	136.0787	18751.67	14.84247	23265.36	14.11472	15.12248	53.32862	1.009963	-0.06412	0.488586	7.462177	-26.4972	104.8981	1016.013	13.01977	
3/3/2021 13:14	7.714612	82.91898	135.8901	18753	14.84746	23264.25	14.11413	15.12176	53.32482	1.009962	-0.06264	0.492	7.461826	-26.4778	104.8841	1016.015	13.01994	
3/3/2021 13:14	7.703308	82.80413	135.7016	18754.33	14.85245	23263.15	14.11355	15.12105	53.32102	1.009961	-0.06116	0.495413	7.461475	-26.4584	104.8701	1016.017	13.02011	
3/3/2021 13:14	7.562406	81.47384	133.4924	18734.54	14.90607	23209.13	14.07933	15.08594	53.37736	1.009925	-0.06928	0.476689	7.457963	-26.2645	104.67	1015.924	13.01146	
3/3/2021 13:14	7.552995	81.3823	133.3411	18733.71	14.90938	23206.28	14.07754	15.08408	53.37971	1.009923	-0.0691	0.477104	7.457697	-26.2498	104.6573	1015.921	13.01108	
3/3/2021 13:14	7.543584	81.29076	133.1897	18732.88	14.91269	23203.44	14.07575	15.08223	53.38208	1.009921	-0.06892	0.477519	7.457432	-26.2351	104.6445	1015.917	13.0107	
3/3/2021 13:14	7.534173	81.19922	133.0384	18732.05	14.916	23200.59	14.07396	15.08038	53.38443	1.009919	-0.06874	0.477934	7.457167	-26.2204	104.6318	1015.914	13.01031	
3/3/2021 13:14	7.439878	80.26255	131.498	18754.96	15.03134	23165.77	14.05408	15.05775	53.31924	1.009883	-0.07991	0.452169	7.454109	-26.0554	104.4209	1015.93	13.01899	

Location Properties

T4-3HS

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 13:11:13

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (̑	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/3/2021 13:11	8.333433	90.12651	147.6424	18584.74	15.22137	22853.04	13.85257	14.85448	53.80759	1.009694	-0.08361	0.443625	7.558813	-32.017	107.727	1016.023	12.98071
3/3/2021 13:11	8.317962	89.95992	147.369	18583.37	15.22202	22851.01	13.85125	14.85316	53.81155	1.009693	-0.08285	0.445372	7.557886	-31.9646	108.732	1016.02	12.9801
3/3/2021 13:11	8.302491	89.79333	147.0956	18582	15.22267	22848.98	13.84992	14.85184	53.8155	1.009692	-0.08209	0.44712	7.556958	-31.9121	109.7369	1016.018	12.97948
3/3/2021 13:11	8.287021	89.62674	146.8222	18580.64	15.22332	22846.95	13.8486	14.85052	53.81945	1.009691	-0.08134	0.448868	7.556031	-31.8597	110.7419	1016.015	12.97887
3/3/2021 13:11	8.169555	88.44221	144.8784	18587.49	15.25017	22840.98	13.84535	14.84663	53.79963	1.009683	-0.07984	0.452318	7.548503	-31.4341	110.627	1016.046	12.9888
3/3/2021 13:11	8.158107	88.32253	144.682	18587.25	15.25163	22839.9	13.84468	14.84593	53.80033	1.009683	-0.07947	0.453172	7.547795	-31.3941	111.0243	1016.047	12.989
3/3/2021 13:11	8.146659	88.20285	144.4856	18587.01	15.25309	22838.81	13.844	14.84523	53.80103	1.009682	-0.0791	0.454027	7.547087	-31.3541	111.4217	1016.047	12.9892
3/3/2021 13:11	8.135211	88.08318	144.2892	18586.77	15.25455	22837.73	13.84333	14.84453	53.80172	1.009681	-0.07873	0.454881	7.546379	-31.314	111.819	1016.048	12.9894
3/3/2021 13:11	8.038173	87.05517	142.6161	18599.51	15.2956	22831.4	13.8402	14.84041	53.76486	1.009671	-0.09211	0.424014	7.539138	-30.9063	112.012	1016.144	12.98972
3/3/2021 13:11	8.030653	86.97647	142.4876	18600.12	15.29797	22830.88	13.83992	14.84007	53.76311	1.00967	-0.09262	0.422829	7.538615	-30.8768	112.0831	1016.149	12.98989
3/3/2021 13:11	8.023133	86.89777	142.3591	18600.72	15.30033	22830.35	13.83963	14.83973	53.76136	1.00967	-0.09314	0.421644	7.538092	-30.8473	112.1542	1016.154	12.99005

Location Properties

T4-3L

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 09:41:45

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV)	Barometric Temperatu	Marked
3/3/2021 9:41	8.899909	93.43179	153.2708	18727.27	13.58912	23947.39	14.52744	15.5658	53.39922	1.010495	-0.08688	0.436075	7.505019	-28.803	164.3476	1015.694	12.6685
3/3/2021 9:41	8.862599	93.08105	152.6912	18716.08	13.61466	23917.23	14.50841	15.5462	53.4301	1.010477	-0.0871	0.43557	7.504073	-28.7501	164.1974	1015.692	12.66928
3/3/2021 9:41	8.618651	90.73382	148.8247	18697.15	13.66493	23863.68	14.47467	15.51139	53.4841	1.010442	-0.09551	0.416168	7.491879	-28.0691	162.5165	1015.709	12.69626
3/3/2021 9:41	8.601282	90.56197	148.5419	18695.69	13.66991	23858.89	14.47167	15.50828	53.48828	1.010439	-0.09602	0.415005	7.491089	-28.0248	162.4017	1015.709	12.69768
3/3/2021 9:41	8.583913	90.39013	148.2591	18694.23	13.6749	23854.1	14.46867	15.50516	53.49246	1.010436	-0.09652	0.413842	7.490298	-27.9806	162.2868	1015.709	12.69909
3/3/2021 9:41	8.451459	89.10229	146.1395	18693.72	13.8209	23768.94	14.41709	15.44981	53.4939	1.010372	-0.10292	0.399085	7.479014	-27.354	161.0115	1015.734	12.71568
3/3/2021 9:41	8.440984	89.00119	145.973	18693.37	13.8282	23764.26	14.41424	15.44677	53.49491	1.010369	-0.10337	0.398046	7.478277	-27.313	160.9227	1015.735	12.71696
3/3/2021 9:41	8.430509	88.90009	145.8065	18693.01	13.83549	23759.58	14.41138	15.44373	53.49593	1.010365	-0.10382	0.397006	7.47754	-27.272	160.8339	1015.737	12.71825
3/3/2021 9:42	8.420033	88.79898	145.64	18692.66	13.84279	23754.9	14.40852	15.44069	53.49694	1.010362	-0.10427	0.395967	7.476803	-27.231	160.7451	1015.738	12.71953
3/3/2021 9:42	8.299763	87.59783	143.6566	18679.51	13.88788	23712.26	14.38178	15.41297	53.53459	1.010334	-0.08856	0.432216	7.467581	-26.7148	159.7122	1015.687	12.73635
3/3/2021 9:42	8.291739	87.51845	143.5256	18678.9	13.89258	23708.77	14.37962	15.4107	53.53635	1.010331	-0.08797	0.433561	7.46695	-26.6796	159.6411	1015.686	12.73743

Location Properties

T4-4HB

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 13:35:34

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (ç	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/3/2021 13:35	7.656186	82.95572	135.9201	19378.43	15.1094	23891.87	14.5369	15.52971	51.60378	1.010238	-0.08573	0.438741	7.486125	-27.8827	85.1235	1016.083	13.22069	
3/3/2021 13:35	7.642251	82.81527	135.6888	19379.7	15.11683	23889.25	14.53538	15.52801	51.60039	1.010236	-0.085	0.440417	7.485776	-27.8637	85.11514	1016.081	13.22043	
3/3/2021 13:35	7.628315	82.67481	135.4575	19380.97	15.12425	23886.63	14.53385	15.52631	51.597	1.010233	-0.08427	0.442092	7.485428	-27.8447	85.10679	1016.08	13.22016	
3/3/2021 13:35	7.514132	81.54317	133.5984	19404.54	15.18936	23879.08	14.53065	15.5214	51.53436	1.010219	-0.09442	0.418686	7.481718	-27.6381	85.02345	1016.115	13.22885	
3/3/2021 13:35	7.50479	81.44962	133.4445	19406.05	15.19491	23877.83	14.52997	15.52059	51.53032	1.010217	-0.09439	0.418752	7.481437	-27.6226	85.01782	1016.116	13.22904	
3/3/2021 13:35	7.495447	81.35608	133.2906	19407.57	15.20045	23876.58	14.5293	15.51978	51.52629	1.010216	-0.09436	0.418818	7.481157	-27.6072	85.0122	1016.117	13.22925	
3/3/2021 13:35	7.486104	81.26254	133.1368	19409.09	15.20599	23875.34	14.52862	15.51897	51.52225	1.010214	-0.09433	0.418884	7.480876	-27.5918	85.00658	1016.117	13.22944	
3/3/2021 13:35	7.388006	80.33662	131.6087	19422.52	15.24819	23868.21	14.52505	15.51433	51.48663	1.010204	-0.09276	0.422509	7.477422	-27.3991	84.96062	1016.128	13.22976	
3/3/2021 13:35	7.381054	80.26968	131.4984	19423.61	15.25155	23867.66	14.52478	15.51398	51.48374	1.010203	-0.09285	0.422317	7.477187	-27.386	84.95678	1016.129	13.22993	
3/3/2021 13:35	7.374102	80.20274	131.3881	19424.7	15.25492	23867.11	14.52451	15.51362	51.48085	1.010202	-0.09293	0.422125	7.476952	-27.3729	84.95294	1016.13	13.23009	
3/3/2021 13:35	7.285871	79.35374	129.9818	19433.55	15.37011	23813.63	14.49217	15.47886	51.45741	1.010156	-0.08766	0.434283	7.474391	-27.2396	84.85907	1016.095	13.23	

Location Properties

T4-4HS

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 13:30:56

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/3/2021 13:30	8.616232	93.33516	152.9184	19257.37	15.1248	23733.85	14.43259	15.42701	51.92807	1.010156	-0.09872	0.408762	7.567884	-32.5182	89.6961	1016.049	13.20996	
3/3/2021 13:30	8.463752	91.73363	150.2917	19251.65	15.16065	23706.94	14.41573	15.40951	51.9436	1.010136	-0.08126	0.449044	7.559196	-32.0328	89.46259	1016.067	13.21	
3/3/2021 13:31	8.451738	91.60682	150.0837	19251.14	15.16293	23705.03	14.41453	15.40827	51.94498	1.010135	-0.08055	0.450683	7.558543	-31.996	89.44518	1016.068	13.21	
3/3/2021 13:31	8.439725	91.48	149.8757	19250.63	15.16521	23703.13	14.41333	15.40703	51.94637	1.010134	-0.07984	0.452323	7.557889	-31.9593	89.42775	1016.068	13.21	
3/3/2021 13:31	8.427711	91.3532	149.6677	19250.11	15.1675	23701.22	14.41213	15.40579	51.94775	1.010132	-0.07913	0.453963	7.557235	-31.9225	89.41032	1016.069	13.21	
3/3/2021 13:31	8.318316	90.23132	147.8212	19254.34	15.20386	23686.17	14.40314	15.39601	51.93636	1.010119	-0.08496	0.440519	7.550422	-31.5399	89.23014	1016.052	13.21874	
3/3/2021 13:31	8.310078	90.14588	147.6808	19254.36	15.20627	23684.85	14.40234	15.39515	51.93629	1.010118	-0.08488	0.440696	7.549931	-31.5124	89.21706	1016.051	13.21912	
3/3/2021 13:31	8.301839	90.06046	147.5404	19254.38	15.20869	23683.54	14.40153	15.3943	51.93623	1.010117	-0.0848	0.440873	7.549439	-31.4848	89.20398	1016.051	13.2195	
3/3/2021 13:31	8.182139	88.88276	145.6041	19244.68	15.24737	23650.11	14.38043	15.37257	51.96242	1.010093	-0.08505	0.44029	7.542935	-31.1191	89.05273	1016.085	13.21965	
3/3/2021 13:31	8.174484	88.80645	145.4786	19244.3	15.24982	23648.29	14.37929	15.37139	51.96344	1.010092	-0.08516	0.440039	7.542504	-31.0949	89.04228	1016.086	13.21981	
3/3/2021 13:31	8.166829	88.73013	145.3531	19243.93	15.25227	23646.46	14.37815	15.3702	51.96445	1.010091	-0.08527	0.439787	7.542072	-31.0707	89.03182	1016.087	13.21997	

Location Properties

T4-4L

Location Name = Device Location

Report Properties

Start Time = 2021-03-03 09:30:35

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (Barometric	Temperatu	Marked
3/3/2021 9:30	9.30205	97.68534	160.273	18948.36	13.56226	24244.93	14.72336	15.75921	52.77501	1.010651	-0.09051	0.427702	7.39784	-22.7447	188.87	1015.81	10.88	
3/3/2021 9:30	9.289437	97.6341	160.1767	18958.56	13.60099	24235.04	14.71811	15.75278	52.74662	1.01064	-0.10125	0.402926	7.391178	-22.3736	205.5002	1015.772	10.88936	
3/3/2021 9:30	9.288621	97.63079	160.1704	18959.22	13.60349	24234.4	14.71777	15.75236	52.74479	1.01064	-0.10195	0.401322	7.390747	-22.3496	206.5767	1015.77	10.88997	
3/3/2021 9:30	9.287805	97.62747	160.1642	18959.88	13.606	24233.76	14.71743	15.75194	52.74295	1.010639	-0.10264	0.399718	7.390316	-22.3256	207.6532	1015.767	10.89057	
3/3/2021 9:30	9.286988	97.62415	160.158	18960.54	13.60851	24233.12	14.71709	15.75153	52.74111	1.010638	-0.10334	0.398114	7.389884	-22.3016	208.7297	1015.765	10.89118	
3/3/2021 9:30	9.255585	97.46163	159.8782	18962.66	13.66273	24203.8	14.69949	15.73247	52.73523	1.010616	-0.10868	0.385798	7.387733	-22.1817	209.0958	1015.771	10.92419	
3/3/2021 9:30	9.253866	97.45311	159.8633	18963.02	13.66614	24202.24	14.69858	15.73146	52.73423	1.010614	-0.1092	0.384606	7.387464	-22.1668	209.5459	1015.77	10.9259	
3/3/2021 9:30	9.252148	97.44458	159.8484	18963.38	13.66955	24200.69	14.69766	15.73045	52.73323	1.010613	-0.10971	0.383415	7.387195	-22.1518	209.996	1015.769	10.9276	
3/3/2021 9:30	9.250429	97.43605	159.8335	18963.74	13.67296	24199.13	14.69675	15.72944	52.73223	1.010612	-0.11023	0.382224	7.386926	-22.1368	210.4461	1015.768	10.92931	
3/3/2021 9:30	9.248213	97.49458	159.9135	18953.65	13.75313	24139.11	14.65966	15.69042	52.7603	1.01057	-0.10956	0.383758	7.384607	-22.012	211.105	1015.717	10.94654	
3/3/2021 9:30	9.247465	97.49385	159.9113	18953.29	13.75785	24135.87	14.65767	15.68832	52.7613	1.010568	-0.10968	0.383485	7.384435	-22.0026	211.2129	1015.715	10.94796	

Location Properties

T1-1LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 11:47:59

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/4/2021 11:47	6.492854	77.61842	128.1202	16215.85	21.51192	17373.31	10.36347	11.29265	61.66806	1.005718	-0.07215	0.470064	7.35574	-19.7208	103.0009	1018.338	26.91879
3/4/2021 11:48	6.507937	77.70391	128.2753	16235.15	21.35934	17448.52	10.41098	11.34154	61.59479	1.00579	-0.0716	0.471333	7.35254	-19.5273	102.8492	1018.322	26.91923
3/4/2021 11:48	6.508777	77.70592	128.2798	16236.65	21.35084	17453.15	10.41392	11.34455	61.5891	1.005794	-0.07144	0.471705	7.352341	-19.5153	102.8379	1018.321	26.91954
3/4/2021 11:48	6.509616	77.70793	128.2843	16238.14	21.34234	17457.79	10.41686	11.34756	61.5834	1.005798	-0.07127	0.472076	7.352143	-19.5034	102.8266	1018.321	26.91986
3/4/2021 11:48	6.510455	77.70995	128.2889	16239.64	21.33385	17462.42	10.41979	11.35058	61.57771	1.005803	-0.07111	0.472447	7.351945	-19.4915	102.8153	1018.32	26.92018
3/4/2021 11:48	6.519273	77.73606	128.3453	16257.35	21.27244	17503.56	10.44595	11.37732	61.51067	1.005837	-0.08595	0.438229	7.348953	-19.3156	102.66	1018.329	26.937
3/4/2021 11:48	6.519961	77.73894	128.3509	16258.5	21.26667	17506.87	10.44805	11.37947	61.50628	1.00584	-0.08658	0.436767	7.348758	-19.3041	102.6502	1018.329	26.93774
3/4/2021 11:48	6.520649	77.74181	128.3565	16259.66	21.26091	17510.18	10.45015	11.38162	61.5019	1.005843	-0.08722	0.435305	7.348563	-19.2925	102.6404	1018.329	26.93848
3/4/2021 11:48	6.558828	78.01402	128.8265	16262.21	21.20027	17534.81	10.46562	11.39763	61.49224	1.005869	-0.08686	0.436121	7.345803	-19.1292	102.476	1018.287	26.93915
3/4/2021 11:48	6.560812	78.0275	128.85	16262.64	21.19627	17536.71	10.46682	11.39886	61.49062	1.005871	-0.08709	0.435591	7.34562	-19.1184	102.4654	1018.285	26.93946
3/4/2021 11:48	6.562794	78.04099	128.8735	16263.08	21.19228	17538.62	10.46802	11.4001	61.48899	1.005872	-0.08732	0.435062	7.345436	-19.1075	102.4549	1018.283	26.93978

Location Properties

T1-2LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 11:43:54

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/4/2021 11:43	6.016611	78.88238	129.0458	18239.34	26.3955	17765.89	10.64315	11.54783	54.82662	1.00465	-0.0956	0.415959	7.354867	-19.9898	114.7091	1018.358	26.47713	
3/4/2021 11:43	6.021922	78.93823	129.1404	18242.76	26.37986	17774.31	10.6486	11.5533	54.8163	1.004659	-0.09587	0.415349	7.354377	-19.9602	114.6736	1018.358	26.47826	
3/4/2021 11:43	6.113122	79.73801	130.5273	18280.3	26.21657	17865.27	10.70741	11.61242	54.70378	1.004749	-0.08332	0.444281	7.348339	-19.5982	114.312	1018.35	26.48743	
3/4/2021 11:44	6.11884	79.79084	130.6182	18283	26.20582	17871.46	10.71142	11.61645	54.69567	1.004755	-0.08274	0.445637	7.347925	-19.5734	114.2844	1018.35	26.48831	
3/4/2021 11:44	6.124557	79.84366	130.7092	18285.7	26.19506	17877.66	10.71543	11.62048	54.68758	1.004761	-0.08215	0.446992	7.347511	-19.5486	114.2567	1018.35	26.4892	
3/4/2021 11:44	6.130274	79.89648	130.8001	18288.39	26.1843	17883.85	10.71944	11.62451	54.67947	1.004767	-0.08156	0.448348	7.347097	-19.5238	114.2291	1018.35	26.49008	
3/4/2021 11:44	6.190588	80.50524	131.8402	18333.21	25.89823	18024.15	10.81005	11.7157	54.54589	1.004915	-0.08237	0.446481	7.34194	-19.2047	113.8854	1018.376	26.51563	
3/4/2021 11:44	6.195124	80.54861	131.9147	18335.97	25.88213	18032.26	10.81529	11.72097	54.53764	1.004924	-0.08216	0.446971	7.341587	-19.1832	113.8627	1018.377	26.51696	
3/4/2021 11:44	6.199659	80.59198	131.9893	18338.74	25.86602	18040.38	10.82053	11.72625	54.5294	1.004932	-0.08195	0.447461	7.341235	-19.1616	113.84	1018.378	26.51828	
3/4/2021 11:44	6.204194	80.63535	132.0638	18341.5	25.84992	18048.49	10.82577	11.73152	54.52114	1.004941	-0.08173	0.447952	7.340882	-19.14	113.8173	1018.379	26.51961	
3/4/2021 11:44	6.260286	81.22812	133.0561	18390.77	25.73082	18137.67	10.88357	11.78949	54.3752	1.005017	-0.09087	0.426888	7.337205	-18.9198	113.496	1018.309	26.51924	

Location Properties

T1-3LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 11:52:33

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV (m\	ORP (mV) (	Barometric	Temperatu	Marked
3/4/2021 11:52	6.836076	80.17847	132.5427	16162.36	20.39831	17719.79	10.57843	11.51787	61.87217	1.00614	-0.08829	0.432828	7.358739	-19.8212	94.77404	1018.188	27.29904	
3/4/2021 11:52	6.83761	80.18984	132.5625	16162.17	20.3956	17720.6	10.57893	11.51839	61.87287	1.006141	-0.0882	0.433035	7.35831	-19.7964	94.77064	1018.189	27.29944	
3/4/2021 11:52	6.839144	80.20121	132.5822	16161.99	20.39288	17721.4	10.57942	11.51891	61.87357	1.006142	-0.08811	0.433242	7.357881	-19.7716	94.76723	1018.189	27.29984	
3/4/2021 11:52	6.864709	80.44762	132.996	16154.66	20.3157	17742.04	10.59207	11.53233	61.90165	1.006169	-0.07754	0.457616	7.352323	-19.4489	94.76893	1018.18	27.30869	
3/4/2021 11:52	6.866395	80.46256	133.0213	16154.18	20.31137	17743.13	10.59273	11.53303	61.90348	1.006171	-0.07691	0.459088	7.351938	-19.4266	94.76801	1018.18	27.30926	
3/4/2021 11:52	6.868081	80.47751	133.0467	16153.7	20.30704	17744.21	10.59339	11.53374	61.90532	1.006172	-0.07627	0.460561	7.351553	-19.4043	94.76707	1018.18	27.30984	
3/4/2021 11:52	6.875973	80.54898	133.1686	16172.94	20.28761	17772.6	10.61161	11.55219	61.8317	1.006191	-0.09405	0.419537	7.346603	-19.1193	94.72762	1018.18	27.31801	
3/4/2021 11:52	6.876841	80.55709	133.1823	16173.62	20.28521	17774.23	10.61264	11.55325	61.82911	1.006192	-0.09461	0.418261	7.346274	-19.1003	94.72591	1018.18	27.31854	
3/4/2021 11:52	6.877708	80.56519	133.196	16174.29	20.28281	17775.87	10.61368	11.55432	61.82651	1.006193	-0.09516	0.416984	7.345945	-19.0813	94.7242	1018.18	27.31908	
3/4/2021 11:52	6.878576	80.5733	133.2097	16174.97	20.28041	17777.51	10.61472	11.55538	61.82391	1.006195	-0.09571	0.415708	7.345616	-19.0623	94.72248	1018.18	27.31961	
3/4/2021 11:52	6.905794	80.81575	133.6217	16177.37	20.25951	17787.95	10.62129	11.56217	61.81476	1.006204	-0.07885	0.454596	7.341256	-18.8105	94.66741	1018.188	27.32829	

Location Properties

T1-4LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 10:17:03

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur:	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (f	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	(Barometric	Temperatu	Marked
3/4/2021 10:17	7.567627	81.32808	135.3617	15772.18	15.76843	19148.51	11.4404	12.44653	63.40276	1.00775	-0.07061	0.473599	7.319701	-17.3094	115.2587	1018.99	18.1	
3/4/2021 10:17	7.516226	80.80978	134.502	15783.46	15.79016	19152.54	11.44344	12.44915	63.35747	1.007748	-0.09026	0.428274	7.31288	-16.9246	149.3395	1019.036	18.12792	
3/4/2021 10:17	7.51297	80.77694	134.4475	15784.17	15.79154	19152.8	11.44363	12.44932	63.3546	1.007748	-0.09151	0.425402	7.312447	-16.9002	151.4987	1019.039	18.12969	
3/4/2021 10:17	7.509714	80.7441	134.393	15784.89	15.79292	19153.05	11.44382	12.44948	63.35173	1.007748	-0.09275	0.422531	7.312015	-16.8758	153.6578	1019.042	18.13146	
3/4/2021 10:17	7.506457	80.71127	134.3385	15785.6	15.79429	19153.31	11.44402	12.44965	63.34886	1.007748	-0.094	0.419659	7.311583	-16.8514	155.817	1019.045	18.13323	
3/4/2021 10:17	7.478397	80.45264	133.9035	15793.46	15.79597	19162.1	11.44975	12.45537	63.31734	1.007752	-0.08336	0.444193	7.308288	-16.6667	159.9291	1019.039	18.15556	
3/4/2021 10:17	7.475819	80.42775	133.862	15794.1	15.79659	19162.61	11.45009	12.45569	63.31477	1.007752	-0.08338	0.444158	7.307965	-16.6485	160.98	1019.039	18.15728	
3/4/2021 10:17	7.473241	80.40285	133.8204	15794.75	15.79722	19163.11	11.45043	12.45602	63.31218	1.007752	-0.08339	0.444124	7.307642	-16.6304	162.0309	1019.04	18.159	
3/4/2021 10:17	7.447623	80.14902	133.3932	15791.25	15.83452	19142.32	11.43766	12.44251	63.32621	1.007735	-0.09008	0.428699	7.304425	-16.4498	165.3845	1019.023	18.17582	
3/4/2021 10:17	7.445753	80.13084	133.3626	15791.27	15.83632	19141.55	11.43719	12.44201	63.32611	1.007735	-0.09025	0.428311	7.304194	-16.4368	165.7273	1019.022	18.1771	
3/4/2021 10:17	7.443883	80.11266	133.332	15791.3	15.83813	19140.78	11.43673	12.44151	63.326	1.007734	-0.09042	0.427923	7.303962	-16.4238	166.0702	1019.021	18.17838	

Location Properties

T2-2LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 11:19:27

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/4/2021 11:19	6.985639	80.025	132.5522	15241.88	19.33108	17092.61	10.16233	11.1102	65.60871	1.006063	-0.08171	0.447996	7.322098	-17.656	104.4322	1018.644	22.27944
3/4/2021 11:19	6.986923	80.03356	132.567	15242.19	19.32833	17093.96	10.16317	11.11107	65.60738	1.006065	-0.08182	0.447762	7.321724	-17.6345	104.4199	1018.643	22.27975
3/4/2021 11:19	6.988207	80.04212	132.5818	15242.5	19.32559	17095.31	10.16401	11.11195	65.60605	1.006066	-0.08192	0.447529	7.321351	-17.613	104.4077	1018.641	22.28007
3/4/2021 11:19	6.995408	80.07104	132.6345	15237.19	19.25535	17115.11	10.17604	11.12482	65.62891	1.00609	-0.08634	0.43732	7.31653	-17.3343	104.2195	1018.624	22.2885
3/4/2021 11:19	6.996183	80.07548	132.6422	15237.01	19.25141	17116.35	10.1768	11.12563	65.62969	1.006091	-0.08653	0.436878	7.3162	-17.3152	104.2074	1018.623	22.28888
3/4/2021 11:19	6.99696	80.07992	132.65	15236.83	19.24747	17117.6	10.17756	11.12644	65.63046	1.006093	-0.08673	0.436436	7.31587	-17.2962	104.1953	1018.621	22.28926
3/4/2021 11:19	6.997736	80.08436	132.6577	15236.65	19.24353	17118.84	10.17832	11.12724	65.63124	1.006094	-0.08692	0.435994	7.31554	-17.2771	104.1832	1018.62	22.28965
3/4/2021 11:19	7.002608	80.1153	132.7157	15245.37	19.2251	17135.42	10.18882	11.13802	65.59369	1.006106	-0.07546	0.462429	7.311076	-17.0207	104.022	1018.646	22.28969
3/4/2021 11:19	7.002977	80.11733	132.7195	15245.66	19.22291	17136.54	10.18952	11.13875	65.59246	1.006107	-0.07504	0.463393	7.310782	-17.0038	104.0112	1018.647	22.28985
3/4/2021 11:19	7.003347	80.11937	132.7233	15245.94	19.22073	17137.67	10.19022	11.13948	65.59124	1.006108	-0.07462	0.464358	7.310489	-16.9869	104.0003	1018.648	22.29002
3/4/2021 11:19	7.023593	80.26547	132.9719	15253.78	19.19493	17155.98	10.20175	11.15139	65.55753	1.006123	-0.07153	0.471494	7.306666	-16.7666	103.8372	1018.615	22.29844

Location Properties

T2-3LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 11:12:48

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/4/2021 11:12	6.283388	75.37733	124.4541	16946.86	21.47177	18171.42	10.88123	11.81143	59.008	1.006118	-0.0705	0.473864	7.348238	-19.2814	113.6904	1018.67	21.95937
3/4/2021 11:12	6.284598	75.3798	124.4601	16947.54	21.45873	18176.96	10.88473	11.81502	59.00563	1.006124	-0.07021	0.474522	7.347901	-19.2611	113.6605	1018.67	21.95992
3/4/2021 11:12	6.335137	75.63171	124.9267	16939.33	21.32173	18219.36	10.91116	11.84259	59.03423	1.006176	-0.07587	0.461474	7.343998	-19.0298	113.2632	1018.678	21.95102
3/4/2021 11:12	6.337757	75.64397	124.9497	16939.27	21.31269	18222.67	10.91324	11.84474	59.03441	1.00618	-0.07592	0.461356	7.343725	-19.0136	113.237	1018.679	21.9508
3/4/2021 11:12	6.340376	75.65624	124.9727	16939.22	21.30365	18225.98	10.91532	11.84689	59.0346	1.006184	-0.07597	0.461238	7.343452	-18.9974	113.2108	1018.679	21.95058
3/4/2021 11:12	6.371809	75.8683	125.3442	16937.87	21.06426	18314.72	10.97097	11.90457	59.03932	1.006282	-0.08681	0.436238	7.339921	-18.7788	112.8453	1018.645	21.95889
3/4/2021 11:13	6.374164	75.88252	125.3696	16937.66	21.05067	18319.61	10.97403	11.90775	59.04004	1.006288	-0.08741	0.434858	7.339685	-18.7644	112.8212	1018.644	21.95912
3/4/2021 11:13	6.376518	75.89674	125.395	16937.46	21.03708	18324.51	10.9771	11.91093	59.04075	1.006293	-0.08801	0.433477	7.33945	-18.7501	112.797	1018.642	21.95934
3/4/2021 11:13	6.378872	75.91096	125.4204	16937.25	21.02349	18329.4	10.98016	11.91411	59.04146	1.006299	-0.08861	0.432097	7.339215	-18.7357	112.7728	1018.641	21.95957
3/4/2021 11:13	6.416018	76.20264	125.9209	16941.09	20.90767	18377.59	11.01048	11.94543	59.02808	1.006349	-0.07674	0.459467	7.336131	-18.5529	112.4232	1018.615	21.95972
3/4/2021 11:13	6.41831	76.2199	125.9507	16941.24	20.89776	18381.5	11.01293	11.94798	59.02757	1.006353	-0.07642	0.460201	7.335922	-18.5404	112.4002	1018.613	21.95989

Location Properties

T2-4LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 10:28:12

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	Barometric	Temperatu	Marked
3/4/2021 10:28	7.079211	79.61969	132.1164	15852.62	18.16454	18233.06	10.88573	11.85149	63.08103	1.00686	-0.05981	0.498531	7.395977	-21.7889	157.2901	1018.892	19.45972	
3/4/2021 10:28	7.001235	78.68596	130.5742	15866.75	18.12167	18266.54	10.90685	11.87325	63.0249	1.006884	-0.08704	0.43572	7.383745	-21.0892	158.1674	1018.891	19.46824	
3/4/2021 10:28	6.995122	78.61375	130.4547	15867.61	18.11895	18268.63	10.90817	11.87461	63.02145	1.006886	-0.08792	0.433683	7.38292	-21.0419	158.235	1018.89	19.46877	
3/4/2021 10:28	6.989009	78.54155	130.3353	15868.48	18.11622	18270.72	10.90949	11.87597	63.01801	1.006888	-0.0888	0.431646	7.382095	-20.9947	158.3026	1018.89	19.46931	
3/4/2021 10:28	6.982897	78.46935	130.2158	15869.35	18.1135	18272.81	10.9108	11.87733	63.01456	1.006889	-0.08969	0.429609	7.38127	-20.9475	158.3703	1018.889	19.46984	
3/4/2021 10:28	6.931855	77.73115	129.0139	15878.09	18.06081	18304.1	10.93036	11.89766	62.97987	1.006915	-0.13483	0.32548	7.370035	-20.3045	159.0356	1018.925	19.48737	
3/4/2021 10:28	6.927942	77.67864	128.928	15878.78	18.05758	18306.18	10.93167	11.89902	62.97715	1.006917	-0.13731	0.319766	7.369289	-20.2618	159.0829	1018.927	19.48832	
3/4/2021 10:28	6.924028	77.62614	128.8421	15879.46	18.05435	18308.27	10.93298	11.90038	62.97443	1.006918	-0.13978	0.314051	7.368542	-20.2191	159.1303	1018.928	19.48927	
3/4/2021 10:28	6.881294	77.05329	127.8986	15872.28	17.92936	18350.53	10.95864	11.92784	63.00293	1.006963	-0.10825	0.38678	7.358711	-19.6523	159.2298	1018.894	19.48933	
3/4/2021 10:28	6.87836	77.01305	127.8325	15872.13	17.92276	18353.02	10.96016	11.92946	63.00354	1.006966	-0.10769	0.388074	7.358053	-19.6145	159.2476	1018.894	19.48967	
3/4/2021 10:28	6.875426	76.97282	127.7665	15871.97	17.91617	18355.51	10.96169	11.93108	63.00414	1.006968	-0.10713	0.389368	7.357395	-19.5766	159.2653	1018.893	19.49	

Location Properties

T3-2LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 10:52:53

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conc	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	(Barometric	Temperatu	Marked
3/4/2021 10:52	8.806768	101.1763	167.4781	13687.35	19.82833	15187.56	8.945303	9.871917	73.06016	1.005033	-0.0613	0.495093	7.26136	-14.2112	118.9972	1018.73	21.41996	
3/4/2021 10:52	8.80864	101.1936	167.5072	13687.96	19.82642	15188.85	8.946105	9.87275	73.05692	1.005034	-0.06094	0.49592	7.260801	-14.1791	118.9711	1018.729	21.42012	
3/4/2021 10:52	8.826614	101.4076	167.8632	13709.18	19.8141	15216.37	8.963554	9.890641	72.94386	1.00505	-0.08387	0.443018	7.25262	-13.7096	118.6522	1018.738	21.43752	
3/4/2021 10:52	8.828039	101.4229	167.8888	13710.26	19.81302	15217.92	8.964535	9.89165	72.93808	1.005051	-0.08466	0.441192	7.252083	-13.6788	118.6299	1018.739	21.4383	
3/4/2021 10:53	8.829464	101.4382	167.9144	13711.35	19.81194	15219.47	8.965515	9.892658	72.93231	1.005052	-0.08546	0.439366	7.251547	-13.648	118.6076	1018.739	21.43908	
3/4/2021 10:53	8.850369	101.6353	168.2471	13725.3	19.78535	15243.56	8.980652	9.908312	72.85819	1.005069	-0.06097	0.495842	7.245183	-13.2818	118.2919	1018.739	21.44768	
3/4/2021 10:53	8.851664	101.6484	168.269	13726.32	19.78391	15245.16	8.981664	9.909355	72.85274	1.00507	-0.0603	0.497385	7.244739	-13.2562	118.2715	1018.739	21.44839	
3/4/2021 10:53	8.852959	101.6614	168.2909	13727.35	19.78247	15246.77	8.982676	9.910398	72.84728	1.005071	-0.05963	0.498929	7.244294	-13.2307	118.2511	1018.74	21.4491	
3/4/2021 10:53	8.854253	101.6744	168.3128	13728.38	19.78102	15248.37	8.983686	9.911442	72.84182	1.005072	-0.05896	0.500472	7.24385	-13.2051	118.2307	1018.74	21.44981	
3/4/2021 10:53	8.883802	101.8806	168.6661	13739.38	19.73548	15275.36	9.00052	9.928985	72.78349	1.005095	-0.08137	0.448786	7.23806	-12.8726	117.937	1018.705	21.44968	
3/4/2021 10:53	8.885546	101.8938	168.6886	13740.15	19.73291	15277.05	9.001575	9.930081	72.77942	1.005096	-0.08195	0.447453	7.237674	-12.8504	117.9176	1018.703	21.44984	

Location Properties

T3-3LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 10:46:15

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH)	(2: pH mV	(m\ ORP (mV)	(Barometric	Temperatu	Marked
3/4/2021 10:46	7.107498	80.07137	132.7389	13539.79	18.79458	15360.35	9.046179	9.984229	73.8564	1.005332	-0.02718	0.57379	7.20752	-11.0908	137.141	1018.776	20.95937	
3/4/2021 10:46	7.108251	80.0785	132.751	13539.77	18.79347	15360.7	9.046391	9.984457	73.85648	1.005332	-0.02759	0.572846	7.207212	-11.0732	137.1362	1018.777	20.95971	
3/4/2021 10:46	7.109004	80.08562	132.7632	13539.76	18.79236	15361.05	9.046605	9.984686	73.85656	1.005332	-0.028	0.571902	7.206904	-11.0556	137.1315	1018.779	20.96005	
3/4/2021 10:46	7.109757	80.09274	132.7753	13539.74	18.79126	15361.41	9.046818	9.984914	73.85664	1.005333	-0.02841	0.570958	7.206596	-11.038	137.1268	1018.78	20.96038	
3/4/2021 10:46	7.1104	80.02926	132.6734	13550.42	18.79088	15373.65	9.05462	9.992872	73.79843	1.005339	-0.05473	0.510242	7.202605	-10.8104	137.0566	1018.805	20.97727	
3/4/2021 10:46	7.104004	80.02905	132.6733	13550.83	18.79049	15374.24	9.054992	9.993255	73.79623	1.005339	-0.05637	0.506446	7.202336	-10.795	137.0526	1018.807	20.97802	
3/4/2021 10:46	7.104008	80.02885	132.6732	13551.23	18.79011	15374.83	9.055363	9.993638	73.79401	1.00534	-0.05802	0.502651	7.202067	-10.7797	137.0486	1018.808	20.97877	
3/4/2021 10:46	7.112851	80.13103	132.8428	13560.41	18.79061	15385.07	9.061899	10.0003	73.74408	1.005344	-0.05402	0.511886	7.19835	-10.5677	136.9179	1018.809	20.98771	
3/4/2021 10:46	7.113168	80.13474	132.849	13561.02	18.79061	15385.76	9.062341	10.00075	73.74075	1.005345	-0.05428	0.511267	7.198104	-10.5537	136.9106	1018.809	20.98842	
3/4/2021 10:46	7.113485	80.13843	132.8551	13561.63	18.79062	15386.46	9.062783	10.0012	73.73743	1.005345	-0.05455	0.510648	7.197859	-10.5397	136.9032	1018.81	20.98913	
3/4/2021 10:46	7.113802	80.14212	132.8613	13562.25	18.79062	15387.15	9.063225	10.00165	73.73409	1.005345	-0.05482	0.510029	7.197614	-10.5257	136.8959	1018.81	20.98985	

Location Properties

T3-4LT

Location Name = Device Location

Report Properties

Start Time = 2021-03-04 10:36:24

Time Offset = -05:00:00

Duration = 00:00:20

Readings = 11

Instrument Properties

Device Model = Aqua TROLL 400

Device SN = 789301

Instrument Properties

Device Model = PowerPack

Device SN = 724809

Date Time	RDO Conce	RDO Satur	Oxygen Pa	Actual Con	Temperatu	Specific Co	Salinity (PS	Total Disso	Resistivity	Density (g/	Pressure (r	Depth (ft)	pH (pH) (2:	pH mV (m\	ORP (mV) (	Barometric Temperatu	Marked
3/4/2021 10:36	6.758368	76.27138	126.5239	15864.32	18.41209	18147.86	10.83378	11.79611	63.03452	1.006769	-0.08109	0.449427	7.356118	-19.5361	140.1226	1018.847	20.02898
3/4/2021 10:36	6.75712	76.24693	126.4847	15864.81	18.40765	18150.17	10.83522	11.79761	63.0326	1.006771	-0.08086	0.449969	7.355436	-19.4969	140.0934	1018.848	20.0297
3/4/2021 10:36	6.740696	75.9543	126.0075	15858.28	18.26781	18198.34	10.8646	11.82892	63.05856	1.006822	-0.08751	0.434624	7.34706	-19.0104	139.7038	1018.806	20.02117
3/4/2021 10:36	6.739737	75.93503	125.9764	15858.09	18.26019	18201.16	10.86633	11.83075	63.05929	1.006825	-0.08775	0.434078	7.346484	-18.9771	139.6788	1018.805	20.02096
3/4/2021 10:36	6.738777	75.91575	125.9453	15857.91	18.25257	18203.97	10.86805	11.83258	63.06002	1.006828	-0.08798	0.433532	7.345908	-18.9438	139.6538	1018.803	20.02074
3/4/2021 10:36	6.737816	75.89647	125.9142	15857.72	18.24496	18206.79	10.86978	11.83441	63.06076	1.006831	-0.08822	0.432986	7.345332	-18.9105	139.6288	1018.802	20.02053
3/4/2021 10:36	6.73899	75.81776	125.8039	15868.94	18.1791	18246.04	10.89434	11.85993	63.01617	1.006863	-0.09238	0.423393	7.337517	-18.462	139.2848	1018.879	20.03755
3/4/2021 10:36	6.738717	75.80841	125.7895	15869.32	18.17346	18248.73	10.896	11.86167	63.01467	1.006866	-0.09269	0.422682	7.337003	-18.4324	139.2618	1018.881	20.03815
3/4/2021 10:36	6.738444	75.79907	125.7751	15869.7	18.16783	18251.41	10.89767	11.86342	63.01316	1.006868	-0.093	0.421971	7.336488	-18.4027	139.2388	1018.884	20.03875
3/4/2021 10:36	6.750933	75.77792	125.7533	15864.92	18.10823	18269.83	10.9088	11.87539	63.03216	1.006889	-0.08641	0.437175	7.329628	-18.0091	138.8601	1018.844	20.05608
3/4/2021 10:36	6.75153	75.77542	125.7502	15864.9	18.10427	18271.4	10.90977	11.87641	63.03224	1.00689	-0.08617	0.437712	7.329166	-17.9826	138.8362	1018.843	20.05719

APPENDIX E

Semiannual Remedy Selection & Design Progress Report



SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

Plant McManus – Former Ash Pond 1
Brunswick, Georgia

July 30, 2021

SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT

Plant McManus – Former Ash Pond 1
Brunswick, Georgia



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Our Ref.:
30052922

Date:
July 30, 2021

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Table 2. High Resolution Investigation Analytical Data Summary – Vertical Aquifer Profiling Groundwater

Table 3. High Resolution Investigation Analytical Data Summary – Soil

Table 4. High Resolution Investigation Analytical Data Summary – Mineralogy

Table 5. High Resolution Investigation Analytical Data Summary – Sequential Selective Extraction

Table 6. Arsenic Speciation Results

Table 7. Supplementary Data Collection

FIGURES

Figure 1. Site Map and Compliance Monitoring Well Network

Figure 2. Isoconcentration Map Arsenic March 2021

Figure 3. High Resolution Investigation Locations

ATTACHMENTS

Attachment 1 Hydraulic Profiling Tool Logs

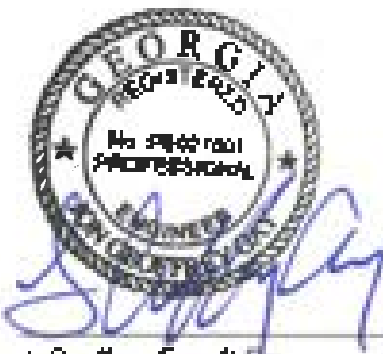
Attachment 2 Sampling Logs

Attachment 3 Data Validation and Laboratory Analytical Reports

Attachment 4 Soil Boring Logs

PROFESSIONAL CERTIFICATION

This Semi-Annual Remediy Selection and Design Programs Report for the Cowley Fibers Company Plant and Millponds Fibers Ash Pond 1 in Brunswick, Georgia has been prepared in accordance with the United States Environmental Protection Agency (and construction installation) specifications 40 Code of Federal Regulations 261.87(a) and the Georgia Environment Protection Division Rules for Solid Waste Management 391-3-4-102(b)(1). This report describes the progress made during the first semi-annual period of 2021 in selecting and designing a remediy previously documented in the Assessment of Contaminant Migration Report – Fibers Ash Pond 1 Brunswick, Georgia dated December 4, 2020 (ARCADIS 2020a).



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7-30-21

DATE

ACRONYMS AND ABBREVIATIONS

Arcadis	Arcadis U.S., Inc.
ACM	Assessment of Corrective Measures
ASD	alternate source demonstration
AP-1	former Ash Pond 1
AVS	acid volatile sulfide
bgs	below ground surface
BOD	biological oxygen demand
CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
CSM	conceptual site model
DPT	direct-push technology
GAEPD	Georgia Environmental Protection Division
Georgia Power	Georgia Power Company
GWPS	Groundwater Protection Standard
HPT	hydraulic profiling tool
ISS	in situ stabilization/solidification
K	hydraulic conductivity
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MNA	monitored natural attenuation
P&T	pump and treat
PRB	permeable reactive barrier
Progress Report	Semiannual Remedy Selection and Design Progress Report
redox	oxidation-reduction
SEM	simultaneous extracted metals
2020 Semiannual Report	2020 Semiannual Groundwater Monitoring and Corrective Action Report (Resolute 2021a)
SSE	Sequential Selective Extraction
SSL	statistically significant level
TDS	total dissolved solids

TOC	total organic carbon
USEPA	United States Environmental Protection Agency
VAP	vertical aquifer profile
XRD	X-ray diffraction

1 INTRODUCTION

1.1 Purpose

This Semiannual Remedy Selection and Design Progress Report (Progress Report) has been prepared for the Georgia Power Company (Georgia Power) Plant McManus former Ash Pond 1 (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 Progress Report was prepared to document activities conducted in support of the Assessment of Corrective Measures (ACM) Report (Arcadis U.S., Inc. [Arcadis] 2020a). As required by the rules, this Progress Report describes the progress made in selecting and designing a remedy for the site. This Progress Report has been included as an appendix to the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021b). Georgia Power will continue to include future semiannual remedy selection progress reports as an appendix to routine groundwater monitoring and corrective action reports until a remedy is selected.

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 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021b). The ASD results indicated that concentrations of lithium in groundwater are naturally occurring. Conditional approval for the lithium ASD was given by the Georgia Environmental Protection Division (GAEPD) on April 22, 2021 (GAEPD 2021).

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 (Wood Environment & Infrastructure Solutions, Inc. 2020). The evaluation provides one of many lines of evidence that will be evaluated and factored into the remedy selection process, which will be completed in accordance with § 257.97. Based on this risk evaluation, concentrations of arsenic and lithium detected in groundwater at former AP-1 between August 2016 through March 2020 are not expected to pose a risk to human health or the environment. Data collected since March 2020 are consistent with data used in the risk evaluation; therefore, the conclusions provided in the *2020 Risk Evaluation Report* are supported by current conditions.

Pursuant to 40 CFR § 257.97, Georgia Power is evaluating the potential corrective measures presented in the ACM Report (Arcadis 2020a) and previous Semiannual Remedy Selection and Design Progress Report dated February 26, 2021 (Arcadis 2021) to identify an appropriate remedy or combination of remedies as soon as feasible.

These reports 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, and has been updated based on data obtained during site investigations and evaluations of corrective action alternatives in 2020 and the first half of 2021 (**Table 1**).

Georgia Power proactively initiated adaptive site management as outlined in the ACM Report (Arcadis 2020a) to support the groundwater remedy selection process and address potential changes in site conditions as appropriate. The adaptive site management approach takes existing site conditions, including natural attenuation mechanisms, into account. Characterization activities at the site include collection of the 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 USEPA guidelines for MNA (USEPA 1999, 2007, 2015). The 1999 MNA guidance originally introduced the “tiered approach” with three tiers of site-specific information, or lines of evidence, to evaluate the appropriate use of MNA at certain sites (USEPA, 1999). In 2007, the USEPA issued MNA technical guidance specific to inorganic contaminants (USEPA, 2007) that contained four “tiers.” The 2015 MNA guidance retains these four “tiers,” but describes them as “phases” as described below (USEPA, 2015). This 2015 MNA document for inorganic contaminants expands on and is designed to be a companion to the 1999 and 2007 MNA guidance.

- Phase I: Demonstration that the groundwater plume is *not expanding*.
- Phase II: Determination that the *mechanism and rate* of the attenuation process are sufficient.
- Phase III: Determination that the *capacity* of the aquifer is sufficient to attenuate the mass of contaminant within the plume and the *stability* of the immobilized contaminant is sufficient to resist re-mobilization.
- Phase IV: Design of a *performance monitoring program* based on an understanding of the mechanism of the attenuation process, and establishment of contingency remedies tailored to site-specific characteristics.

Georgia Power will address Phase IV, as appropriate, during the development of the future corrective action monitoring plan, after the final remedy selection report.

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 (i.e., 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 Crispin Island to the mainland. This dike formed the northwest side of AP-1, while Crispin Island, the mainland, and a southern roadway and dike (Crispin Boulevard) formed the other sides of AP-1.

1.3 Closure Activities

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 40 CFR § 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). GAEPD acknowledged the report and that the removal activities within the identified boundaries of AP-1 had occurred in a letter dated January 10, 2020 (GAEPD 2020). Closure Permit No. 063-030D(CCR) was approved by GAEPD on June 18, 2021.

Source control has been implemented at the site through dewatering and removing CCR material. While it is not specifically intended as a groundwater corrective measure, there is a strong potential for source control to limit future impacts and improve groundwater quality.

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 March 2021 have shown an SSL of arsenic at MCM-06. The recent groundwater assessment data are provided in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021b).

Consistent with the ACM Report, statistical analyses of the March 2021 groundwater data identified arsenic concentrations greater than the applicable Groundwater Protection Standard (GWPS) at compliance monitoring well MCM-06. Vertical delineation at MCM-06 was evaluated with installation of deep piezometer DPZ-02 in March 2020 (**Figure 1**), which has since been incorporated into the assessment monitoring well network as a delineation well. March 2021 results for DPZ-02 are presented in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021b). The arsenic concentration at DPZ-02 in March 2021 was 0.017 milligrams per liter (mg/L) (estimated), and concentrations have historically ranged between 0.017 mg/L and 0.021 mg/L. These results indicate 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 (**Figure 2**).

To assess horizontal delineation 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 and March 2021. The March 2021 results are reported in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021b). Arsenic concentrations in surface water samples ranged from less than the method detection limit of 0.0043 mg/L to 0.012 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 both background surface water sample locations were less than the detection limit of 0.0043 mg/L. Based on the data collected, no impacts to surface water have been detected and horizontal delineation is complete.

A High Resolution Investigation was completed in February 2021 to further characterize the nature and extent of arsenic exceeding the GWPS. The results from the High Resolution Investigation, discussed further within this report, have enhanced the understanding of the lateral delineation of the arsenic concentrations.

2 SUMMARY OF WORK COMPLETED

2.1 High Resolution Investigation

A High Resolution Investigation was completed in February 2021 to further characterize groundwater flow properties at the site and the nature and extent of arsenic exceeding the GWPS. This investigation included the following activities:

- Advancement of 40 hydraulic profiling tool (HPT) locations via direct-push technology (DPT) to evaluate relative hydraulic conductivity (K) of aquifer sediments and groundwater flow.
- Advancement of eight DPT vertical aquifer profile (VAP) locations and concurrent collection of groundwater samples to evaluate groundwater geochemical conditions controlling the fate and transport of arsenic, and to delineate arsenic concentrations in soil and groundwater laterally across the dike near MCM-06.
- Advancement of five DPT soil sampling locations (based on HPT and VAP sampling results) and collection of soil samples to evaluate site soil geochemical conditions controlling the fate and transport of arsenic.

Data results for the High Resolution Investigation are presented in **Tables 2 through 5**.

2.1.1 Hydraulic Profiling Tool

A HPT is a probe that is advanced through the subsurface using direct-push drilling methods. It is used to create a log of the relative formation K versus depth as it is advanced through the subsurface. A small amount of clean water is injected into the formation through the probe, and the flowrate and back pressure are monitored and used to estimate K. Electrical conductivity is logged simultaneously with HPT on the same probe. Electrical conductivity is typically used to differentiate between finer and coarser grained soil (i.e., clay and sand), but also responds to salinity of the groundwater.

During the High Resolution Investigation, a total of 40 HPT locations were advanced with DPT to evaluate relative K and groundwater flow (**Figure 3**). Each boring was advanced until drilling refusal was

encountered. HPT logs are included in **Attachment 1** and results from the study are discussed in Section 4 Conceptual Site Model (CSM) Update.

2.1.2 Direct Push Technology – Vertical Aquifer Profiling

VAP is an investigation method where depth-discrete groundwater samples are collected at multiple depths from multiple locations, usually along a transect. VAP provides a one-time snapshot of data that can be used to refine the understanding of the distribution of arsenic within the dike and to evaluate treatment technologies under consideration that are sensitive to geochemical conditions (i.e., in situ injections, P&T, ISS, MNA, PRB). VAP samples were collected through a screen-point sampler advanced using DPT drilling and low flow sampling methods.

A total of 33 groundwater samples were collected across eight locations (**Figure 3**). Samples were submitted under chain-of-custody to Pace Analytical in Asheville, North Carolina for analysis of total and dissolved metals, alkalinity, chloride, sulfate, nitrate/nitrite, sulfide, orthophosphate, total organic carbon (TOC), biological oxygen demand (BOD), and total dissolved solids (TDS). Field parameters (pH, dissolved oxygen, oxidation reduction potential, temperature, specific conductance, and depth-to-water) were also recorded. The results are presented in **Table 2**. Sampling logs and laboratory analytical reports are provided in **Attachments 2 and 3**, respectively. The analytical data were reviewed and are considered usable for meeting project objectives and the results are considered valid, with the exceptions as shown on **Table 2**. Data validation reports are provided as **Attachment 3**. Samples collected through VAP sampling process can exhibit elevated turbidity, which can artificially elevate total metals concentrations. Therefore, groundwater samples collected through VAP were analyzed for dissolved metals as well as total metals to assess geochemical conditions and the distribution of arsenic in the subsurface in the vicinity of MCM-06.

The results from VAP samples were generally consistent with the geochemical understanding presented in the 2020 Semiannual Report (Resolute 2021a) and are discussed further in Section 3 Summary of Results and Section 4 CSM Update.

2.1.3 Direct Push Technology – Soil Sampling

Soil analysis was performed to identify and evaluate the presence of mineral phases that may support an MNA mechanism for attenuation of arsenic in groundwater. Based on the results from the VAP sampling, soil borings were advanced at select locations to analyze subsurface lithology and collect soil samples for laboratory analysis. To facilitate comparisons between soil and groundwater, soil samples were co-located with groundwater samples. Soil logging results for the five soil boring locations were used to help verify relative K values observed in corresponding HPT logs and are included in **Attachment 4**.

During investigation activities, a total of 19 soil samples were collected at varying intervals across five soil boring locations and submitted to Eurofins Test America Laboratories for analysis of total metals (arsenic, aluminum, calcium, iron, and manganese), TOC, and acid volatile sulfide (AVS) with simultaneous extracted metals (SEM) for arsenic. Two samples (SB-14-S(17-19) and SB-14-S(22-24)) were submitted for Sequential Selective Extraction (SSE) testing and X-ray diffraction (XRD) analysis.

AVS/SEM typically measures the concentration of sulfide and metals (e.g., arsenic) present in a mineral form that can be liberated during acidification. Sulfide minerals can serve to attenuate arsenic either through coprecipitation or as a sorbent under oxygen-poor conditions.

SSE is an analytical test that uses a series of solutions to selectively extract a desired analyte associated with the soils. These data can then be used to inform potential attenuation mechanisms for the analyte. For the Plant McManus soil, SSE followed a procedure developed to evaluate the reduced-phase species that are expected to be on site based on current site data (Paul et.al 2009).

SSE tests use a series of solutions to selectively extract a desired analyte associated with the soil in different forms. The sequential extraction steps completed for Plant McManus soils were focused on extracting the various forms of arsenic and any iron, as described in **Table 5**. This information can be used to support the understanding of what iron-arsenic mineral species are present. XRD analysis was used to evaluate the minerals present in the soils that underly the dike that may contribute to sorptive or co-precipitation attenuation mechanisms. Bulk metals analysis of arsenic was analyzed to evaluate potential sources of arsenic and bulk analysis for aluminum, arsenic, calcium, iron, and manganese were also conducted for general characterization of the soils.

Results are summarized in **Tables 3 through 5** and discussed further in Sections 3 through 5. The analytical data were reviewed and are considered usable for meeting project objectives, and the results are considered valid. Analytical reports and data validation reports are provided as **Attachment 3**.

2.2 Semiannual Groundwater Sampling

Groundwater was collected as part of semiannual groundwater monitoring, and data are reported in the 2021 Annual Groundwater Monitoring and Corrective Action Report (Resolute 2021b).

In addition to the collection of routine parameters, a specific sampling event focused on the analysis of arsenic speciation was completed on April 6, 2021. In addition to reporting of standard arsenic species (arsenite, arsenate, monomethylarsonic acid and dimethylarsonic acid), specific thio-species were evaluated to confirm the presence or absence of these species in the groundwater. Speciation results collected on April 6, 2021 are presented in **Table 6 (Attachment 3)**.

3 SUMMARY OF RESULTS

3.1 Hydraulic Profiling Tool

Results from the HPT study are consistent with the prior CSM, as described in the Hydrogeologic Assessment Report (Resolute 2020b). The surficial aquifer is highly heterogeneous and comprised of layers of clay, silt, and sand associated with different depositional processes in a marine-tidal depositional environment. The estimated K of the surficial aquifer below the dike are relatively high, as expected with sandy sediments; in some locations the HPT estimates for K exceeded 80 ft/d (**Attachment 1**). There are variable amounts of finer grained materials such as clay, silt, or very fine sand that may reduce K at a smaller scale (1 to 10 feet). Very thin layers (less than 0.5 centimeter thick) of contrasting sediments (lower K silt and clay) are interspersed throughout the surficial aquifer. These layers may have the effect of inhibiting or augmenting groundwater flow in areas of low or high K, respectively.

The K is higher in the first 6 to 8 feet of the saturated zone, down to about 10 feet below ground surface (bgs). This includes 1 to 3 feet of saturated fill material that is part of the dike. Below that level, K is more variable. Relatively large, uninterrupted areas of higher K are on both ends of the dike from approximately 20 to 40 feet bgs, between HPT-04 and HPT-34, and from HPT-27 past HPT-30 (the northeast edge of the study area) where the HPT K estimates exceeded 80 ft/d. Between those locations and around MCM-06, K is more heterogeneous, with interspersed layers and/or zones of higher or lower K. A low K layer (0.1 to 1.0 foot per day) underlies much of the study area between 30 and 40 feet bgs, consistent with other observations in stratigraphic borings along the dike (Resolute 2020b).

Sediment types confirmed by direct observation of soil cores at five boring locations correlated well with HPT results. Higher K values estimated from the HPT generally correlated to sand with little to trace silt and/or clay, while lower K values generally correlated to clayey/silty sand or sandy clay.

The heterogeneity around MCM-06 was observed in both the HPT logs and direct observations in the soil cores, with multiple layers of differing composition and K at larger (1 to 4 feet) and finer (<0.5 inch) scales. This heterogeneity may contribute to the surrounding geochemical environment.

3.2 Vertical Aquifer Profiling Groundwater and Soil

The February 2021 High Resolution Investigation provided rapid one-time data collection to assess the lateral distribution and extent of arsenic along the dike in the vicinity of MCM-06. Sampling locations are shown on **Figure 3**.

Vertical Aquifer Profiling - Groundwater

Results from the HPT/VAP sampling completed in February 2021 delineated arsenic concentrations exceeding the GWPS (0.031 mg/L) laterally along the dike. Dissolved arsenic in groundwater exceeding the GWPS is limited to the area near compliance monitoring well MCM-06, at sample locations VAP-31, VAP-14, and VAP-15. The highest dissolved arsenic concentrations were between 17 and 31 feet bgs (**Table 2**). This is an area of highly variable K, rather than uniform high K, as seen in other portions of the dike. The HPT data collected during the investigation did not show the presence of arsenic in the highest conductivity zones between 20 to 40 feet bgs between HPT-05 and HPT-34, and from HPT-27 past HPT-29 (the northeast edge of the study area). The updated isoconcentration contours on **Figure 2** are consistent with these results. The arsenic-impacted zone is bounded by sample locations VAP-32 and VAP-18 and the lateral extent of arsenic is estimated at approximately 95 ft along the dike, based on arsenic concentration data interpolation.

Consistent with the current CSM, VAP groundwater sampling results indicate reducing conditions in groundwater collected from VAP monitoring points along the northern dike. Based on iron, manganese, sulfate and sulfide data, redox conditions varied from metal reducing to strongly sulfate reducing (**Table 2**). Samples where dissolved arsenic concentrations were greater than 0.1 mg/L were generally associated with elevated sulfide concentrations.

Elevated concentrations of TOC and BOD were measured in some, but not all groundwater samples. TOC in soils was highest in the sample collected from a lower K zone (SB-26-S[11-13]; 35,000 mg/kg). The presence of organic carbon in both sediments and groundwater is a potential driver of the reducing conditions observed across the dike. These conditions allow for the formation of reduced-phase arsenic species (arsenic thiospecies and arsenite), as observed in monitoring wells. As discussed in Section 3.3,

the arsenic thiospecies detected during speciation testing at monitoring wells are arsenic-sulfide complexes only found in highly reducing, sulfide-enriched environments typical of marsh environments.

Similar to data collected from monitoring wells along the dike, TDS was greater than the results measured in groundwater from the mainland and island, reflecting the tidal connection between the brackish surface water and groundwater in the sediments that underly the dike. For example, TDS concentrations in groundwater collected at mainland well MCM-15 (40 mg/L) was substantially lower than that collected from MCM-05 (1,700 mg/L) or MCM-07 (17,100 mg/L). VAP sample TDS concentrations ranged from 2,330 mg/L at VAP-26-W(26-28) to 22,000 mg/L at VAP-32-W(28-30) with a median TDS value of 16,300 mg/L. These are similar to the TDS results for the surface water (refer to **Table 2** of this report and Table 5 of the 2021 Annual Groundwater Monitoring and Corrective Action Report [Resolute 2021b]). Groundwater samples collected from the March 2021 assessment monitoring event were consistent with results from the High Resolution Study; (refer to Table 7 of the 2021 Annual Groundwater Monitoring and Corrective Action Report [Resolute 2021b]).

Vertical Aquifer Profiling – Soil

Total arsenic results in soil collected during the High Resolution Investigation indicate that arsenic concentrations within the soil are low, ranging from 0.52 milligrams per kilogram (mg/kg) to 8.4 mg/kg. AVS results ranged from less than the detection limit to 11 mg/kg (estimated), with the greatest AVS concentrations observed at soil boring SB-14, which is located adjacent to monitoring well MCM-06. AVS were also detected at a lesser extent at SB-32, SB-26, and SB-18. These results support the understanding that some of the detected arsenic in soil is associated with acid volatile sulfides (**Table 3**).

XRD was completed to identify the minerals in site soils (**Table 4**). The soils were predominantly quartz (78.8 to 87.9 percent). Results demonstrated that pyrite (FeS_2) was also present between 0.2 and 0.9 percent in soils collected at SB-14(17-19) and SB-14(22-24).

Results from SSE indicate that much of the arsenic was extracted as non-specifically sorbed (**Table 5**) with additional arsenic detected in step 4 and step 5 that could be associated with or incorporated with iron oxides, iron sulfides or as arsenic sulfide.

3.3 Semiannual Groundwater Sampling – Speciation Analysis

Previous speciation testing conducted at Plant McManus identified that the predominant arsenic species in groundwater at MCM-06 was not commonly found and so the standard analytical method typically used was not suitable (Resolute 2020a). Therefore, to identify the specific species, a specialized speciation test was completed for groundwater at select wells in April 2021. All the detected arsenic in groundwater collected from MCM-07 and RW-9, and 97% of the arsenic detected at MCM-06 is in the form of arsenic thiospecies (**Table 6**). Arsenic thiospecies are reduced, sulfur-containing arsenic complexes that are found in highly reducing, sulfide-enriched environments.

4 CSM UPDATE

The analytical data presented above has been incorporated into the current CSM, summarized below:

- K along the dike is generally uniformly high. However, a zone of more heterogeneous material and variable K was identified in the area near MCM-06. K generally decreased with depth.
- Dissolved arsenic concentrations do not correlate with areas of high K, but do generally increase with reducing conditions, and sulfide and alkalinity concentrations. The arsenic present is predominantly in the form of reduced, sulfur-containing arsenic complexes (soluble thioarsenic species) that are found in highly reducing, sulfide-enriched environments.
- The lateral extent of arsenic above GWPS is estimated at approximately 95 ft along the northern dike around MCM-06.
- Total arsenic results in soil indicate that arsenic concentrations within the soil along the dike are low and likely natural.

5 EVALUATION OF CORRECTIVE MEASURES

Remedial measures first presented in the ACM (Arcadis, 2020a) have been re-evaluated based on the data collected to date. The results of this evaluation are presented below and in **Table 1**.

In Situ Injection In Situ Injection technology is the application of reagents in the subsurface to influence the solubility, mobility, and/or toxicity of inorganic constituents. The hydraulic conductivity data across the dike from the High Resolution Investigation suggest that distribution of reagent is favorable, specifically near MCM-06. The presence of the thioarsenic species, elevated sulfide concentrations, and highly reducing conditions must be considered in selection of in situ injection reagents. Based on data collected to date, In Situ Injection technology is retained. However, Site-specific bench-scale and pilot-scale testing is necessary to evaluate reagent effectiveness.

ISS ISS uses amendments such as cement to reduce the bioavailability and mobility of contaminants through either physical encapsulation (solidification) or a reduction in solubility/mobility (stabilization). ISS could be applied to aquifer matrix in groundwater flow zones to reduce arsenic mobility. However, the soil data collected during the reporting period indicated the arsenic plume is dilute and does not appear concentrated in the solid phase near MCM-06. Therefore, it is less applicable than other technologies evaluated. Given the relative lack of applicability for groundwater in comparison to the other technologies, ISS technology was not retained for further consideration.

Hydraulic Containment Hydraulic control/containment (P&T) uses groundwater extraction to establish a hydraulic gradient to capture and control the migration of groundwater that is impacted by a constituent of concern. Results of the HPT investigation and dewatering during source removal have demonstrated that targeted groundwater extraction is feasible. Therefore, Hydraulic Containment technology is retained for further evaluation.

PRB PRBs are defined as in situ permeable treatment zones, designed to intercept and remediate a contaminant plume (ITRC 2011). PRB technology is a feasible remedial option based on investigation results obtained to date. However, designs for a PRB would need to take into account the presence of higher K-zones. Similar to In Situ Injection technology, PRB technology is sensitive to geochemical conditions. The presence of the thioarsenic species, elevated sulfide concentrations, and highly reducing conditions must be considered in the selection of PRB media. Elevated TDS and alkalinity concentrations can also influence the effectiveness of PRB implementation by altering reaction chemistry, potentially

leading to formation of fouling precipitates, such as carbonates which can reduce barrier lifetime. Based on data collected to date, PRB technology is retained. However, Site-specific bench-scale testing is necessary to evaluate the effectiveness of PRB media options.

Phytoremediation Phytoremediation is a remedial alternative that uses plants to remove, transfer, or immobilize inorganic contaminants in environmental media. Phytoremediation is not retained as a potential remedial measure for the Site due to the infeasibility of construction along the dike.

Subsurface Vertical Barrier Walls Subsurface vertical barrier walls have been used for seep control and groundwater cutoff. Installation of an effective barrier to required depths is technically feasible and may be useful to direct groundwater flow through designated treatment zones. However, its use as a sole remedial measure is challenged by tidal fluctuations and groundwater flow pathways. As such, Subsurface Vertical Barrier Walls is retained only in conjunction with other remedial measures (e.g. PRB).

MNA MNA is defined as the reliance on natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a timeframe that is reasonable compared to that offered by other more active methods (USEPA 2007). MNA is a remedial solution that takes advantage of natural attenuation processes to reduce constituents in soil and groundwater. Natural attenuation mechanisms were evaluated during the first half of 2021 as part of adaptive site management. Data collected as part of the High Resolution Investigation and semiannual groundwater sampling will support the evaluation of USEPA guidelines for MNA (USEPA 2007, 2015). The evaluation results are summarized below.

Phase I: Demonstration that the groundwater plume is not expanding. Sampling to date has demonstrated that the arsenic at MCM-06 is delineated. Consistent with previous monitoring events, arsenic concentrations exceeded the GWPS in only one compliance monitoring well (MCM-06). The arsenic concentration (0.35 mg/L) was consistent with the March 2020 sample result and less than the arsenic concentration detected during the October 2020 sampling event. Surface water and groundwater data will continue to be collected and monitored to evaluate plume stability.

Phase II/III: Attenuation mechanisms, capacity and stability The fate and transport of arsenic is dependent primarily on oxidation-reduction (redox) conditions and pH, which control the presence and/or dissolution and precipitation cycling of sorptive mineral phases and the species of the arsenic present. Arsenic can attenuate through sorption or co-precipitation. Several solids analyses, including AVS/SEM, XRD, and SSE, were conducted during the High Resolution Investigation to look at minerals and solid phases that may contribute to attenuation. As presented in Section 3.2, acid volatile sulfides were present in the soils, especially in the area near MCM-06 (**Table 3**). These sulfides yielded measurable arsenic concentrations during SEM analysis, supporting that arsenic precipitation with and sorption to sulfide minerals are potential attenuation mechanisms for arsenic at this site. The measurable presence of other sorptive sulfide minerals, such as pyrite (FeS_2), measured through XRD, also provides further support for attenuation.

Based on data collected to date, MNA is retained.

6 PLANNED ACTIVITIES AND SCHEDULE

AP-1 closure was completed in late 2019 (Arcadis 2019; GAEPD 2020). The closure provides a source control measure that reduces the potential for migration of CCR constituents to groundwater. Current site conditions include management of the water levels in former AP-1, creating a unique hydraulic environment post-closure. 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 CSM and to further evaluate the feasibility of the retained list of potential corrective measures proposed in the ACM Report. 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 former AP-1 in accordance with 40 CFR § 257.98.

Given that groundwater conditions continue to change as the aquifer adjusts to the closed conditions, an adaptive site management approach will continue to be used to address groundwater impacts. The data collection efforts outlined below will further refine the CSM and allow a more detailed evaluation of the four potential groundwater corrective measures retained for additional evaluation and consideration. To enhance the understanding of site conditions in support of remedy selection, the following activities are recommended to be completed during the next semiannual reporting period (as summarized in **Table 7**):

- Continue routine groundwater and surface water sampling for Appendix III and Appendix IV constituents at compliance monitoring wells and delineation monitoring well DPZ-02 to analyze and evaluate trends for effectiveness of source control and plume stability. Multiple datasets will be needed to assess temporal variations in conditions.
- Continue to evaluate MNA as a potential remedy using the USEPA phased analysis framework (USEPA 2007, 2015).

Conduct bench-scale testing, geochemical modeling, and a constructability review to evaluate PRB and in situ injection remedies. 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 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.

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TABLES



Table 1
Remedy Evaluation Summary
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)
<i>Geochemical Manipulation (In Situ Injection)</i>	Injection of a chemical or organic substrate to alter geochemical conditions to those more favorable for immobilization of arsenic.	<i>Moderate:</i> 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 oxidative remedial approaches.	<i>Moderate:</i> 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.	<i>Moderate:</i> 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.
<i>In Situ Stabilization/Solidification (ISS)</i>	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).	<i>Moderate:</i> 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.	<i>Moderate to High:</i> 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.	<i>Difficult:</i> 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. ISS is not typically used to remediate dilute contaminant plumes, such as found near MCM-06.
<i>Hydraulic Containment</i>	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.	<i>High:</i> 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.	<i>Moderate to High:</i> Reliability may also depend on the operation and performance of an ex-situ treatment system, if needed. System downtime for maintenance may impact reliability.	<i>Difficult:</i> 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 O&M is relatively high compared to other options and requires onsite staff.

Acronyms and abbreviations are defined on the last page.

Table 1
Remedy Evaluation Summary
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)
<i>Monitored Natural Attenuation (MNA)</i>	A remedial solution that takes advantage of natural attenuation processes to reduce constituents in soil and groundwater.	<i>Moderate:</i> 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, 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. Natural attenuation is being evaluated under the tiered framework.	<i>Moderate to High:</i> The reliability of MNA is moderate to high when 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	<i>Easy:</i> 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 GWPS within a reasonable timeframe.
<i>Permeable Reactive Barrier (PRB)</i>	Use of reactive material that extends below the water table to intercept and treat groundwater.	<i>Moderate to High:</i> 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.	<i>Moderate to High:</i> 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.	<i>Moderate to difficult:</i> 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 bgs in the vicinity of MCM-06 (Resolute, 2021a), 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 and include media replacement.
<i>Phytoremediation</i>	Use of plants to remove, transfer, or stabilize constituents in soil or groundwater.	<i>Low:</i> 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.	<i>Low to Moderate:</i> 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 SSLs for arsenic were identified (MCM-06) is screened at approximately 25 feet bgs, which is outside the typical rooting depth for common arsenic hyperaccumulators.	<i>Difficult:</i> 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.

¹ Northrup, K., M. Capocci, 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
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)
<i>Subsurface Barrier Walls</i>	Use of barriers to physically control the migration of impacted groundwater either directly or through manipulation of groundwater flow.	<i>Moderate:</i> 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.	<i>High – With proper installation:</i> O&M requirements can range significantly, depending on whether groundwater extraction and subsequent treatment from inside the wall is required.	<i>Moderate to difficult:</i> 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 (Resolute, 2021a), 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
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia



Technology	Evaluation Criteria				Retain Technology for Further Evaluation?
	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	
<i>Geochemical Manipulation (In Situ Injection)</i>	<i>Low:</i> 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 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) ² , 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	Yes
<i>In Situ Stabilization/Solidification (ISS)</i>	<i>Low:</i> 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 impacted groundwater, but rather applied to a specific source area to prevent migration, it may take an extended timeframe 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)	No. ISS is not typically used to remediate dilute contaminant plumes.
<i>Hydraulic Containment</i>	<i>Low:</i> 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)	Yes
<i>Monitored Natural Attenuation (MNA)</i>	<i>Negligible:</i> 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	Yes

² Wood Environment & Infrastructure Solutions, Inc. (Wood). 2020. Risk Evaluation Report. Plant McManus Inactive Ash Pond AP-1, Glynn County, Georgia. December.

Table 1
Remedy Evaluation Summary
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia



Technology	Evaluation Criteria				Retain Technology for Further Evaluation?
	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	
<i>Permeable Reactive Barrier (PRB)</i>	<i>Low:</i> 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	Yes
<i>Phytoremediation</i>	<i>Low:</i> 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	No. Site-specific construction constraints, hydrogeology, and chemistry limits implementability, performance and effectiveness.
<i>Subsurface Barrier Walls</i>	<i>Low:</i> 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	Retained only in conjunction with other remedial alternatives.

Acronyms and Abbreviations:

- AP-1 = Plant McManus former Ash Pond 1
- bgs = below ground surface
- CFR = Code of Federal Regulations
- 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

Acronyms and abbreviations are defined on the last page.

Table 2
 High Resolution Investigation Analytical Data Summary – Vertical Aquifer Profiling Groundwater
 Georgia Power Company
 Plant McManus Former Ash Pond 1
 Brunswick, Georgia

Location			VAP-06	VAP-06	VAP-06	VAP-06	VAP-14	VAP-14	VAP-14	VAP-14	VAP-14
Sample ID			VAP-06-W (8-10)	VAP-06-W (15-17)	VAP-06-W (27-29)	VAP-06-W (33.5-35.5)	VAP-14-W (5-10)	VAP-14-W (17-19)	VAP-14-W (22-24)	VAP-14-W (29-31)	VAP-14-W (31-33)
Depth (feet) Sample Date			8-10 2/24/2021	15-17 2/24/2021	27-29 2/24/2021	33.5-35.5 2/24/2021	5-10 2/23/2021	17-19 2/23/2021	22-24 2/23/2021	29-31 2/23/2021	31-33 2/23/2021
Total Metals											
	Units	Method									
Arsenic	mg/L	SW6020	< 0.0087	< 0.0087	< 0.0087	< 0.0087 J	< 0.0087	0.42	0.32	0.078	0.032
Boron	mg/L	SW6020	1.8 J	2.0 J	2.4 J	2.4 J	1.7 J	0.95 J	1.7 J	2.1 J	2.0 J
Calcium	mg/L	SW6010D	218	191	407	462	196	287	263	261	248
Iron	mg/L	SW6010D	3.7	1.0	22.8	6.4	3.9	0.14	2.1	0.89	0.77
Magnesium	mg/L	SW6010D	611	496	660	689	588	543	648	584	537
Manganese	mg/L	SW6010D	0.24	0.31	1.9	1.6	0.13	0.26	0.38	0.35	0.30
Potassium	mg/L	SW6010D	167	157	173	168	199	120	199	206	194
Sodium	mg/L	SW6010D	5050	4450	5550	5690	4340	2880	4740	4690	4410
Dissolved Metals											
Arsenic	mg/L	SW6020	< 0.0087	< 0.0087	< 0.0087	< 0.0087	< 0.0087	0.170	0.180	0.044	0.012
Boron	mg/L	SW6020	1.7 J	1.8 J	1.8 J	2.2 J	1.7 J	0.97 J	1.7 J	2.1 J	2.0 J
Calcium	mg/L	SW6010D	203	177	351	408	164	240	216	209	213
Iron	mg/L	SW6010D	2.7	0.85	< 0.42	< 0.42	3.3	0.080	0.063	0.14	0.29
Magnesium	mg/L	SW6010D	605	477	597	636	529	468	572	495	492
Manganese	mg/L	SW6010D	0.22	0.29	1.5	1.4 J	0.12	0.27	0.35	0.31	0.29
Potassium	mg/L	SW6010D	162	152	158	154	166	98.7	158	165	167
Sodium	mg/L	SW6010D	4270	4010	4770	4990	3900	2650	4500	4310	4050
General Chemistry											
Alkalinity	mg/L	A2320	111	237	643	700	109	720	708	440	413
Alkalinity, Bicarbonate	mg/L	A2320	111	237	643	700	109	720	708	440	413
Alkalinity, Carbonate	mg/L	A2320	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/L	E300.0	8090	7080	8950	9250	5400	5480	7760	8200	7370
Nitrate-N	mg/L	E300.0	< 6.0	< 6.0	< 6.0	< 6.0 J	< 0.060	< 0.060 J	< 0.060	< 0.060	< 0.060
Nitrite	mg/L	E300.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 0.050	R	< 0.050	< 0.050	< 0.050
Sulfate	mg/L	E300.0	1060	900	850	853	253	295 J	900	655	866
Sulfide	mg/L	SM4500-S-D	< 0.050	15.9	58.3	59.1	0.47	85.6	87.2	41.7	46.0
ortho-Phosphate (As P)	mg/L	SM4500-P-E	0.21	0.75	0.23	0.24	0.25	0.66	0.56	0.54	0.46
Total Dissolved Solids	mg/L	SM2540C	17500	17300	20300	20600	15900	13000	18800	17800	17800
Biological Oxygen Demand	mg/L	SM5210B	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Organic Carbon	mg/L	SW9060A	5.7	8.6	7.1	7.9	10.8	9.4	10.4	7.4	6.9
Field Parameters											
pH (field)	SU	Field Collected	6.95	6.75	6.86	6.87	6.37	7.06	7.01	7.37	7.39
Specific Conductivity	µS/cm	Field Collected	25384	22314	27887	28887	23368	18247	26194	25325	24100
Turbidity	NTU	Field Collected	24.7	6.66	9.29	293	6.35	57.9	28.1	24.9	10.2
Dissolved Oxygen	mg/L	Field Collected	0.72	1.80	1.54	1.98	0.43	0.77	0.89	0.31	0.20
Temperature	°C	Field Collected	19.9	21.1	22.1	23.1	16.5	21.5	17.8	16.5	17.9
Oxidation Reduction Potential	mV	Field Collected	-187.2	-347.5	-366.8	-379.8	-19.5	-374.4	-360.1	-344.7	-347.5

Table 2
 High Resolution Investigation Analytical Data Summary – Vertical Aquifer Profiling Groundwater
 Georgia Power Company
 Plant McManus Former Ash Pond 1
 Brunswick, Georgia

Location			VAP-15	VAP-15	VAP-15	VAP-18	VAP-18	VAP-18	VAP-26	VAP-26	VAP-26	VAP-26
Sample ID			VAP-15-W (15-17)	VAP-15-W (20-22)	VAP-15-W (26-28)	VAP-18-W (5-10)	VAP-18-W (21-23)	VAP-18-W (26-28)	VAP-26-W (8-10)	VAP-26-W (11-13)	VAP-26-W (26-28)	VAP-26-W (34-36)
Depth (feet) Sample Date			15-17 2/26/2021	20-22 2/26/2021	26-28 2/26/2021	5-10 2/25/2021	21-23 2/25/2021	26-28 2/25/2021	8-10 2/24/2021	11-13 2/25/2021	26-28 2/25/2021	34-36 2/25/2021
Total Metals												
	Units	Method										
Arsenic	mg/L	SW6020	0.018 J	< 0.0087	0.057 J	< 0.0087	< 0.0087	< 0.0087	< 0.0087	< 0.0087	< 0.0087	< 0.0087
Boron	mg/L	SW6020	1.3 J	1.2 J	1.0 J	1.5 J	1.3 J	1.2 J	1.6 J	1.4 J	0.81 J	1.2 J
Calcium	mg/L	SW6010D	183	259	199	48.7	171	143	222	139	23.5	103
Iron	mg/L	SW6010D	0.51	2.6	1.5	1.9	2.3 J	0.54 J	3.0	0.12 J	1.6 J	5.0
Magnesium	mg/L	SW6010D	496	606	386	157	440	296	671	386	68.8	190
Manganese	mg/L	SW6010D	0.20	0.32	0.22	0.037 J	0.23	0.15	0.12	0.15	0.043 J	0.083
Potassium	mg/L	SW6010D	150	164	116	77.2	153	105	175	136	68.1	82.0
Sodium	mg/L	SW6010D	4480	4300	3410	1750	3770	2280	5140	3010	656	1830
Dissolved Metals												
Arsenic	mg/L	SW6020	0.0095 J	< 0.0087	0.035 J	< 0.0087	< 0.0087	< 0.0087	< 0.0087 J	< 0.0087	< 0.0087 J	< 0.0087
Boron	mg/L	SW6020	1.7 J	1.3 J	1.4 J	1.4 J	1.2 J	0.82 J	1.7 J	1.6 J	R	1.2 J
Calcium	mg/L	SW6010D	174	244	216	43.3	173	142	218	133	21	94.2
Iron	mg/L	SW6010D	< 0.42	< 0.42	< 0.42	< 0.83	4.0 J	4.9 J	2.5 J	4.2 J	< 0.42 J	1.2 J
Magnesium	mg/L	SW6010D	459	572	414	151	439	291	654	373	57.3	192
Manganese	mg/L	SW6010D	0.19	0.29	0.23	0.027	0.19	0.13	0.098	0.13	0.036	0.049
Potassium	mg/L	SW6010D	140	151	115	73.4 J	< 152	< 152	172	< 152	63.8	80.3 J
Sodium	mg/L	SW6010D	4210	4040	3180	1610	3560	2160	4360	2770	622	1780
General Chemistry												
Alkalinity	mg/L	A2320	298	525	498	148	259	483	96.2	434	309	326
Alkalinity, Bicarbonate	mg/L	A2320	298	525	498	148	259	483	96.2	434	309	326
Alkalinity, Carbonate	mg/L	A2320	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/L	E300.0	7190	7130	5630	2580	6300	3960	8740	5330	971	2940
Nitrate-N	mg/L	E300.0	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060
Nitrite	mg/L	E300.0	< 5.0	< 5.0	< 5.0 J	< 0.050 J	< 0.050	< 0.050	< 0.050	< 0.050	R	< 0.050
Sulfate	mg/L	E300.0	855	706	540	384	765	334	1210	194	4.8	329
Sulfide	mg/L	SM4500-S-D	38.3	60.9	39.7	< 0.050	25.3	35.1	< 0.050	54.5	36.8	1.8
ortho-Phosphate (As P)	mg/L	SM4500-P-E	1.1	0.48	0.63	0.33	0.49	0.64	0.44 J	1.6	0.85	0.30
Total Dissolved Solids	mg/L	SM2540C	16300	16300	12400	6800	10900	8450	18500	11000	2330	6670
Biological Oxygen Demand	mg/L	SM5210B	19000	364	194	< 2.0	40	20.0	< 2.0 J	100	25.1	< 2.0
Total Organic Carbon	mg/L	SW9060A	11.4	9.4	7.4	14.1	8.5	7.4	6.3	18.0	7.7	4.7
Field Parameters												
pH (field)	SU	Field Collected	6.94	6.94	7.15	6.74	6.75	7.10	6.36	7.10	7.13	7.28
Specific Conductivity	µS/cm	Field Collected	22890	22415	18059	8840	19365	12645	26923	16056	3785	9851
Turbidity	NTU	Field Collected	70.1	86.7	81.9	69.6	40.6	4.37	9.92	23.0	28.6	67.8
Dissolved Oxygen	mg/L	Field Collected	1.07	0.91	0.56	NA	2.04	1.22	2.52	1.69	1.92	1.13
Temperature	°C	Field Collected	22.4	22.8	22.1	18.8	23.0	22.5	18.9	18.8	17.9	17.5
Oxidation Reduction Potential	mV	Field Collected	-345.6	-361.8	-363.8	-272.7	-342.3	-365.8	-76.2	-318.2	-289.1	-288.9

Table 2
 High Resolution Investigation Analytical Data Summary – Vertical Aquifer Profiling Groundwater
 Georgia Power Company
 Plant McManus Former Ash Pond 1
 Brunswick, Georgia



Location			VAP-29	VAP-29	VAP-29	VAP-29	VAP-31	VAP-31	VAP-31	VAP-31	VAP-31
Sample ID			VAP-29-W (5-10)	VAP-29-W (19-21)	VAP-29-W (24-26)	VAP-29-W (30-32)	VAP-31-W (5-10)	VAP-31-W (18-20)	VAP-31-W (22-24)	VAP-31-W (29-31)	VAP-31-W (31-33)
Depth (feet) Sample Date			5-10 2/26/2021	19-21 2/26/2021	24-26 2/26/2021	30-32 2/26/2021	5-10 2/23/2021	18-20 2/24/2021	22-24 2/24/2021	29-31 2/24/2021	31-33 2/24/2021
Total Metals											
	Units	Method									
Arsenic	mg/L	SW6020	0.0092 J	< 0.0087 J	0.010 J	0.016 J	< 0.0087	0.63	0.31	0.17	0.038
Boron	mg/L	SW6020	R	1.3 J	1.3 J	1.0 J	1.6 J	1.1 J	1.9 J	2.2 J	2.3 J
Calcium	mg/L	SW6010D	111	230	191	218	173	335	260	263	282
Iron	mg/L	SW6010D	3.1 J	0.66 J	7.3 J	2.9	2.5	1.2	2.7	1.2	< 0.42
Magnesium	mg/L	SW6010D	282	623	540	565	490	606	634	597	618
Manganese	mg/L	SW6010D	0.11	0.33	0.38	0.27	0.082	0.31	0.38	0.37	0.32
Potassium	mg/L	SW6010D	101	< 304	172	141	134	109	170	175	184
Sodium	mg/L	SW6010D	2970	4870	5350	4400	3900	3680	5220	5230	5380
Dissolved Metals											
Arsenic	mg/L	SW6020	< 0.0087 J	< 0.0087 J	< 0.0087 J	< 0.0087	< 0.0087	0.390	0.079	0.100	0.020
Boron	mg/L	SW6020	1.2 J	1.7 J	1.9 J	1.2 J	1.5 J	0.98 J	1.4 J	1.7 J	1.6 J
Calcium	mg/L	SW6010D	116	222	195	232	152	294	203	236	238
Iron	mg/L	SW6010D	0.73	< 0.42	0.90	0.46 J	2.0	< 0.42	0.88	< 0.42	< 0.42
Magnesium	mg/L	SW6010D	303	643	544	575	458	552	529	559	548
Manganese	mg/L	SW6010D	0.091	0.32	0.35	0.27	0.076	0.27	0.36	0.34	0.28
Potassium	mg/L	SW6010D	105	164	171	145	125	101	146	166	163
Sodium	mg/L	SW6010D	2840	5070	5120	4180	3360	3180	4200	4460	4510
General Chemistry											
Alkalinity	mg/L	A2320	166	166	173	253	123	879	741	454	420
Alkalinity, Bicarbonate	mg/L	A2320	166	166	173	253	123	879	741	454	420
Alkalinity, Carbonate	mg/L	A2320	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloride	mg/L	E300.0	4620	8450	8670	7580	6140	6480	8350	8050	8180
Nitrate-N	mg/L	E300.0	0.067 J	< 0.060	< 0.060	< 0.060	< 0.060	< 6.0	< 6.0	< 6.0	< 6.0
Nitrite	mg/L	E300.0	< 5.0	< 5.0	< 5.0	< 5.0	< 0.050	< 5.0	< 5.0	< 5.0	< 5.0
Sulfate	mg/L	E300.0	656	1100	1140	889	767	256	636	908	977
Sulfide	mg/L	SM4500-S-D	7.9	19.1	19.2	38.5	0.38	89.3	71.1	54.5	33.2
ortho-Phosphate (As P)	mg/L	SM4500-P-E	0.20 J	0.21 J	0.30	0.45	0.22	1.1	1.2	0.70	0.92
Total Dissolved Solids	mg/L	SM2540C	10700	19900	19900	17700	15200	15300	18500	20100	18200
Biological Oxygen Demand	mg/L	SM5210B	276	50700	6420	990	< 2.0 J	< 2.0	< 2.0	< 2.0	< 2.0
Total Organic Carbon	mg/L	SW9060A	14.9	7.2	7.2	7.8	6.0	10.3	110	93.3	7.8
Field Parameters											
pH (field)	SU	Field Collected	6.90	6.52	6.67	6.56	6.84	6.85	6.77	7.13	7.05
Specific Conductivity	µS/cm	Field Collected	15300	26412	26591	23079	21179	20580	23269	25619	26475
Turbidity	NTU	Field Collected	23.9	31.6	58.1	61.9	14.9	16.1	17.2	21.8	2.92
Dissolved Oxygen	mg/L	Field Collected	1.54	1.28	0.44	0.68	0.95	1.71	0.81	1.05	0.65
Temperature	°C	Field Collected	18.5	22.4	22.7	22.1	20.1	16.7	20	18.2	17.5
Oxidation Reduction Potential	mV	Field Collected	-250.8	-304.2	-329.5	-347.4	-129.3	-377.5	-341.2	-362.9	-357.6

Table 2
High Resolution Investigation Analytical Data Summary – Vertical Aquifer Profiling Groundwater
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Location			VAP-32	VAP-32	VAP-32
Sample ID			VAP-32-W (5-10)	VAP-32-W (22-24)	VAP-32-W (28-30)
Depth (feet) Sample Date			5-10 2/25/2021	22-24 2/25/2021	28-30 2/25/2021
Total Metals					
	Units	Method			
Arsenic	mg/L	SW6020	< 0.0087	0.019	0.031
Boron	mg/L	SW6020	1.4 J	1.9 J	1.9 J
Calcium	mg/L	SW6010D	170	207	271
Iron	mg/L	SW6010D	1.5 J	2.7	7.4
Magnesium	mg/L	SW6010D	495	547	594
Manganese	mg/L	SW6010D	0.059	0.30	0.39
Potassium	mg/L	SW6010D	142	190	183
Sodium	mg/L	SW6010D	4050	5000	4960
Dissolved Metals					
Arsenic	mg/L	SW6020	< 0.0087	0.014 J	0.011 J
Boron	mg/L	SW6020	1.7 J	2.1 J	2.2 J
Calcium	mg/L	SW6010D	162	194	235
Iron	mg/L	SW6010D	12.6 J	0.69	0.21
Magnesium	mg/L	SW6010D	469	538	522
Manganese	mg/L	SW6010D	0.052	0.24	0.26
Potassium	mg/L	SW6010D	< 152	182	168
Sodium	mg/L	SW6010D	3720	4380	4650
General Chemistry					
Alkalinity	mg/L	A2320	133	212	481
Alkalinity, Bicarbonate	mg/L	A2320	133	212	481
Alkalinity, Carbonate	mg/L	A2320	< 5.0	< 5.0	< 5.0
Chloride	mg/L	E300.0	6730	8570	8680
Nitrate-N	mg/L	E300.0	< 0.060	< 0.060	< 0.060
Nitrite	mg/L	E300.0	< 0.050	< 0.050	< 0.050
Sulfate	mg/L	E300.0	920	1200	1120
Sulfide	mg/L	SM4500-S-D	0.11	9.0	29.8
ortho-Phosphate (As P)	mg/L	SM4500-P-E	0.20	0.53	0.77
Total Dissolved Solids	mg/L	SM2540C	16900	13900	22000
Biological Oxygen Demand	mg/L	SM5210B	< 2.0	160	< 2.0
Total Organic Carbon	mg/L	SW9060A	7.0	6.9	7.4
Field Parameters					
pH (field)	SU	Field Collected	6.74	7.66	7.33
Specific Conductivity	µS/cm	Field Collected	20572	25894	26113
Turbidity	NTU	Field Collected	1.66	81.9	309
Dissolved Oxygen	mg/L	Field Collected	2.15	0.70	1.55
Temperature	°C	Field Collected	18.8	22.2	22.4
Oxidation Reduction Potential	mV	Field Collected	-88.1	-356.7	-369.4

Notes:

1. Due to matrix effects, dilutions were needed on a number of samples.
2. Due to weather delays with shipments, some samples arrived at lab outside of holding time for some analytes.
3. < Not detected above method detection limited listed.

Data Qualifiers:

- J - Estimated concentration.
- R - Sample results are rejected after data validation due to analysis outside of holding time.

Acronyms and Abbreviations:

- °C - degrees Centigrade
- µS/cm - microsiemens per centimeter
- mg/L - milligram per liter
- mV - millivolts
- NTU - Nephelometric Turbidity Units
- SU - standard units
- VAP- Vertical Aquifer Profiling

Table 3
 High Resolution Investigation Analytical Data Summary – Soil
 Georgia Power Company
 Plant McManus Former Ash Pond 1
 Brunswick, Georgia

Location			SB-06	SB-06	SB-06	SB-06	SB-14	SB-14	SB-14	SB-14	SB-14	SB-18
Sample ID (date)			SB-6-S(8-10)	SB-6-S(15-17)	SB-6-S(27-29)	SB-6-S(33.5-35.5)	SB-14-S(8-10)	SB-14-S(17-19)	SB-14-S(22-24)	SB-14-S(29-31)	SB-14-S(31-33)	SB-18-S(8-10)
Depth (feet)			8-10	15-17	27-29	33.5-35.5	8-10	17-19	22-24	29-31	31-33	8-10
Sample Date			2/27/2021	2/27/2021	2/27/2021	2/27/2021	2/28/2021	2/28/2021	2/28/2021	2/28/2021	2/28/2021	2/27/2021
Analyte	Units	Method										
Total Organic Carbon	mg/kg	Lloyd Kahn	1600	1100 J	990 J	1900	1900	2300	2000	2500	1600	2100
AVS/SEM												
SEM/AVS Ratio	none	AVS/SEM	NC	NC	NC	NC	0.023	0.099	NC	0.086	0.049	NC
Simultaneously Extracted Arsenic	mg/kg	AVS extraction/ SW6010D	1.8	0.29 J	0.31 J	0.27 J	0.26 J	1.4	0.96	1.5	0.62	0.73
Sulfide	mg/kg	AVS by SW9034	< 6.4	< 6.1	< 6.6	< 6.2	7.1 J	9.1 J	< 5.5	11 J	8.1 J	< 6.3
Metals												
Aluminum	mg/kg	SW6020	4000	330	650 J	1200	3500	2600	1900	4300	1900	4900
Arsenic	mg/kg	SW6020	4.6	0.52	0.99	1.4	1.0	4.6	2.4	3.8	3.5	4.6
Calcium	mg/kg	SW6020	240	390	2700	4000	230	1900	2400	11000	73000	200
Iron	mg/kg	SW6020	1800	550	1100 J	1700	1300	5200	3600	6900	4600	1600
Manganese	mg/kg	SW6020	16	14	18	25	9.4	55	30	96	63	12

Location			SB-18	SB-18	SB-26	SB-26	SB-26	SB-26	SB-32	SB-32	SB-32
Sample ID			SB-18-S(21-23)	SB-18-S(26-28)	SB-26-S(11-13)	SB-26-S(5-10)	SB-26-S(26-28)	SB-26-S(34-36)	SB-32-S(5-10)	SB-32-S(22-24)	SB-32-S(28-30)
Depth (feet)			21-23	26-28	11-13	5-10	26-28	34-36	5-10	22-24	28-30
Sample Date			2/27/2021	2/27/2021	2/28/2021	2/28/2021	2/28/2021	2/28/2021	2/28/2021	2/28/2021	2/28/2021
Analyte	Units	Method									
Total Organic Carbon	mg/kg	Lloyd Kahn	1500	5600	35000	1700	3700	1800	1800	1200	1500
AVS/SEM											
SEM/AVS Ratio	none	AVS/SEM	0.023	0.024	NC	NC	NC	0.016	0.022	NC	NC
Simultaneously Extracted Arsenic	mg/kg	AVS extraction/ SW6010D	0.23 J	0.30	0.65	0.13 J	< 0.13	0.16 J	0.25 J	0.47	0.73
Sulfide	mg/kg	AVS by SW9034	6.4 J	8.2 J	< 9.9	< 6.3	< 6.3	6.5 J	7.2 J	< 6.1	< 6.2
Metals											
Aluminum	mg/kg	SW6020	1100	7500	16000	4100	3700	2100	4600	630	1900
Arsenic	mg/kg	SW6020	1.2	5.5	8.4	1.9	3.1	2.0	1.8	1.4	2.5
Calcium	mg/kg	SW6020	1100	4800	1800	290	280	1400	250	7700	17000
Iron	mg/kg	SW6020	2000	10000	16000	1900	5400	2900	1400	1500	3500
Manganese	mg/kg	SW6020	26	150	110	17	63	31	8.8	19	46

Note:
 1. < Not detected above method detection limit listed.

Data Qualifier:
 J - Estimated concentration.

Acronyms and Abbreviations:
 AVS - acid volatile sulfide
 mg/kg - milligram per kilogram
 SEM - simultaneously extracted metal
 NC - not calculated due to sulfide concentrations below detection limit

Table 4
High Resolution Investigation Analytical Data Summary – Mineralogy
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia



		Location	SB-14	SB-14
		Sample ID	SB-14-S (17-19)	SB-14-S (22-24)
		Lab Sample ID	MAR4524-1	MAR4524-2
		Depth (feet)	17-19	22-24
		Sample Date	2/28/2021	2/28/2021
		Units	(% wt)	(% wt)
Mineral	Formula			
Quartz	SiO ₂		78.8	87.9
Plagioclase	(NaSi,CaAl)AlSi ₂ O ₈		5.9	4.4
Potassium-feldspar	KAlSi ₃ O ₈		3.9	3.0
Pyrite	FeS ₂		0.9	0.2
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄		3.6	0.7
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂		4.4	1.5
Actinolite	Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH) ₂		1.8	1.5
Diopside	CaMgSi ₂ O ₆		0.4	0.4
Epidote	Ca ₂ (Al,Fe)Al ₂ O(SiO ₄)(Si ₂ O ₇)(OH)		0.2	0.3

Notes:

1. Samples were evaluated with X-ray Diffraction (XRD)

Acronyms and Abbreviations:

% wt - percent by weight

Table 5
High Resolution Investigation Analytical Data Summary – Sequential Selective Extraction
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia



		Location	SB-14		SB-14	
		Sample ID	SB-14-S (17-19)		SB-14-S (22-24)	
		Depth (feet)	17-19		22-24	
		Sample Date	2/28/2021		2/28/2021	
<i>Sequential Extraction</i>	<i>Target Fraction</i>	<i>Unit</i>				
Percent Solids		%	70.6		80.2	
			Arsenic	Iron	Arsenic	Iron
Step 1	Non-specifically sorbed arsenic and iron (MgCl ₂ -extractable)	mg/kg	2.2	370.0	1.14	51
Step 2	Specifically sorbed arsenic and extracted iron (phosphate-extractable)	mg/kg	0.9	773.0	0.9	808
Step 3	Arsenic associated with poorly crystalline iron oxides, iron sulfides or arsenic sulfides (Ascorbate-extractable)	mg/kg	< 1.71	602.0	< 1.52	546
Step 4	Arsenic associated with iron sulfides or arsenic sulfides (HCl-Extractable)	mg/kg	0.4	226.0	< 0.30	197
Step 5	Arsenic associated with more crystalline iron oxides (Residual phase)	mg/kg	0.82	1750	0.57	1360

Notes:

1. < Not detected above method detection limited listed.
2. Sequential procedure steps as presented in Paul et al. 2009.

Acronyms and Abbreviations:

% - percent
HCl - hydrochloric acid
MgCl₂ - magnesium chloride
mg/kg - milligrams per kilogram

Reference:

Paul, C, R.G Ford, and R.T. Wilkins . 2009. Assessing the selectivity of extractant solutions for recovering labile arsenic associated with iron (hydr)oxides and sulfides in sediments. Geoderma. 152. 137-144.

Table 6
Arsenic Speciation Results
Georgia Power Company
Plant McManus Former Ash Pond 1
Brunswick, Georgia

Location		MCM-05	MCM-06	MCM-07	RW-9
Sample Date		4/6/2021	4/6/2021	4/6/2021	4/6/2021
Units					
As(III)	µg/L	<0.400	2.92	<0.400	<0.400
As(V)	µg/L	<0.400	<0.400	<0.400	<0.400
DMAs	µg/L	<0.500	<0.500	<0.500	<0.500
MMAAs	µg/L	<0.400	<0.400	<0.400	<0.400
ThioAs1	µg/L	<0.500	312	9.35	21.6
ThioDMA	µg/L	<0.500	<0.500	<0.500	<0.500
ThioAs3	µg/L	<0.500	6.49	<0.500	<0.500
ThioMMA	µg/L	<0.500	<0.500	<0.500	<0.500

Notes:

< Not detected above method detection limited listed.

Acronyms and Abbreviations:

µg/L - micrograms per liter

As(III) - arsenite

As(V) - arsenate

DMA - dimetholarsonic acid

MMA - monomethylarsonic acid

ThioAs1 - thioarsenical species, sulfur to arsenic ratio of 1

ThioAs3 - thioarsenical species, sulfur to arsenic ratio of 3

ThioDMA- thioarsenical species generated from DMA

ThioMMA- thioarsenical species generated from MMA

Table 7
Supplementary Data Collection
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 Laboratory Performing Analysis
Ongoing collection of groundwater and surface water samples	MNA	<ul style="list-style-type: none"> Characterize concentration trends overtime for plume stability analysis (MNA evaluation Tier I). 	<ul style="list-style-type: none"> Ongoing collection of groundwater samples 	<ul style="list-style-type: none"> Arsenic and routine monitoring analytes. 	Pace Analytical
Bench Scale Testing	PRB, In Situ	<ul style="list-style-type: none"> In Situ- Test potential amendments to evaluate effectiveness versus potential for distribution and longevity. PRB- Evaluate potential media options for effectiveness, capacity, and potential for fouling. 	<ul style="list-style-type: none"> Soil and water collection for bench scale studies. 	<ul style="list-style-type: none"> Total and dissolved As, Ca, Fe, Al, Mg, Alkalinity, sulfate/sulfide, TOC, As speciation, ORP, Appendix IV constituents 	Arcadis Treatability Lab

Technologies:

In Situ In Situ Geochemical Manipulation (In Situ Injections)
MNA Monitored Natural Attenuation
PRB Permeable Reactive Barrier

Acronyms and Abbreviations:

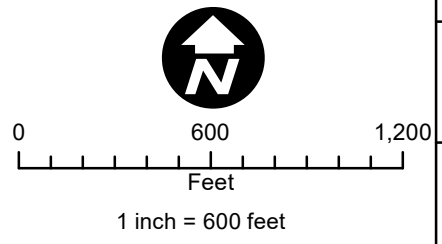
As arsenic
Al aluminum
Ca calcium
Fe iron
Mg magnesium
ORP Oxidation-Reduction Potential
TOC Total Organic Carbon

FIGURES

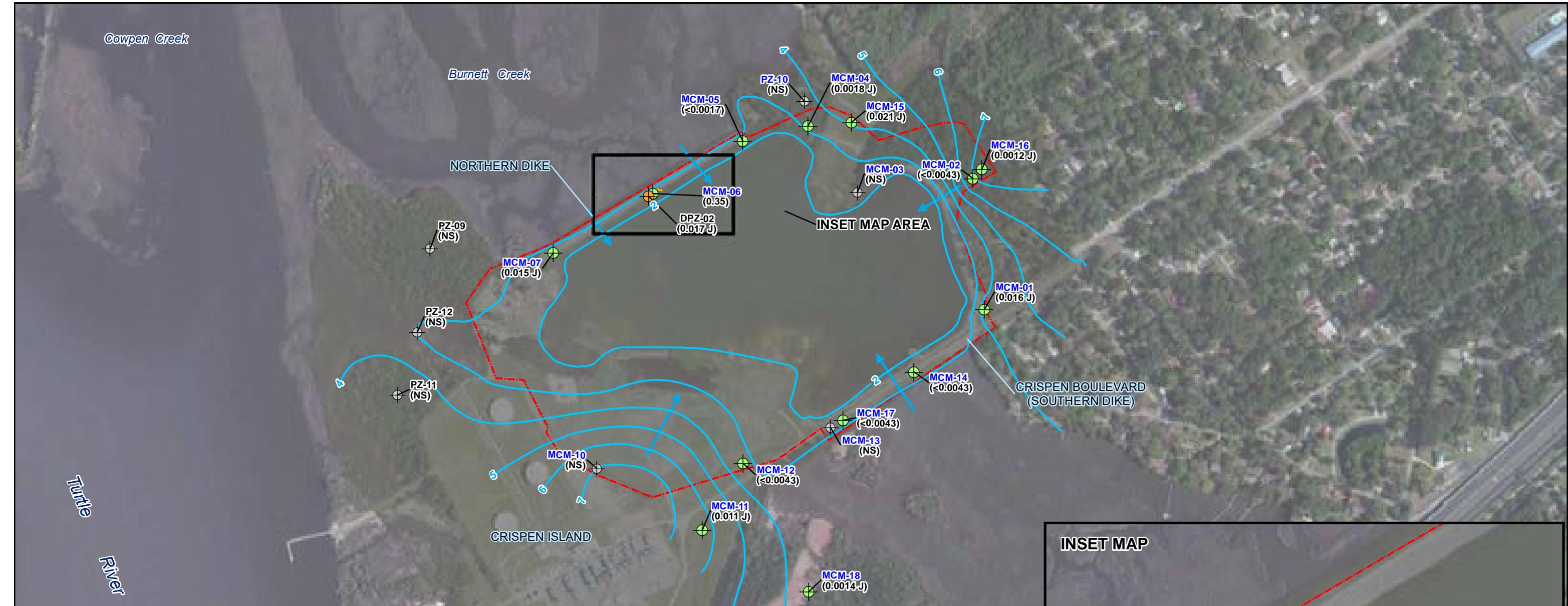




- Legend**
- PROPERTY BOUNDARY
 - - - PERMITTED CCR BOUNDARY
 - COMPLIANCE MONITORING WELL
 - DELINEATION WELL

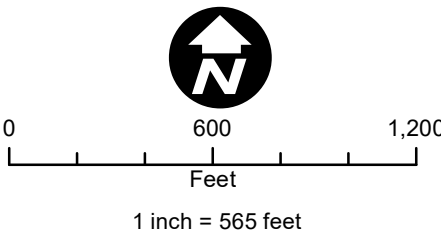


GEORGIA POWER PLANT MCMANUS FORMER ASH POND 1 BRUNSWICK, GEORGIA	
SITE MAP AND COMPLIANCE MONITORING WELL NETWORK	
	FIGURE 1



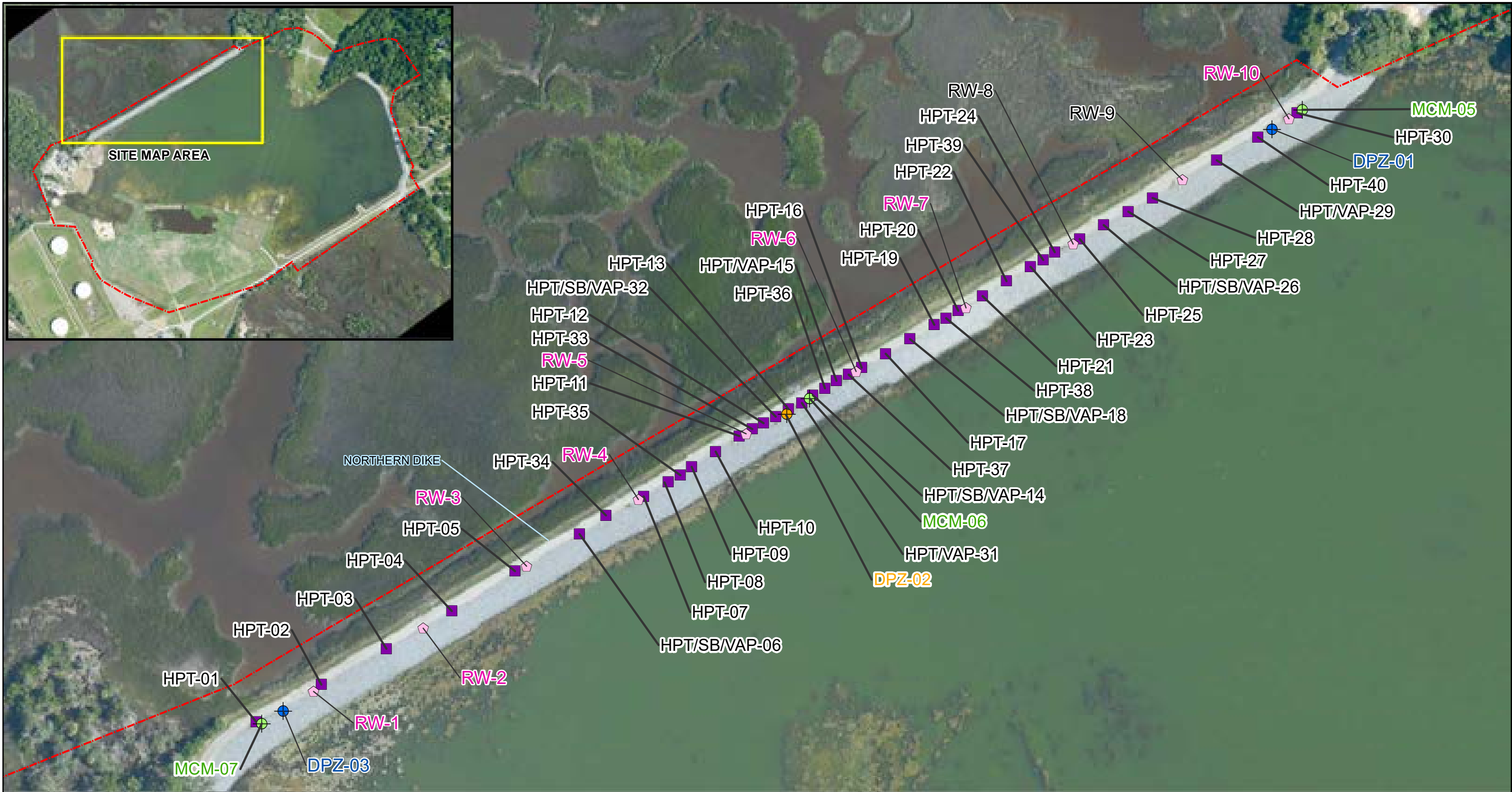
NOTES:
 BLUE LABELS INDICATE WELL WAS USED FOR GROUNDWATER ELEVATION CONTOURING.
 BLACK LABELS ARE ARSENIC CONCENTRATIONS.
 DATA SHOWN FROM GROUNDWATER SAMPLING EVENT CONDUCTED MARCH 2-3, 2021.
 ISOCONTOUR DASHED WHERE APPROXIMATE.
 CONCENTRATIONS REPORTED IN MILLIGRAMS PER LITER (MG/L).
 DELINEATION WELL DATA ARE NOT USED IN ISOCONTOUR DEVELOPMENT.
 NS = NOT SAMPLED.
 ND = NOT DETECTED.
 GREYED LOCATIONS WERE NOT SAMPLED DURING MARCH 2021 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.
 GROUNDWATER CONTOURS BASED ON INTERPRETATION PRESENTED IN
 2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 (RESOLUTE, 2021B).

- LEGEND**
- PERMITTED CCR BOUNDARY
 - COMPLIANCE MONITORING WELL
 - ⊕ PIEZOMETER
 - DELINEATION WELL
 - ARSENIC ISOCONCENTRATION LINE
DASHED WHERE INFERRED
 - MARCH 2021 HIGH TIDE
GROUNDWATER CONTOURS
 - DIRECTION OF GROUNDWATER FLOW



GEORGIA POWER PLANT MCMANUS FORMER ASH POND 1 BRUNSWICK, GEORGIA	
ISOCONCENTRATION MAP ARSENIC MARCH 2021	
	FIGURE 2

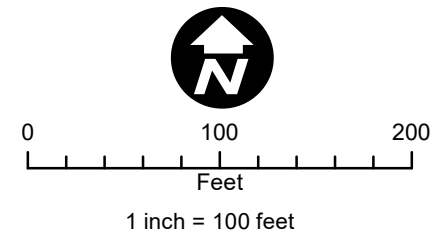
2021 MCMANUS FORMER ASH POND 1 SEMIANNUAL REMEDY SELECTION AND DESIGN PROGRESS REPORT



Legend

- DATA COLLECTION POINT (HPT/VAP/SB)
- ⊕ COMPLIANCE MONITORING WELL
- ⊕ DEEP PIEZOMETER
- ⊕ DELINEATION WELL
- ◇ DEWATERING WELLS
- PERMITTED CCR BOUNDARY

NOTE:
HPT - HYDRAULIC PROFILING TOOL
VAP - VERTICAL AQUIFER PROFILE
SB - SOIL BORING



GEORGIA POWER
PLANT MCMANUS FORMER ASH POND 1
BRUNSWICK, GEORGIA

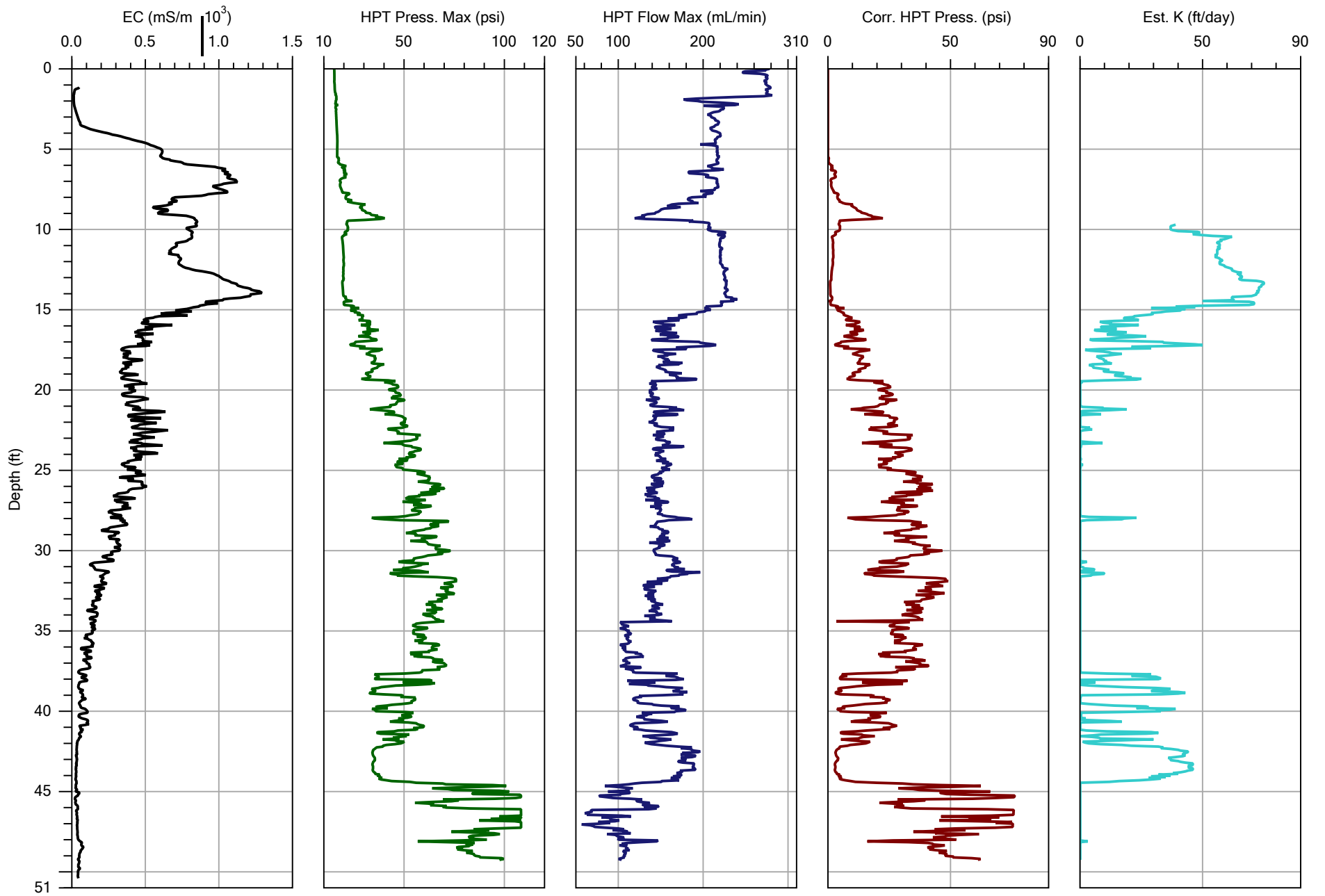
HIGH-RESOLUTION INVESTIGATION LOCATIONS



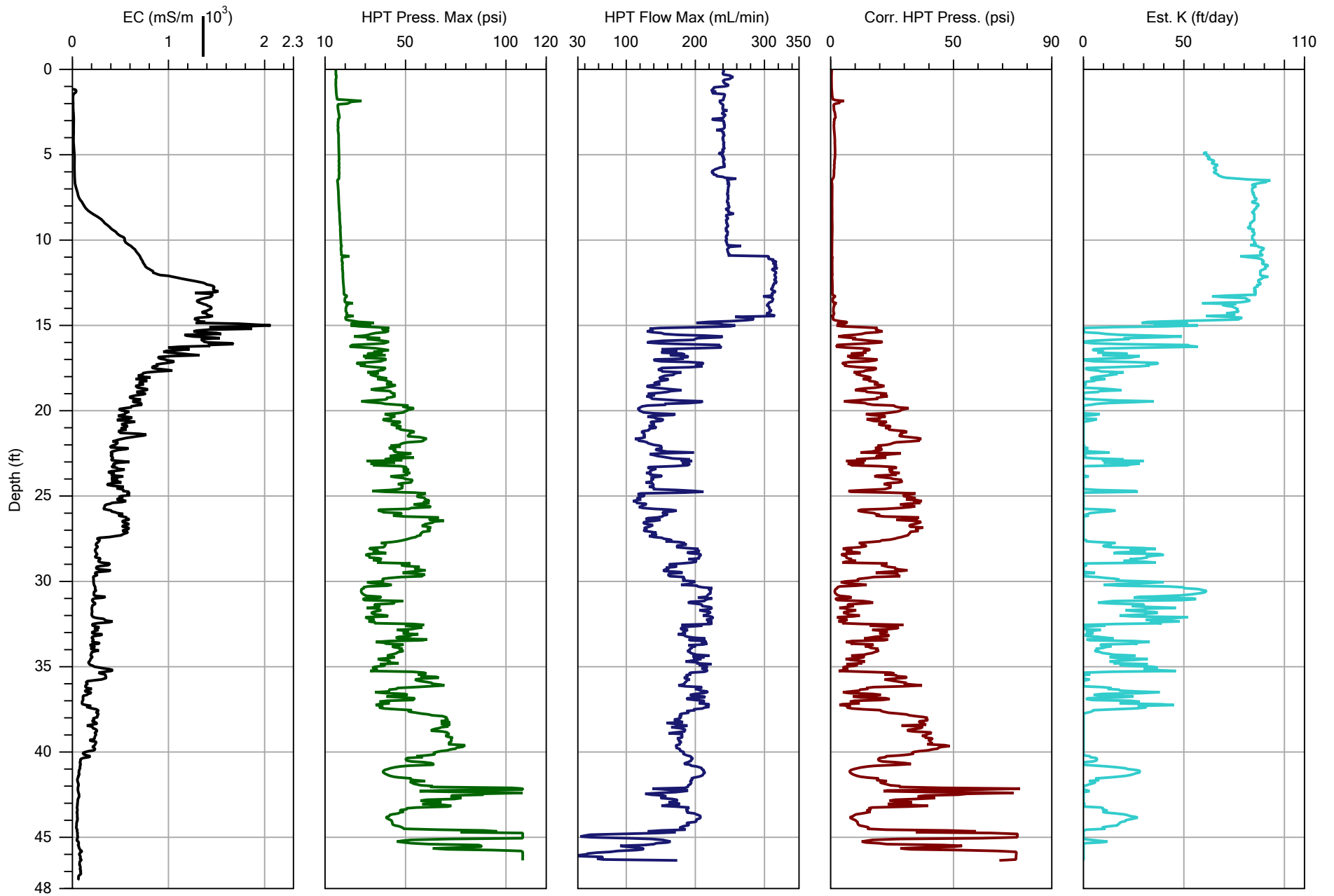
ATTACHMENT 1

Hydraulic Profiling Tool Logs

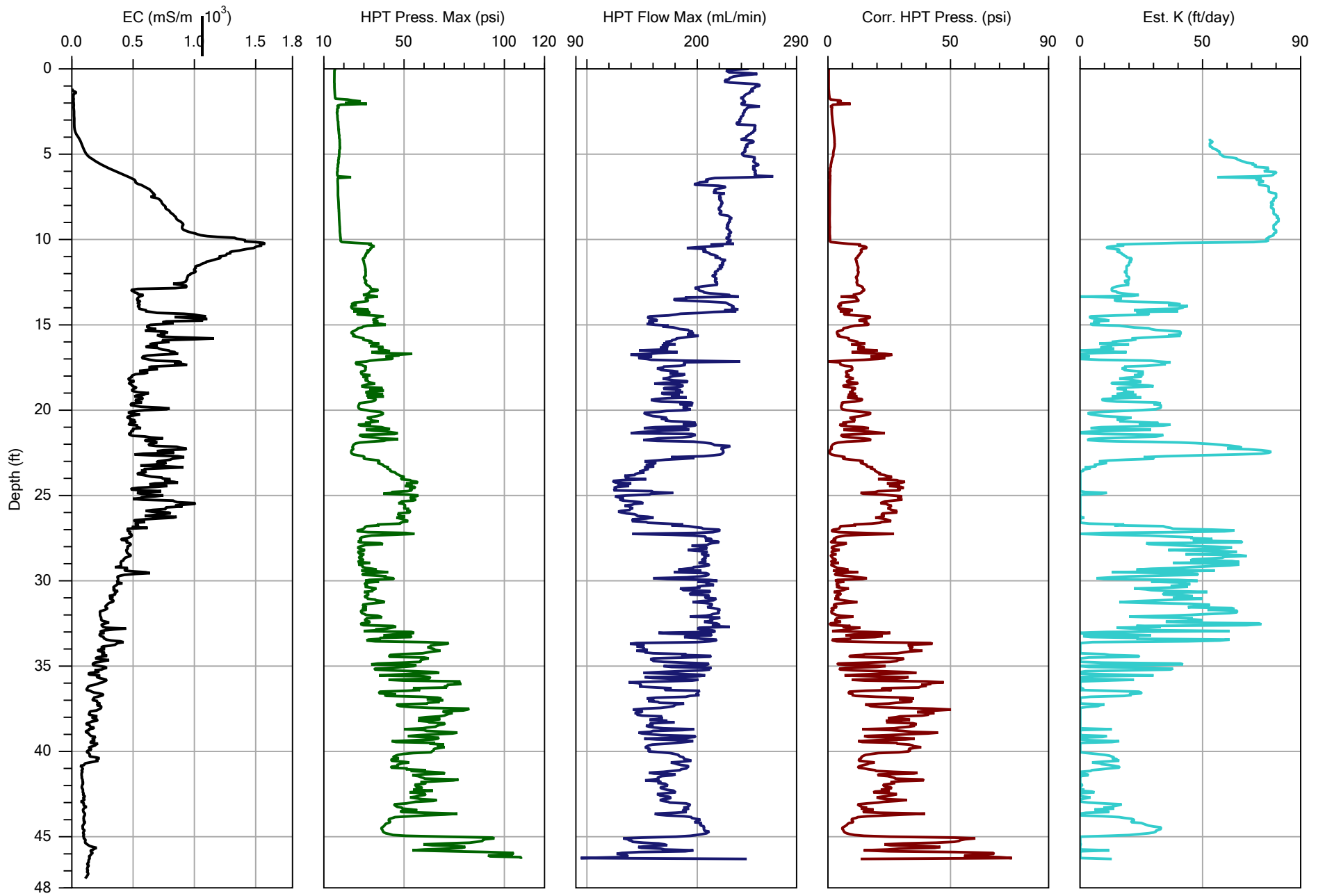




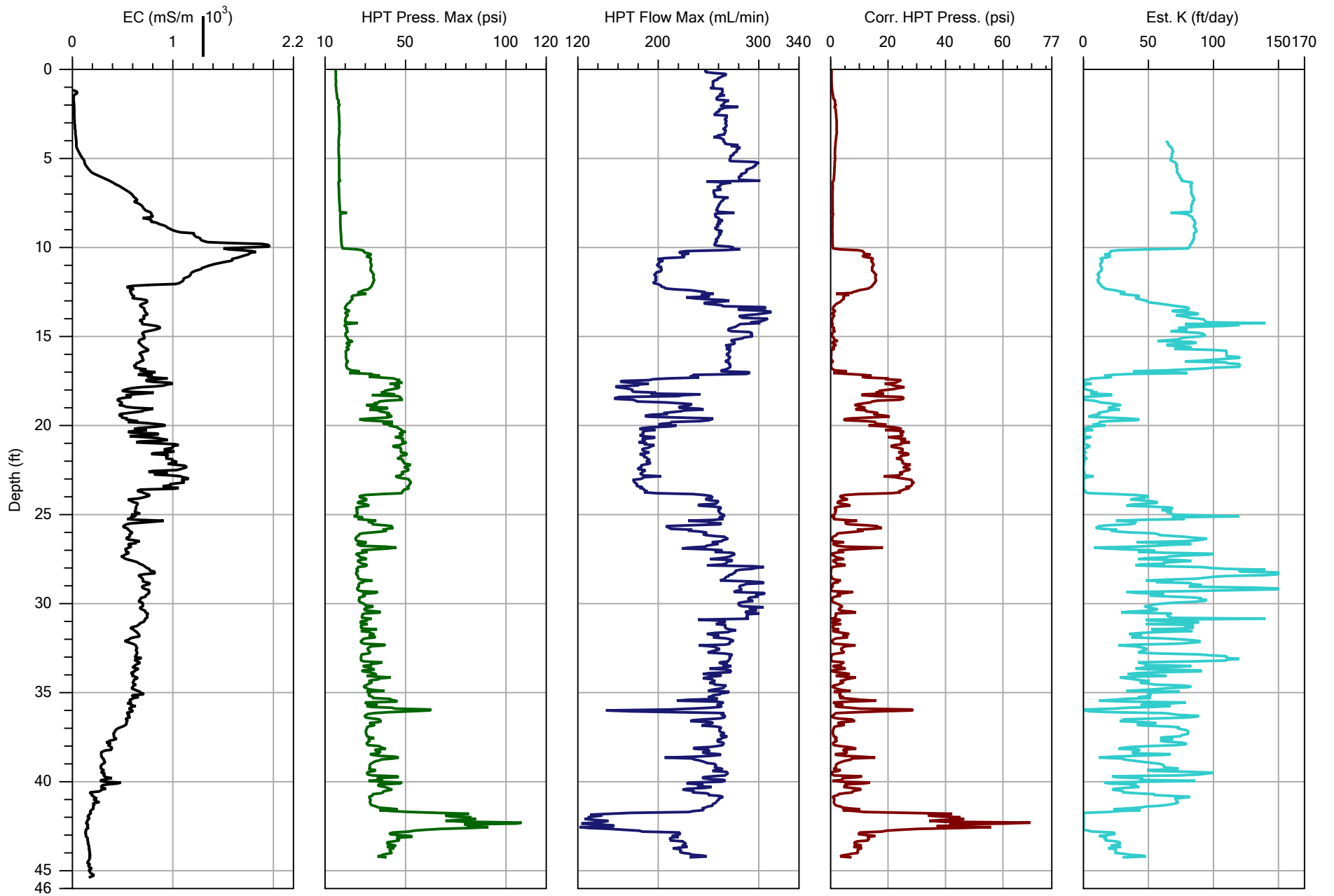
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Project ID:	206-21-1006	Client:	Arcadis	Date:	02/09/21
				Location:	Brunswick, GA



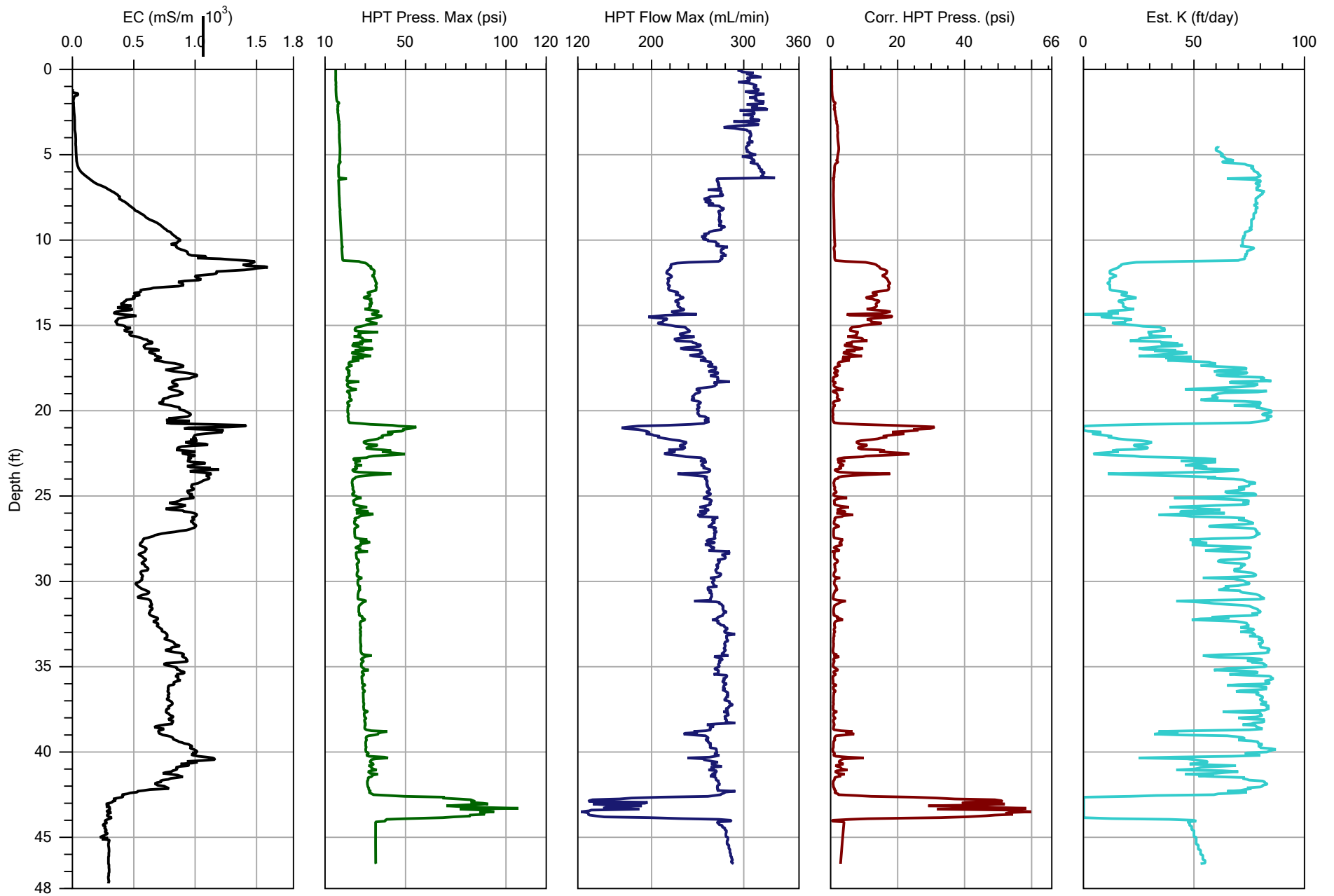
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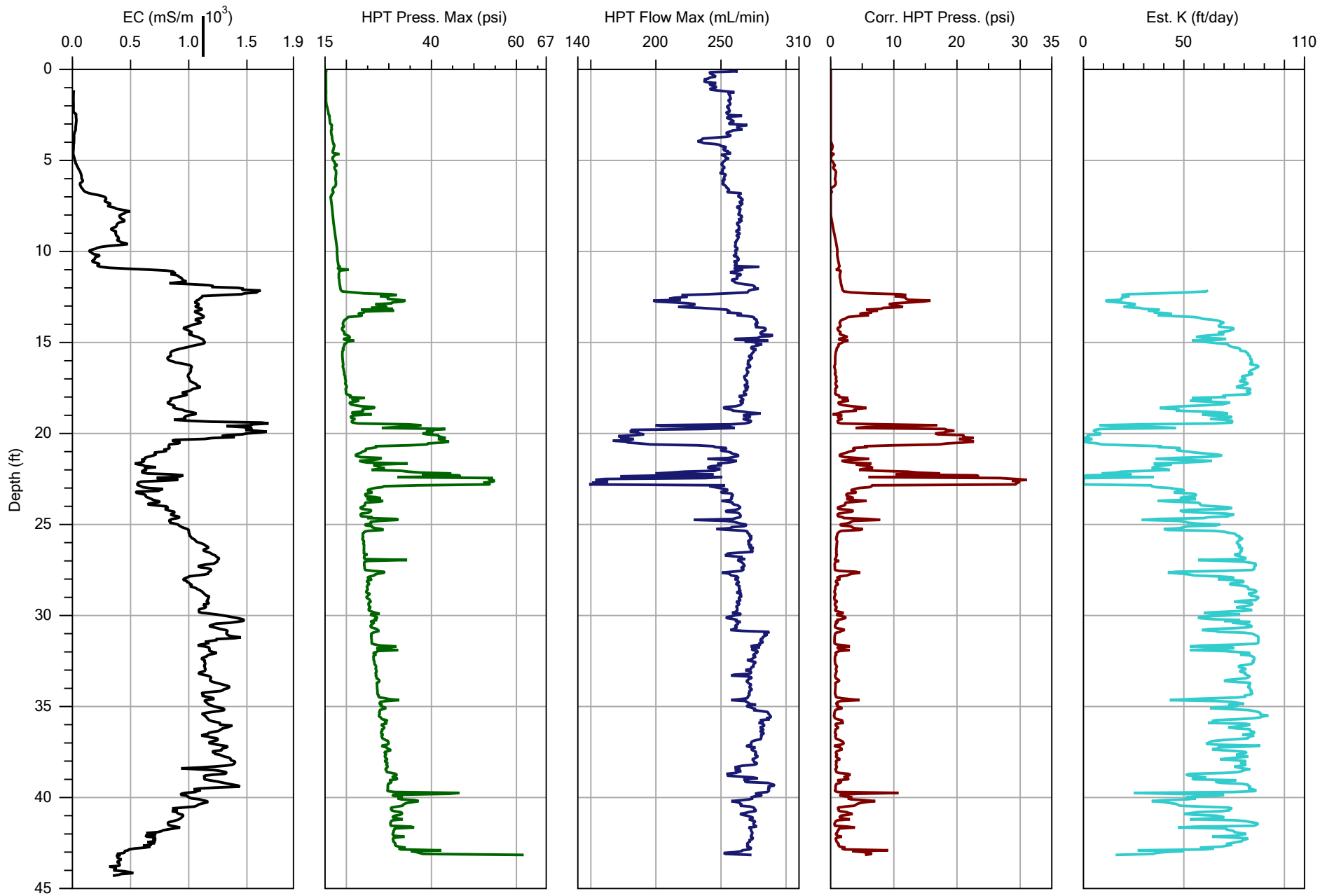
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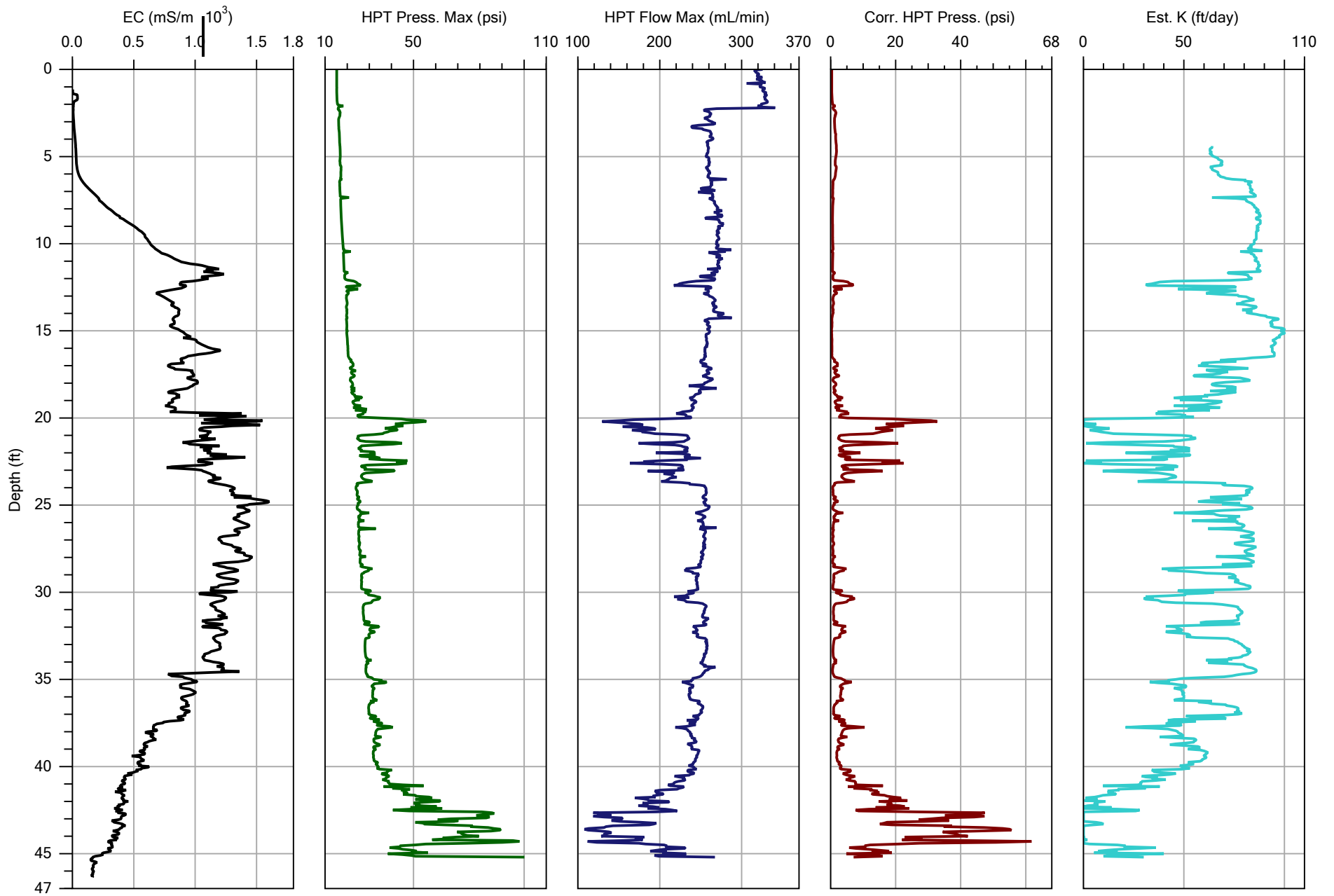
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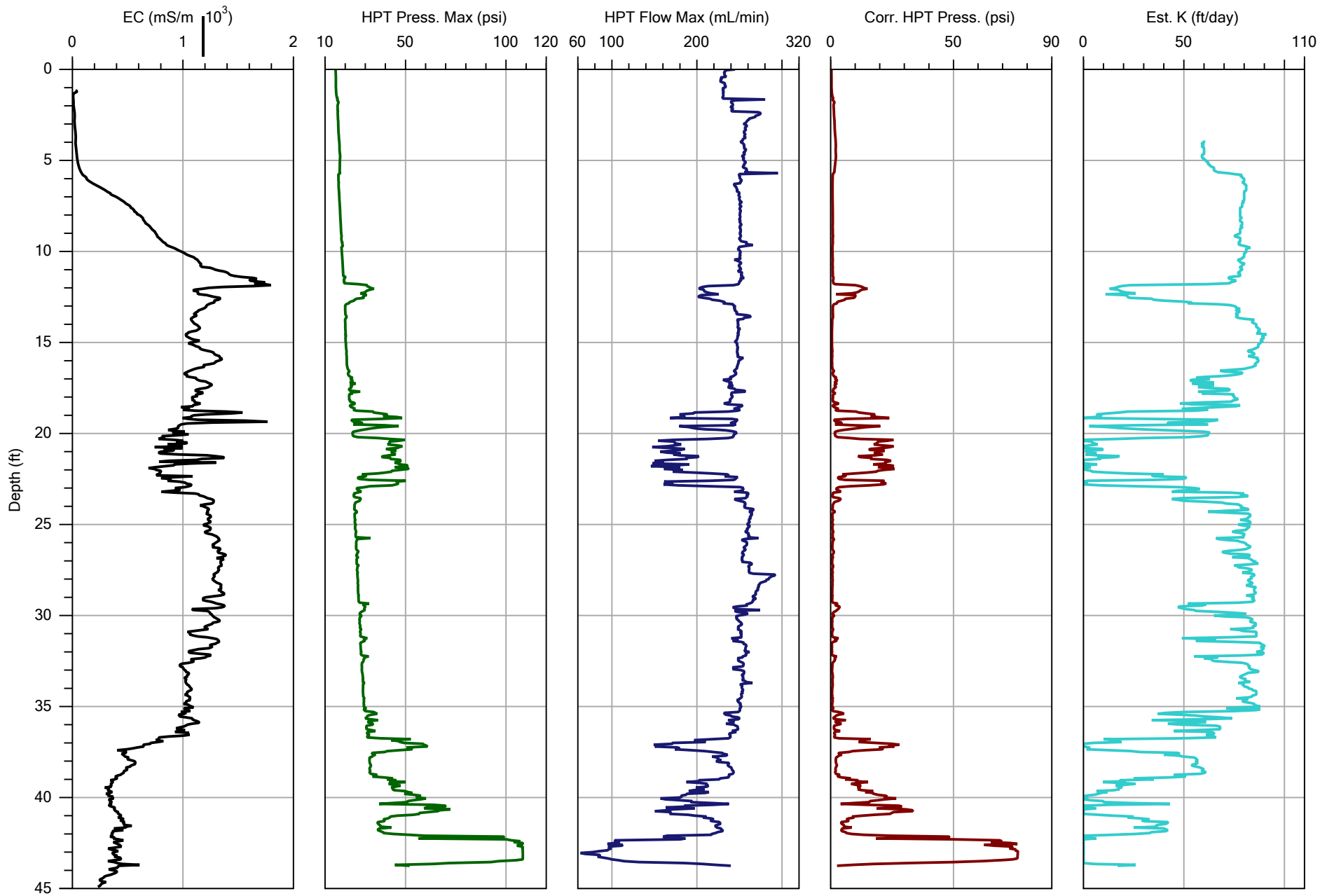
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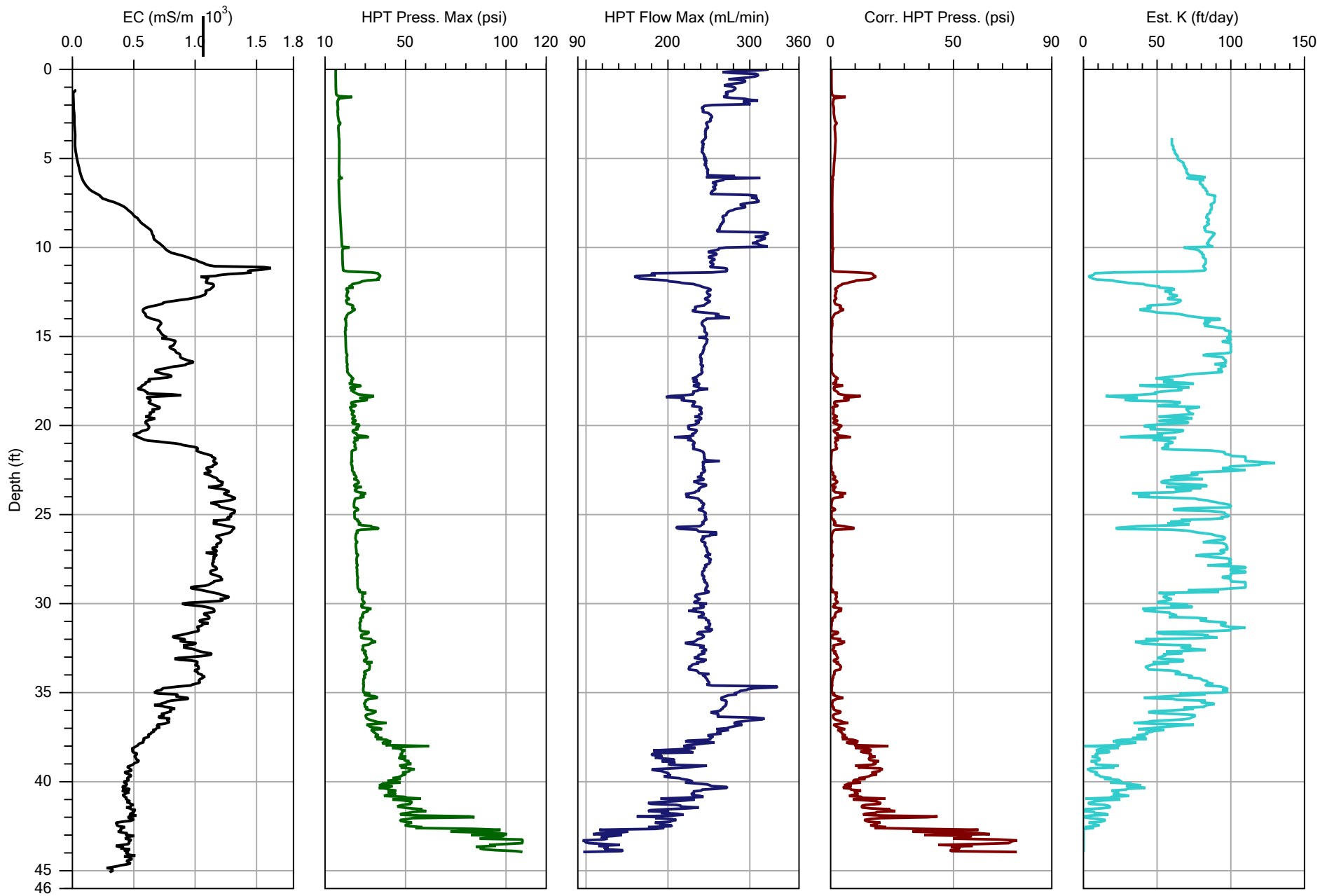
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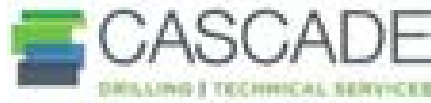
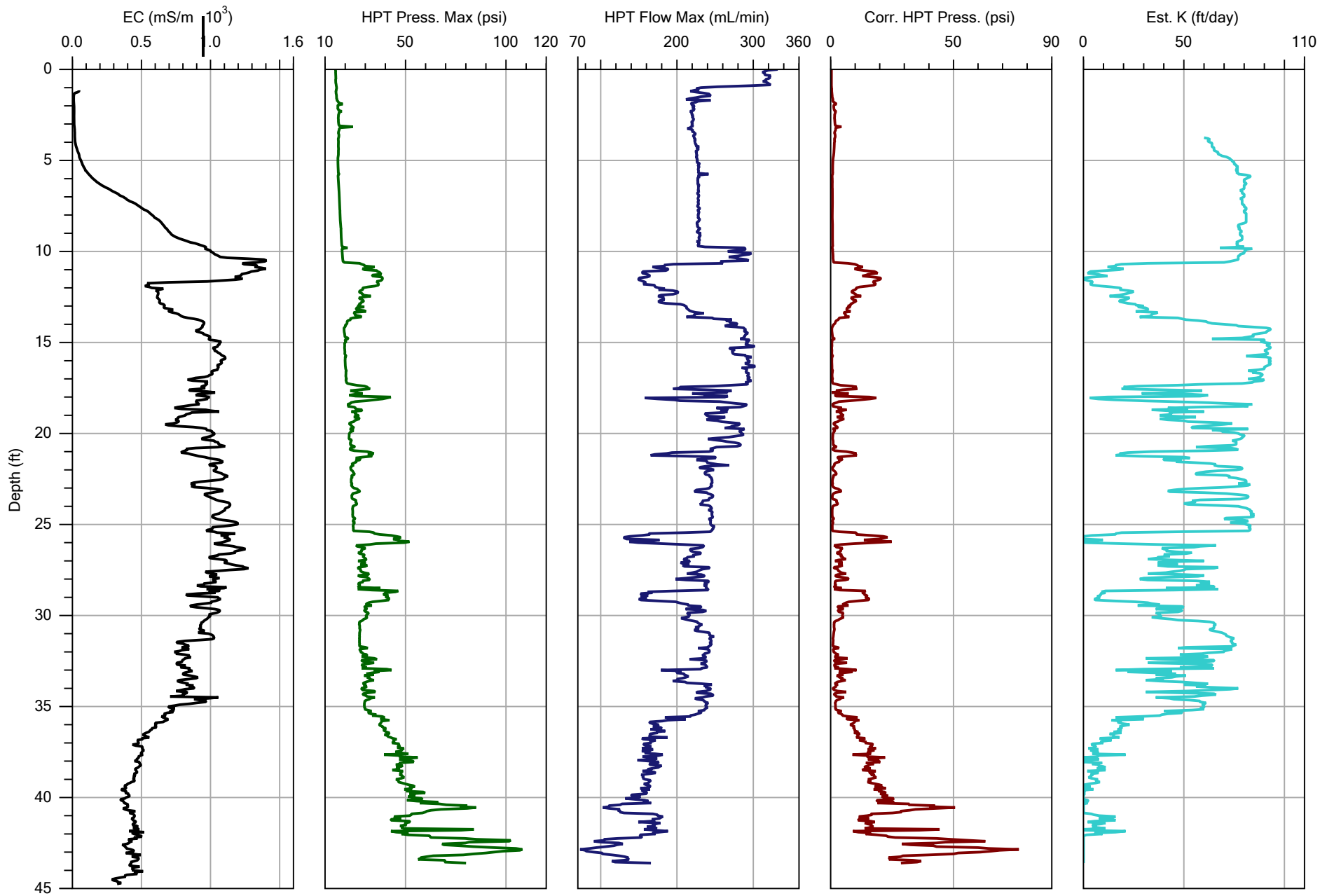
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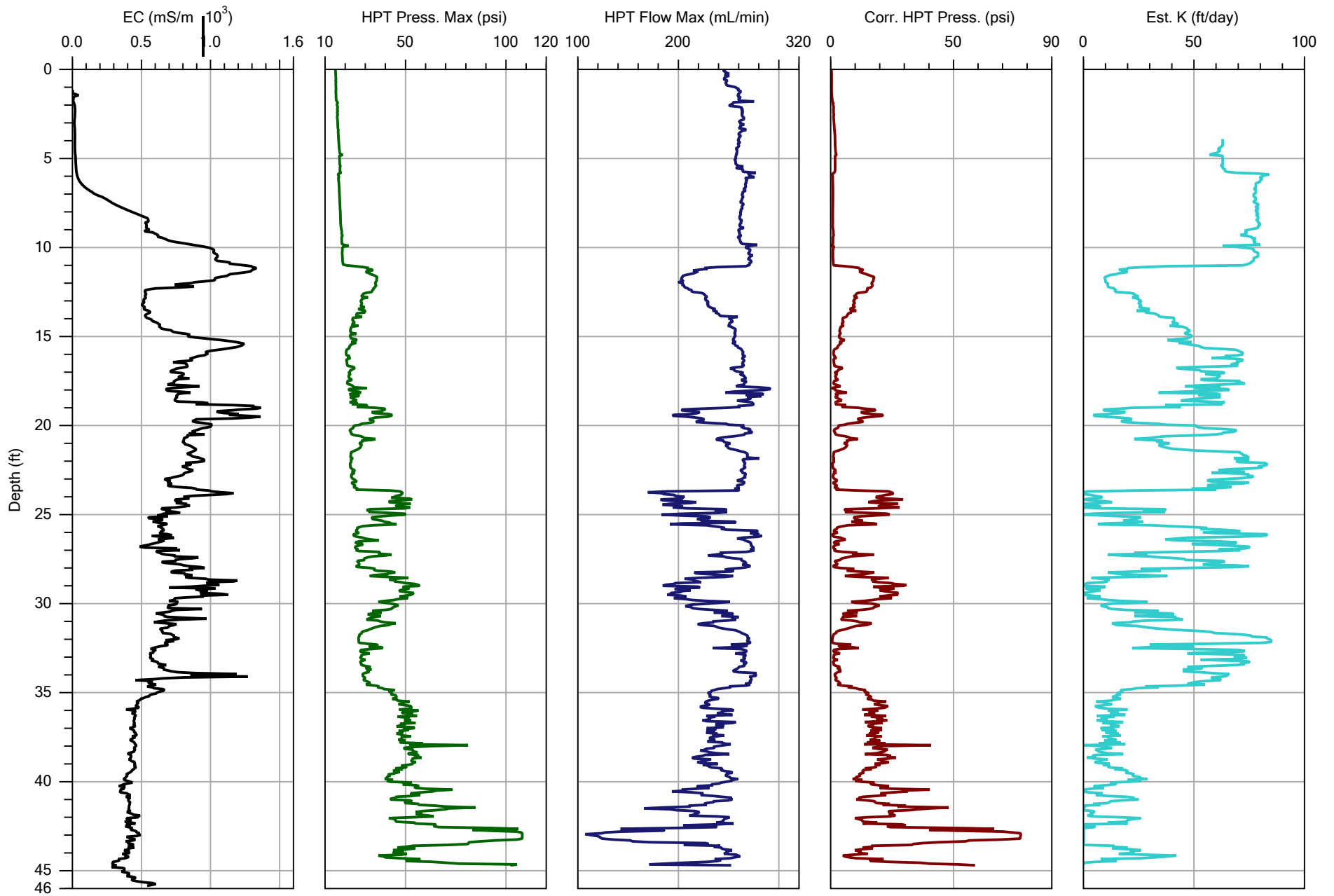
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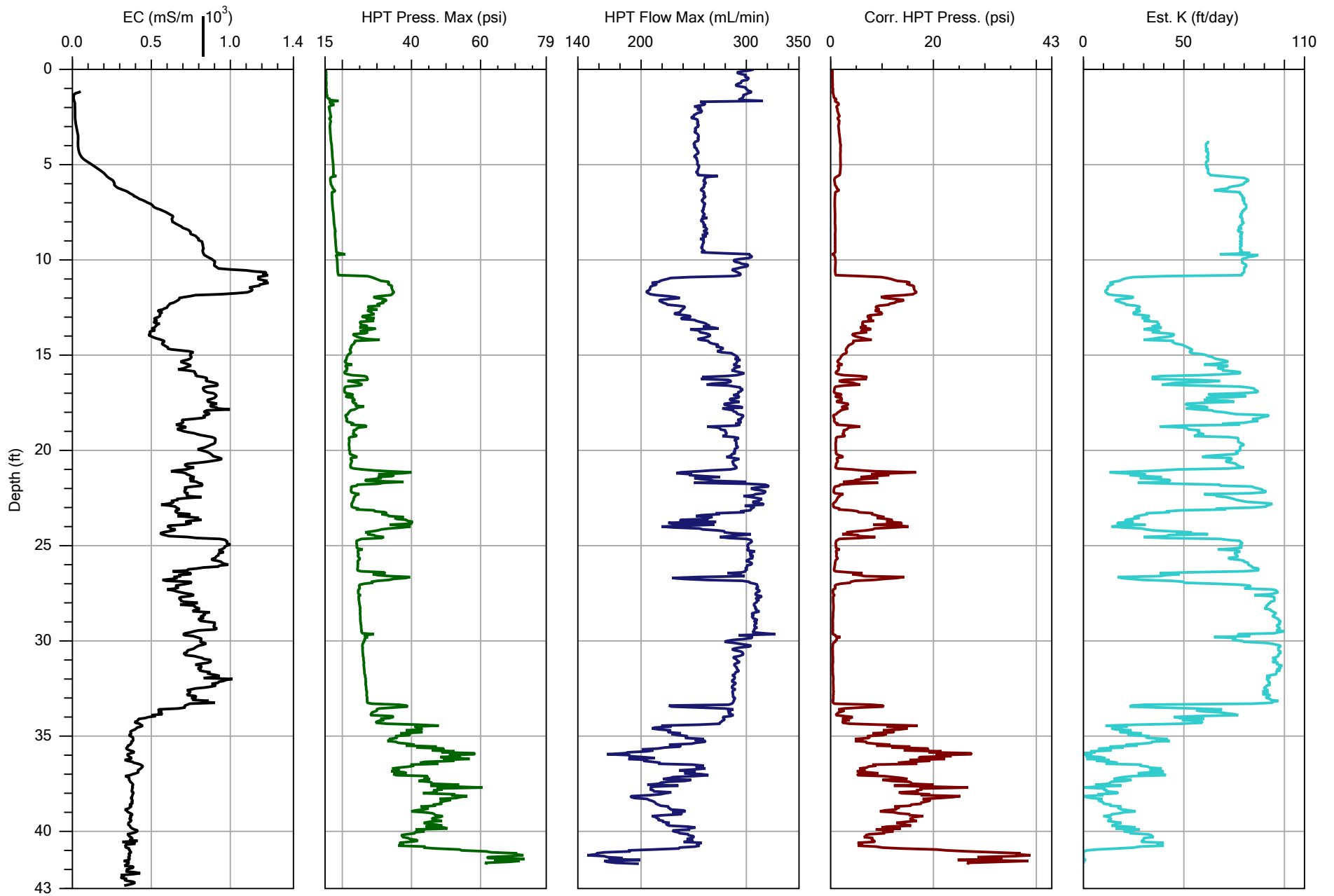
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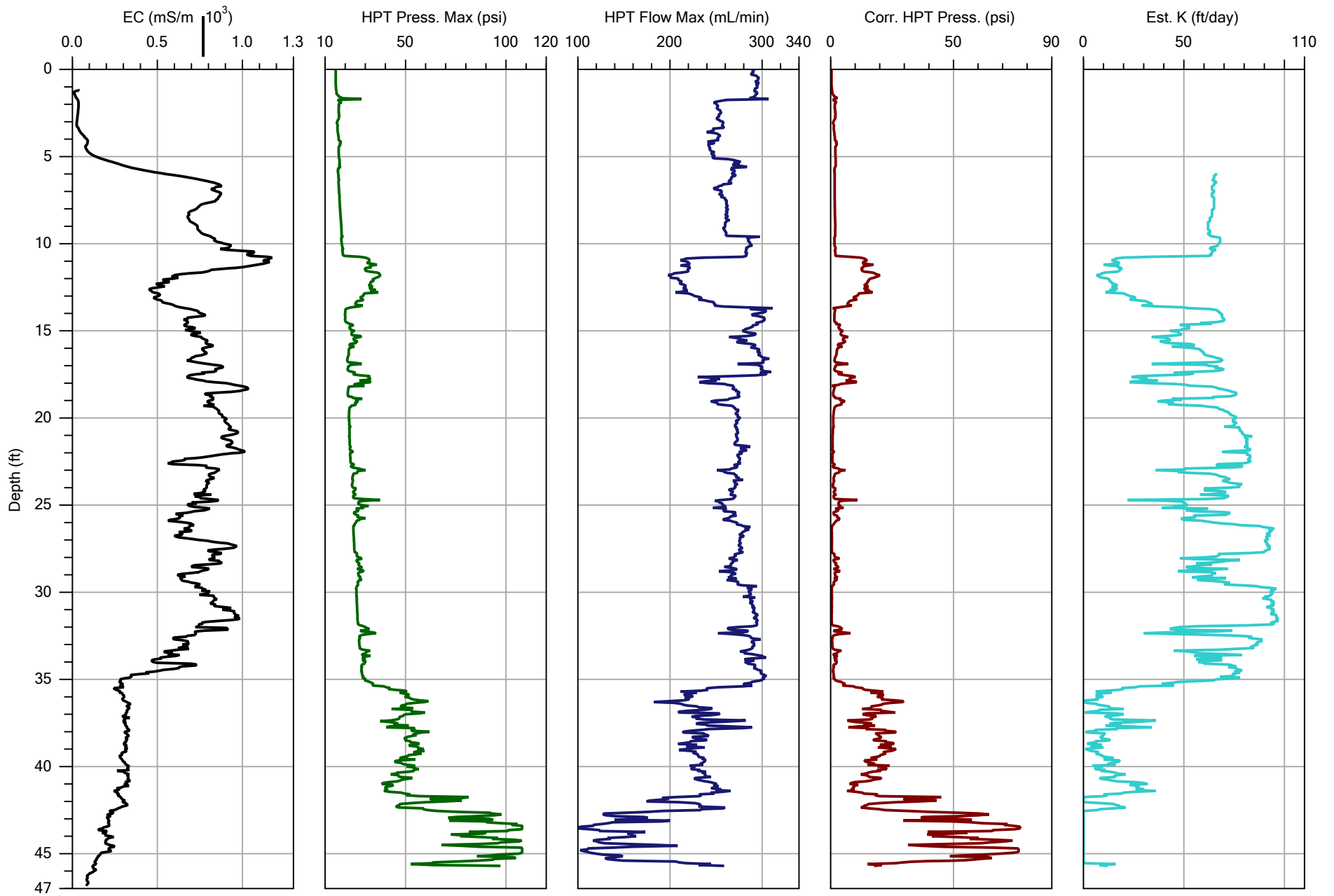
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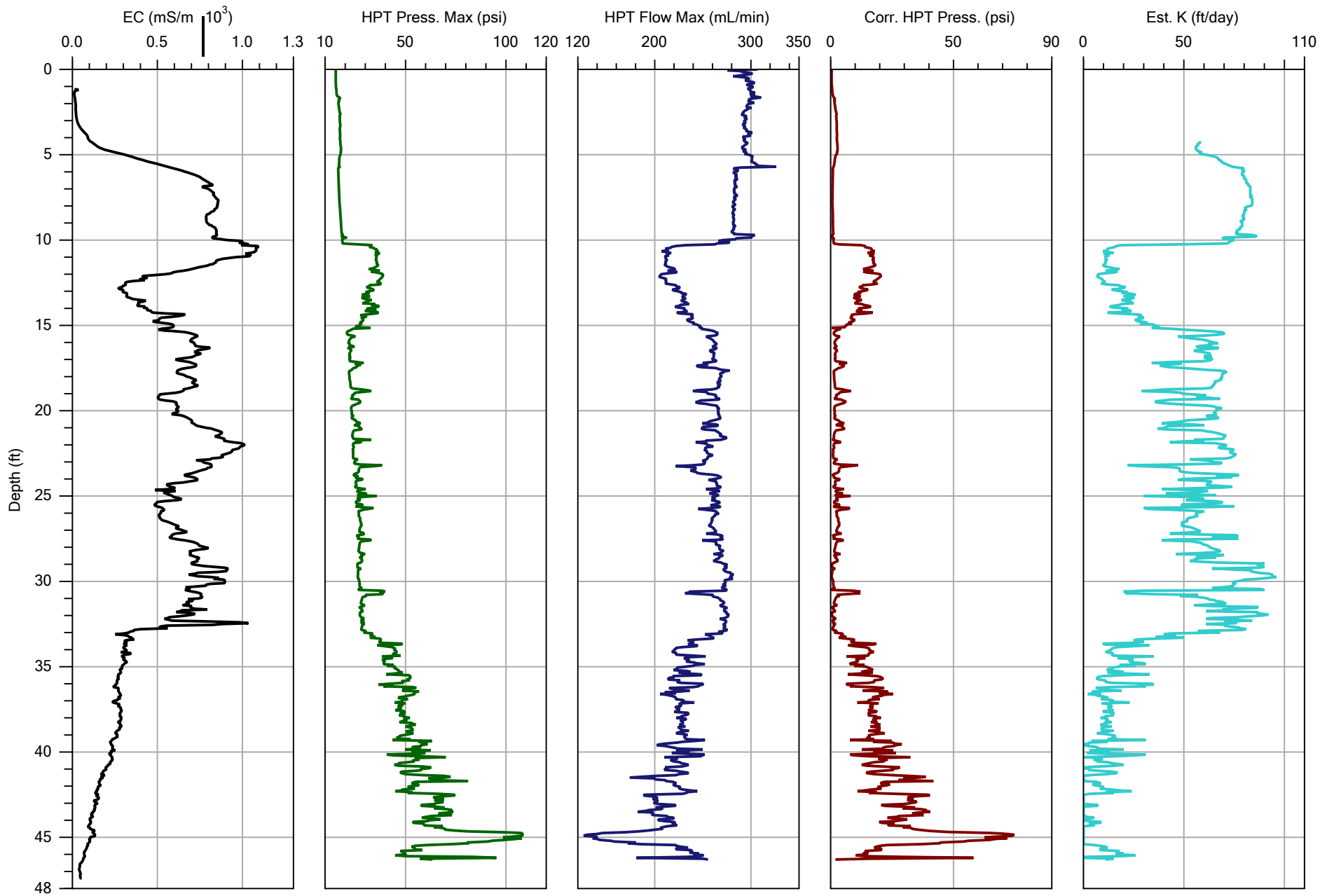
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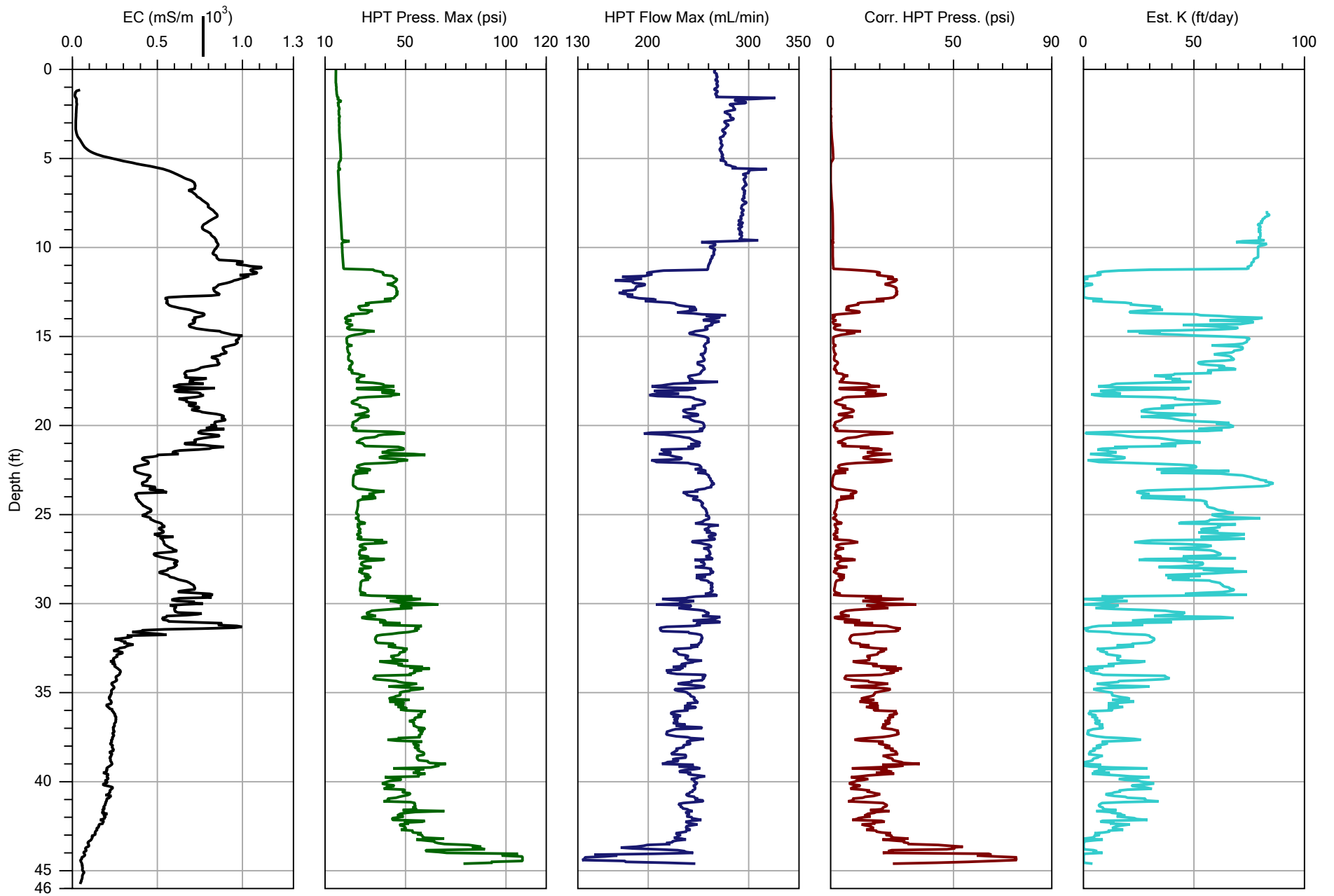
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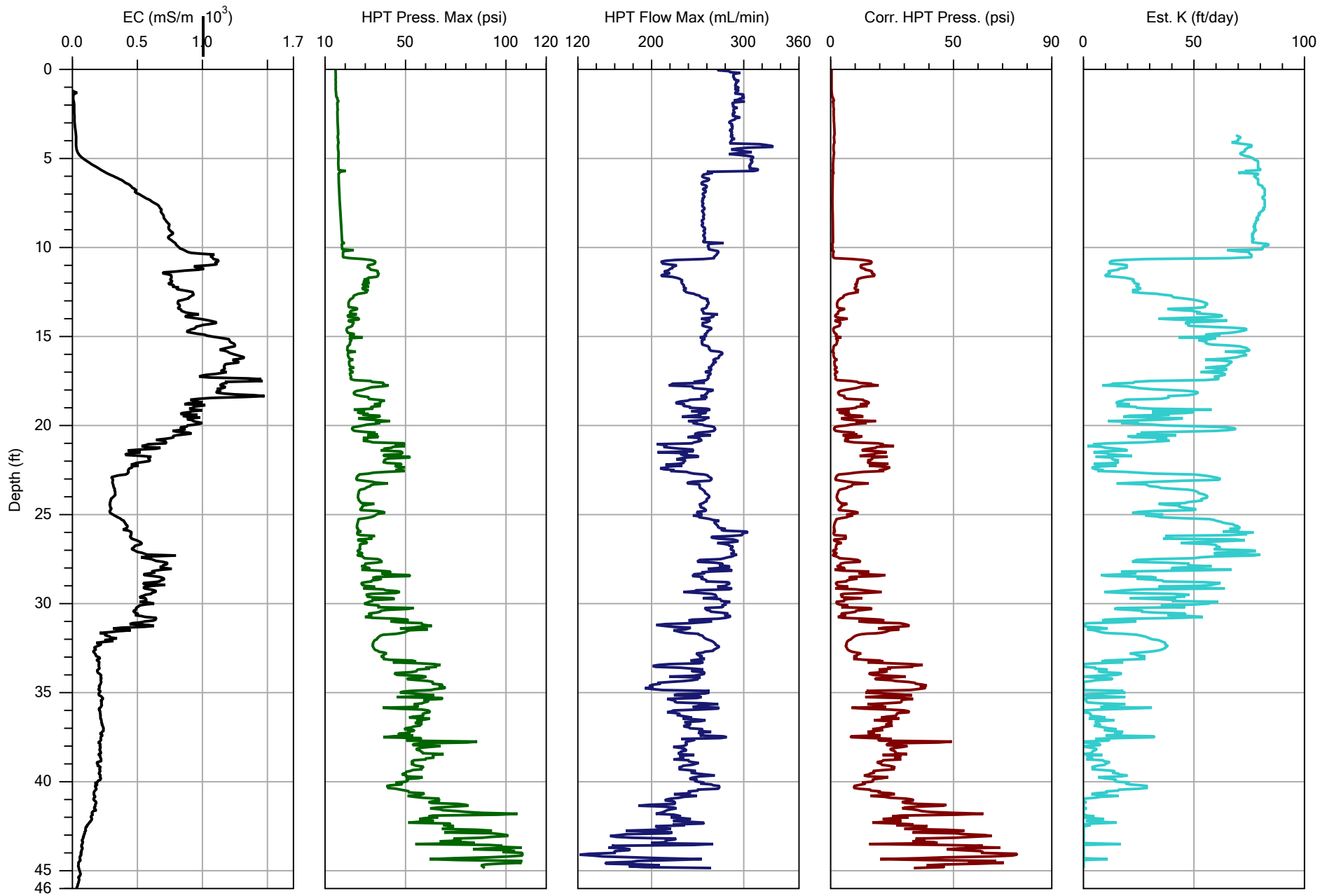
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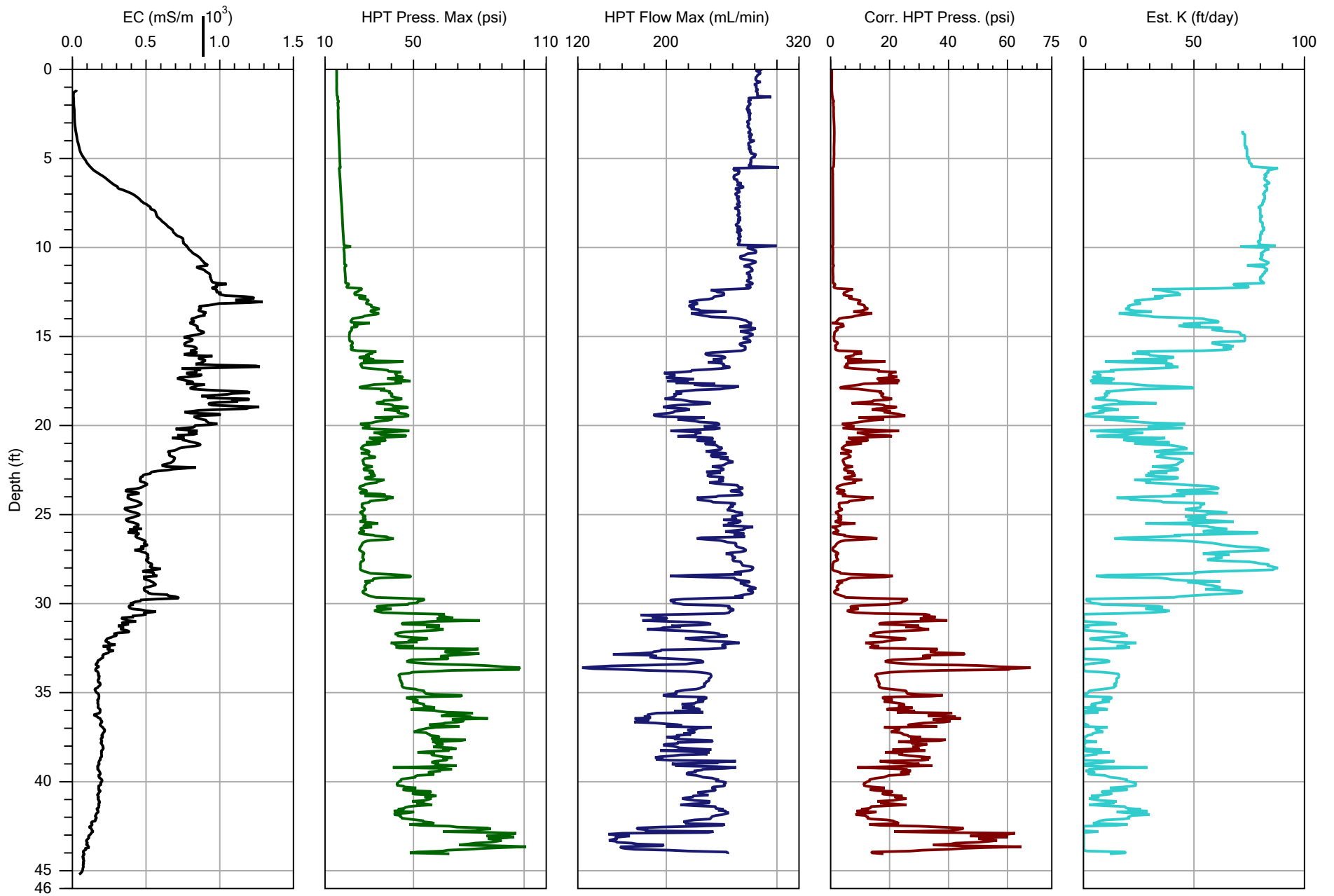
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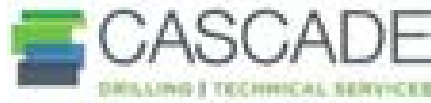
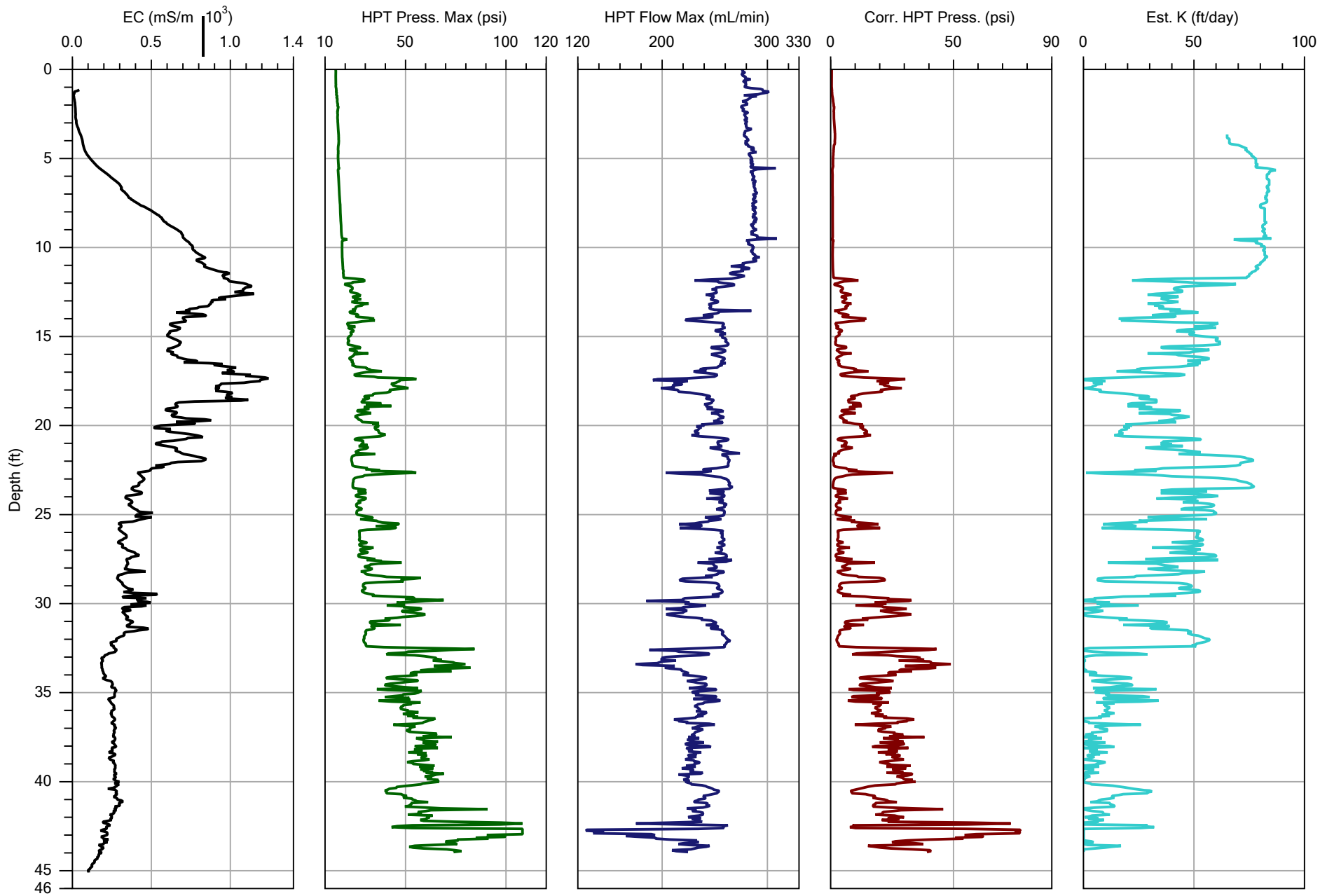
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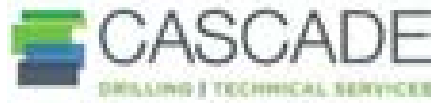
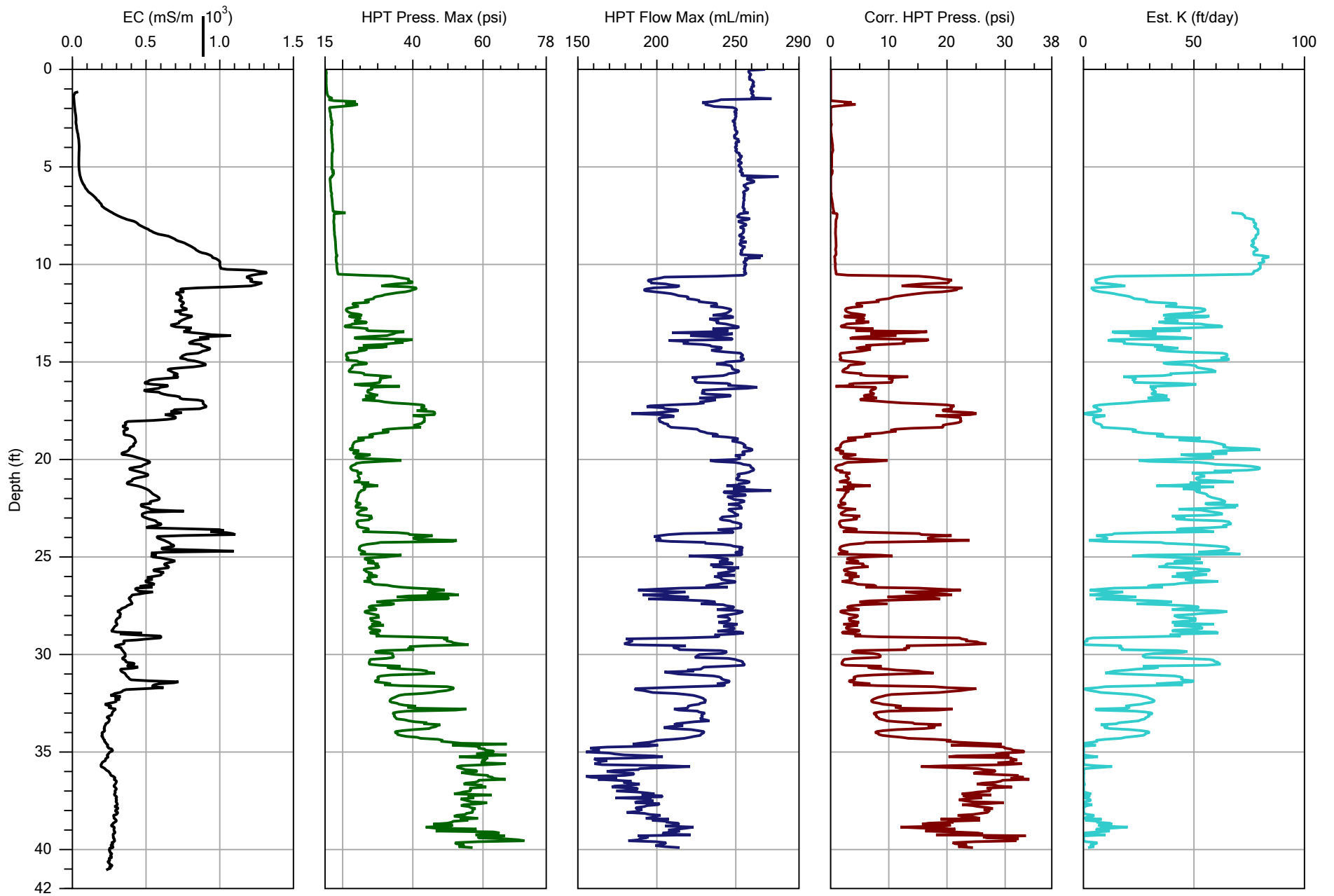
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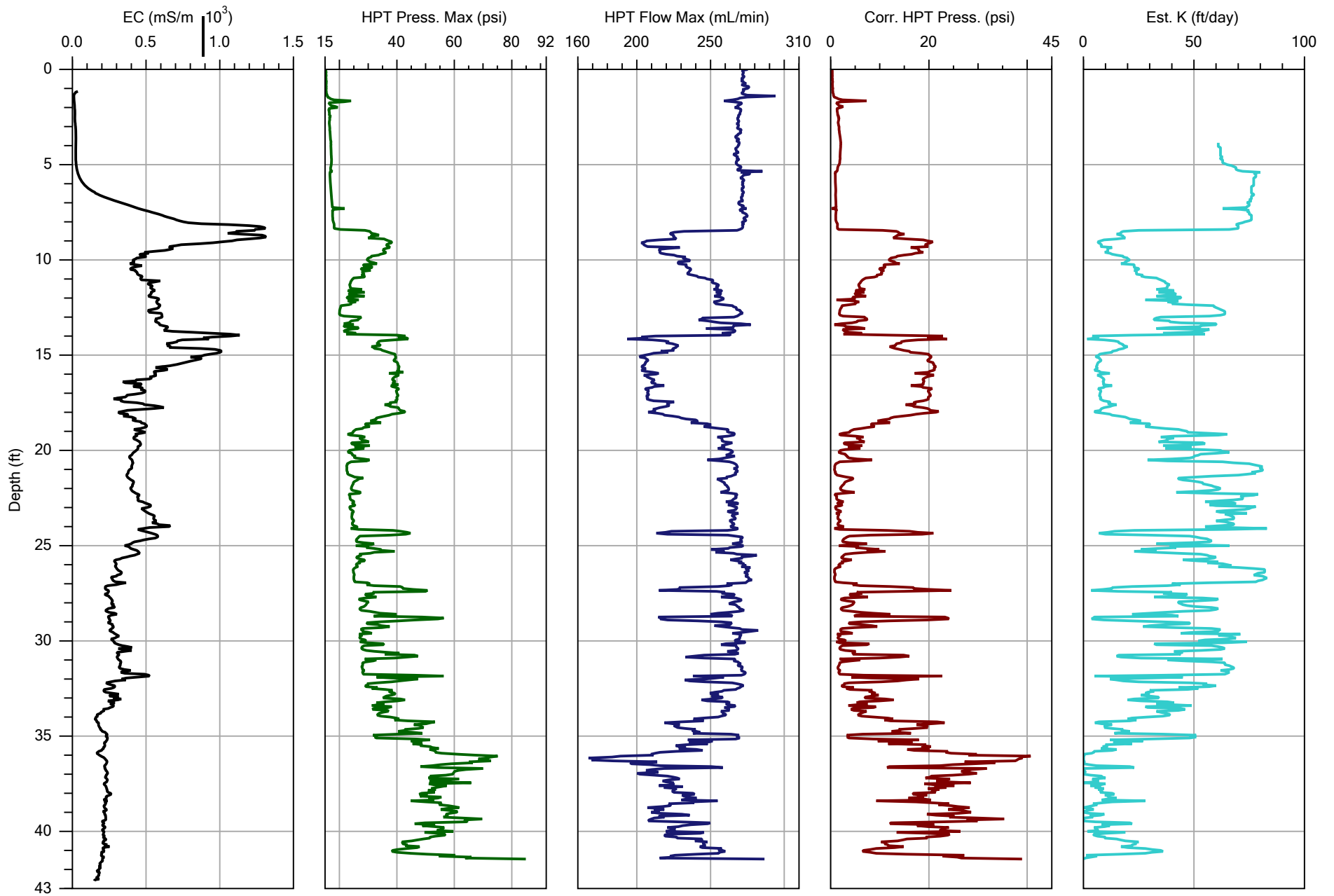
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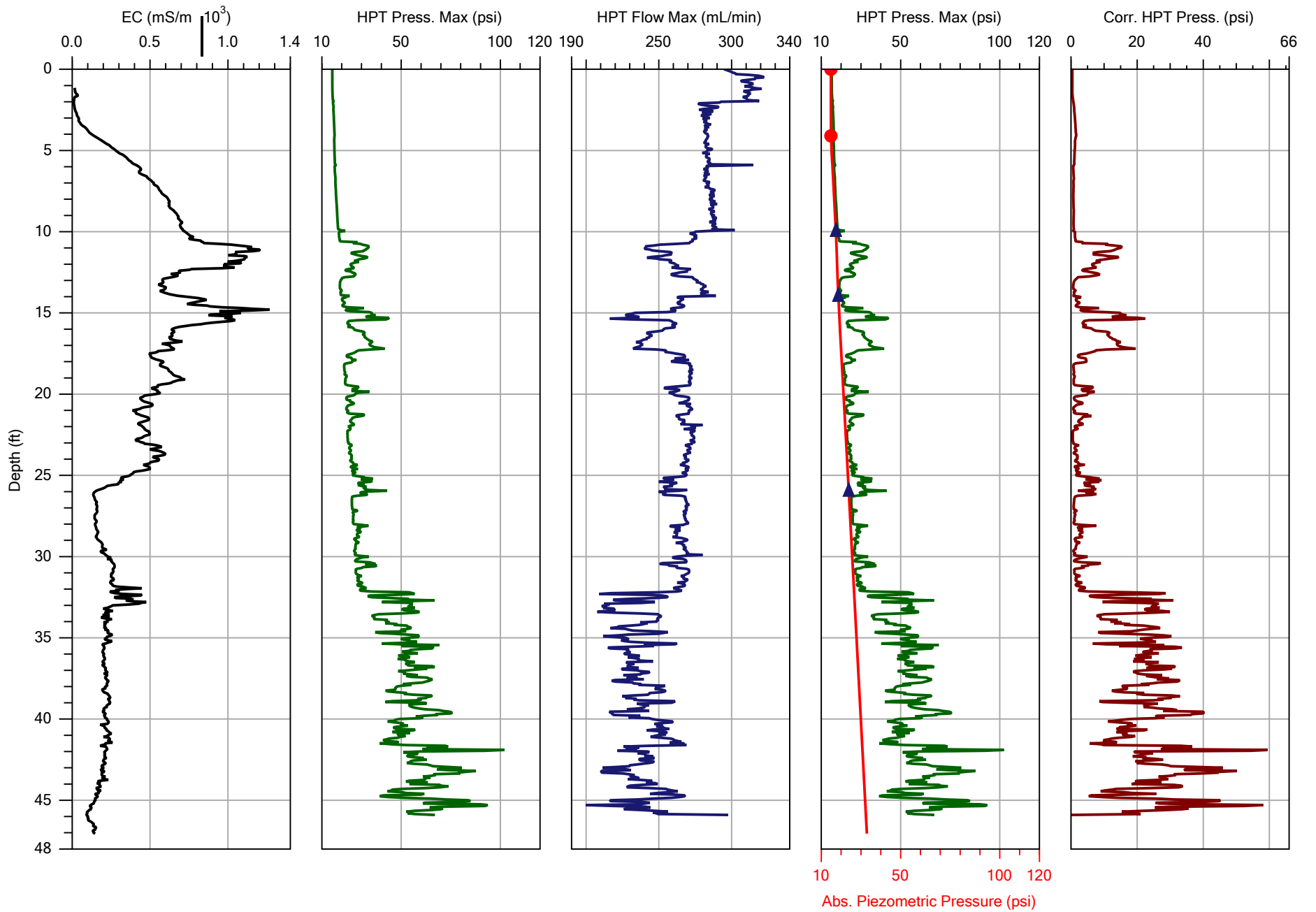
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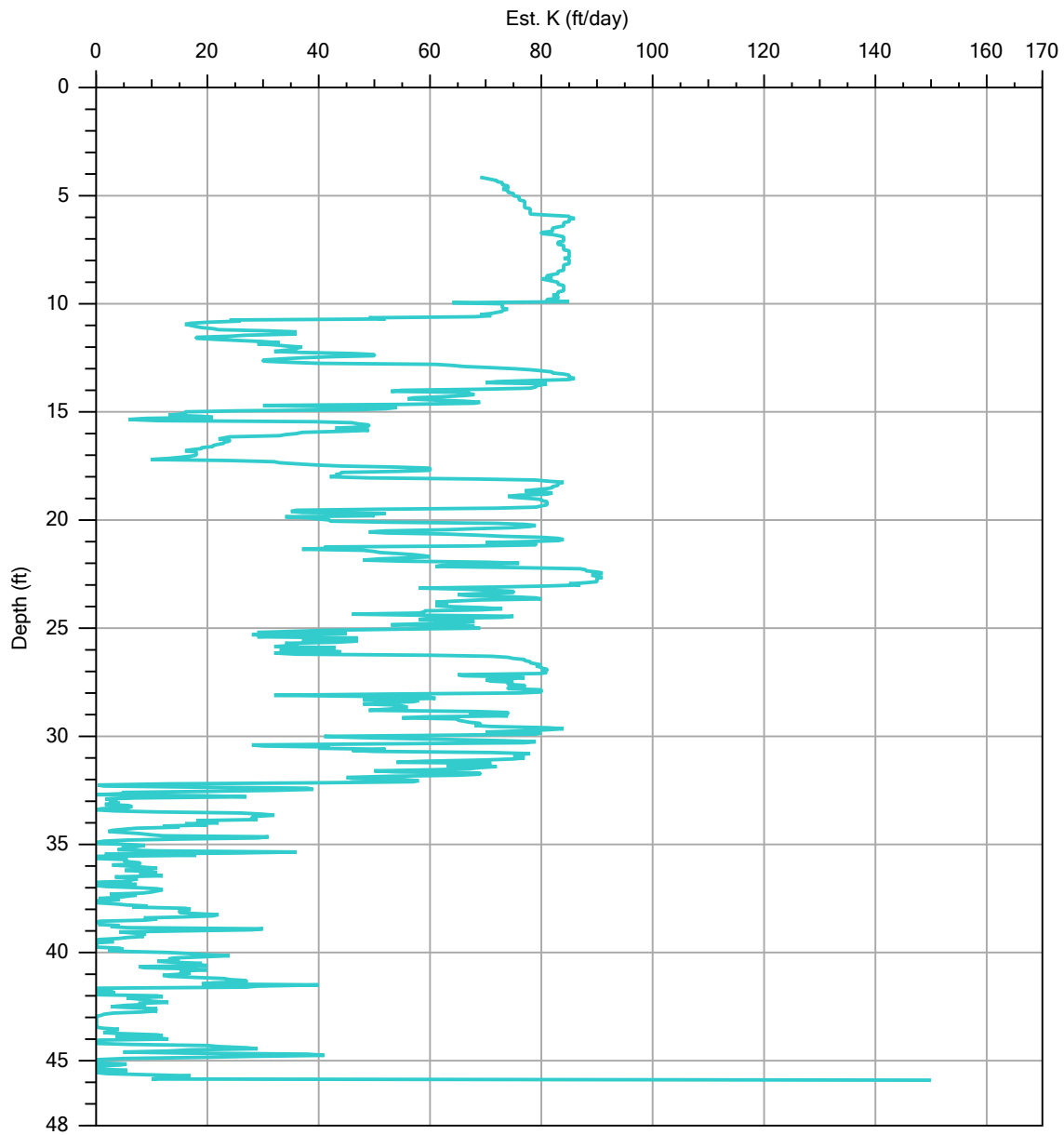
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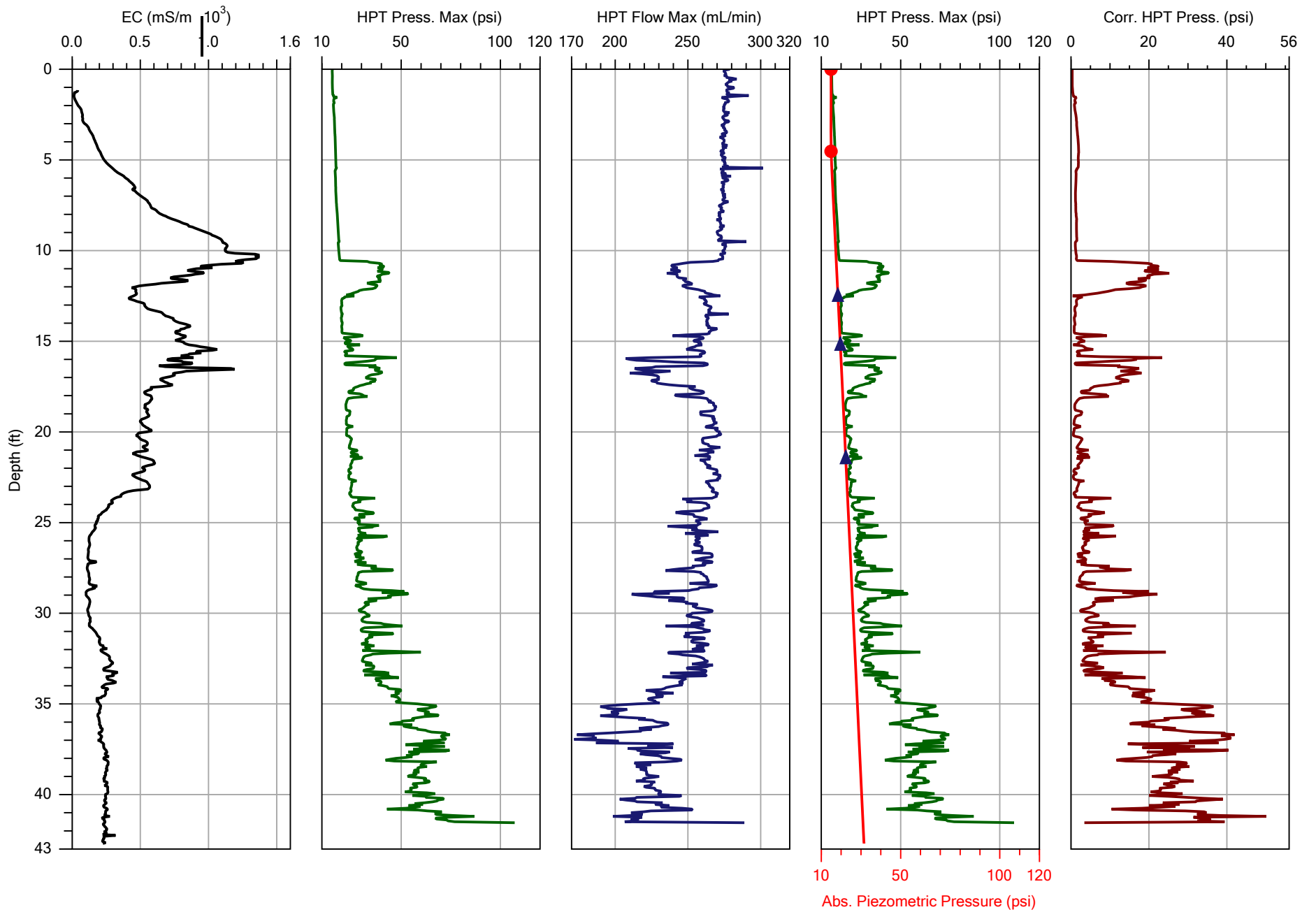
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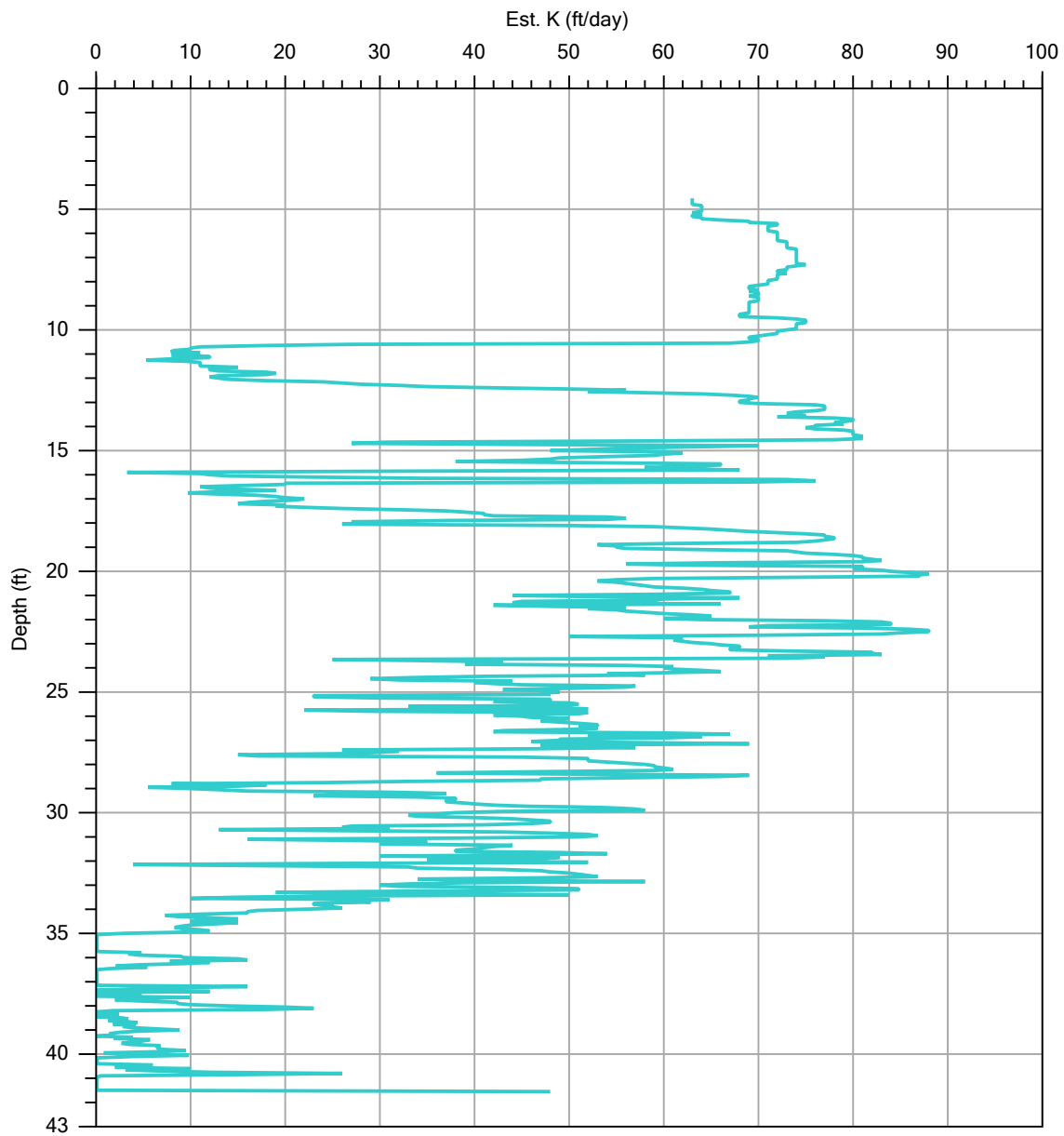
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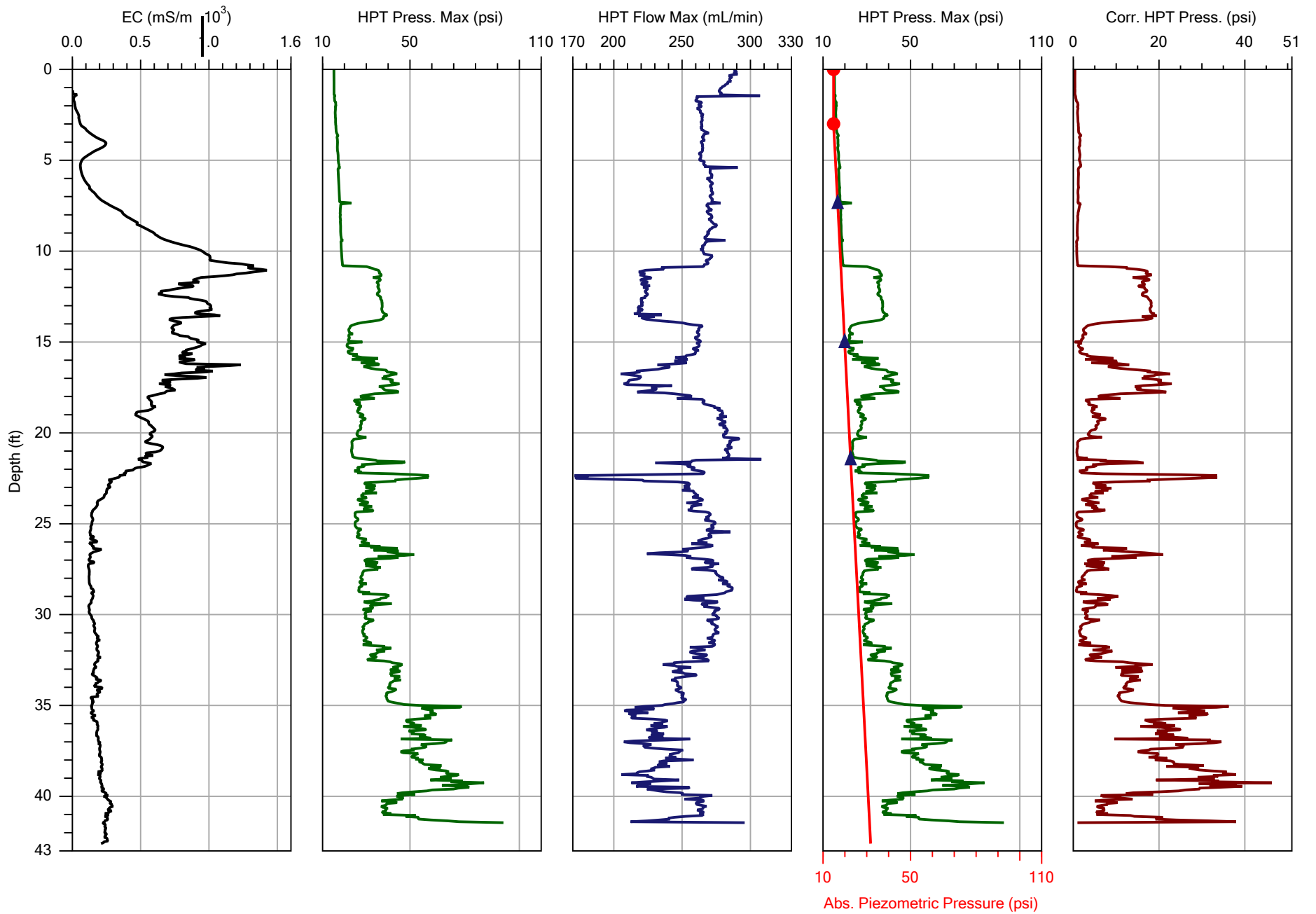
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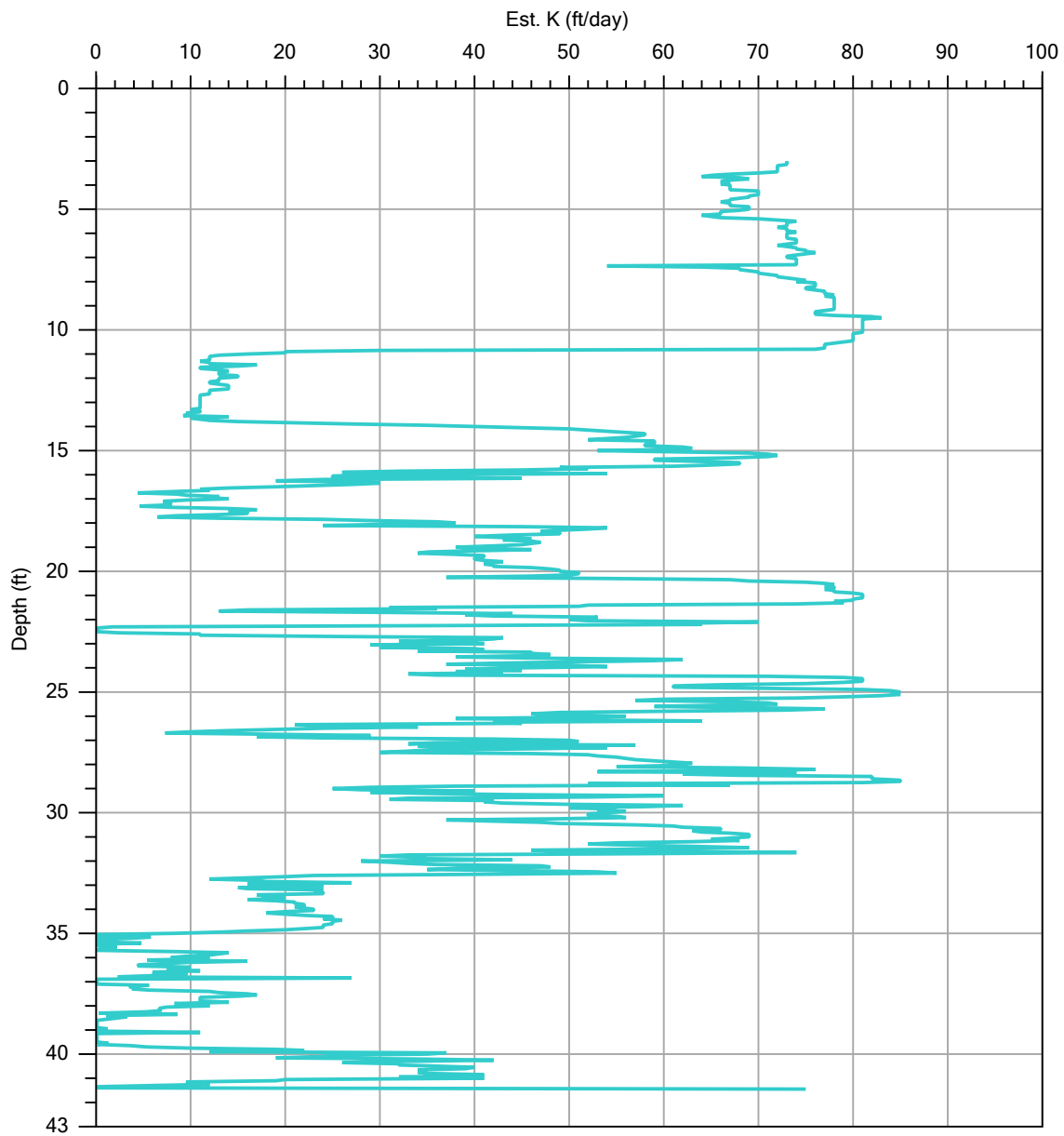
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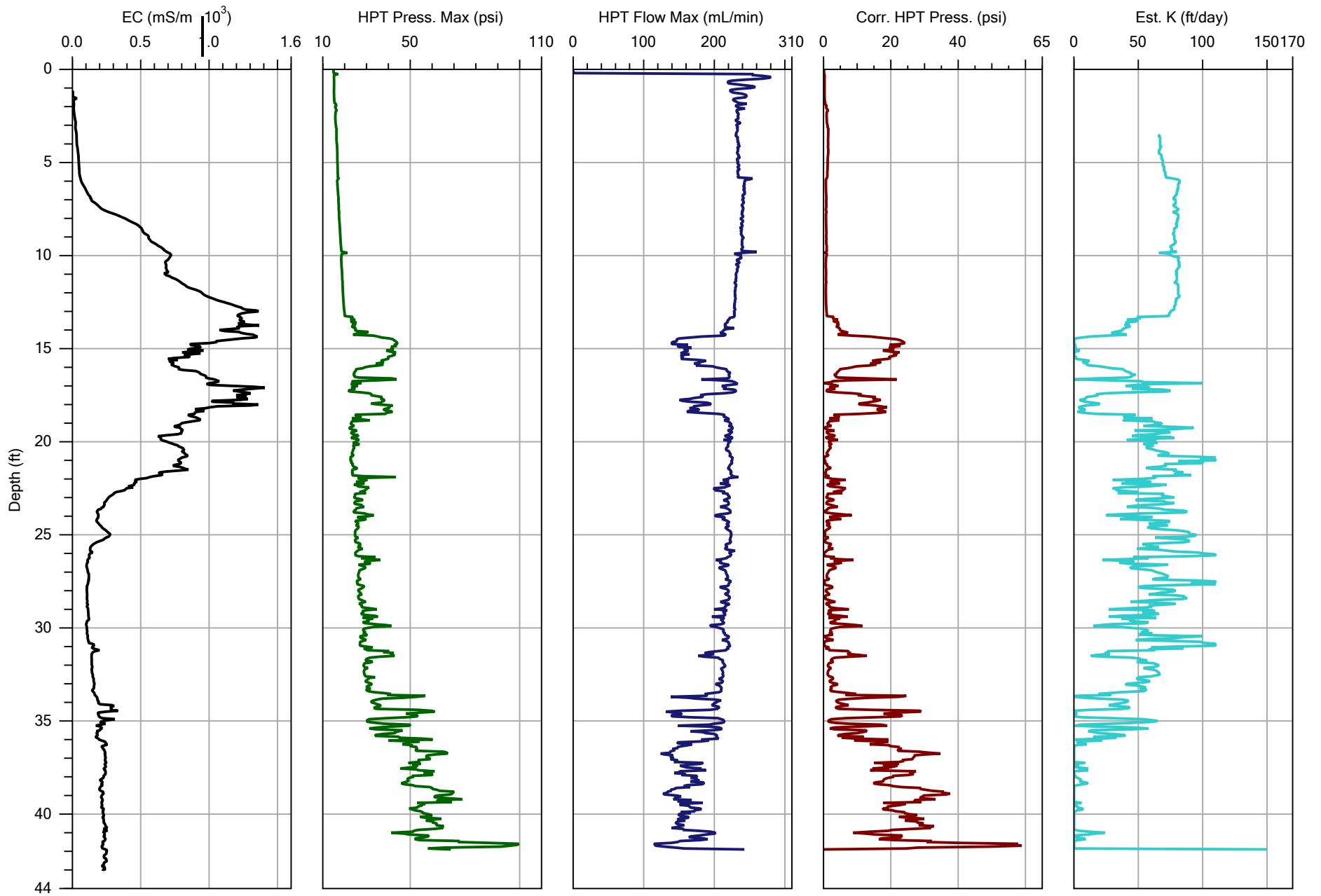
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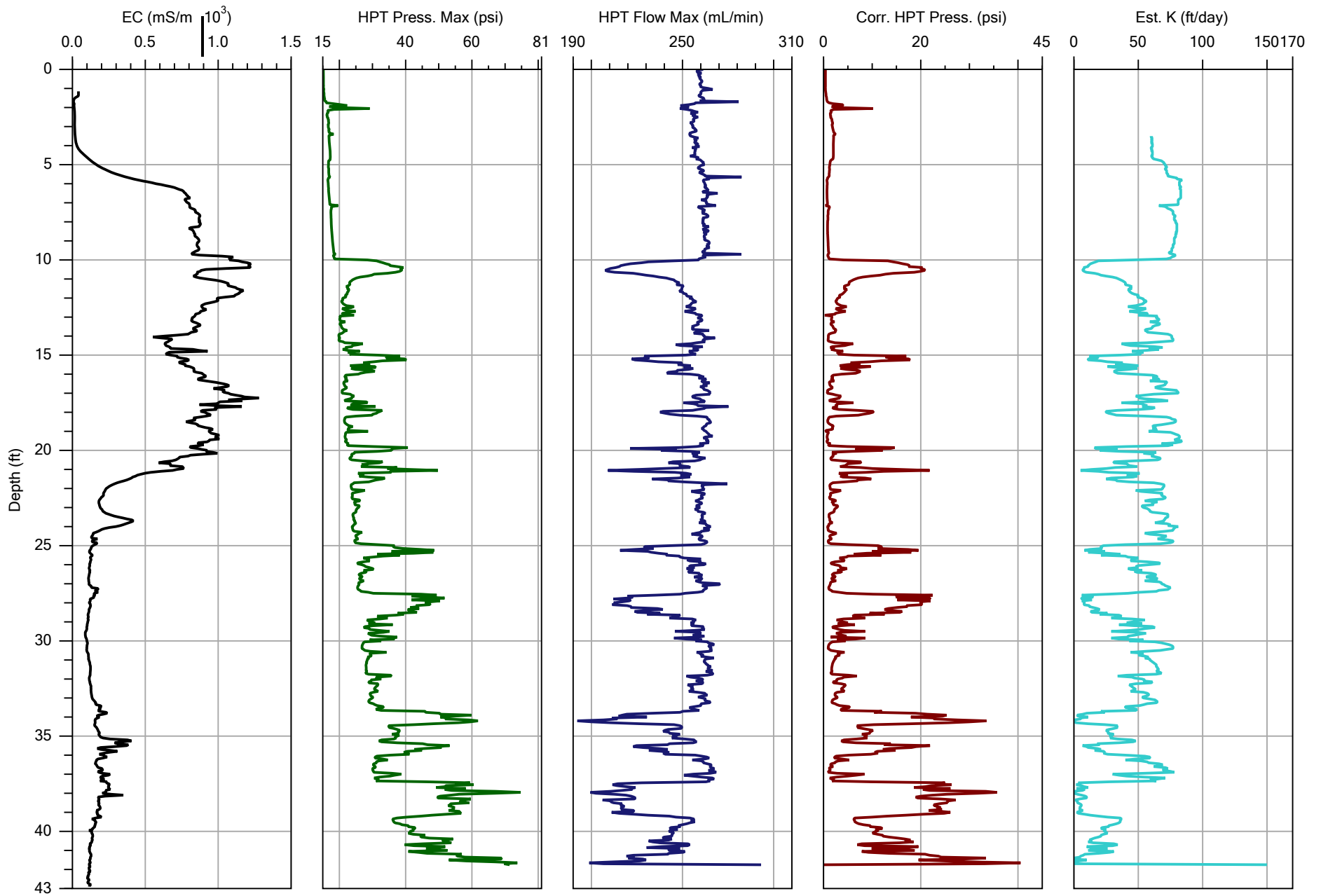
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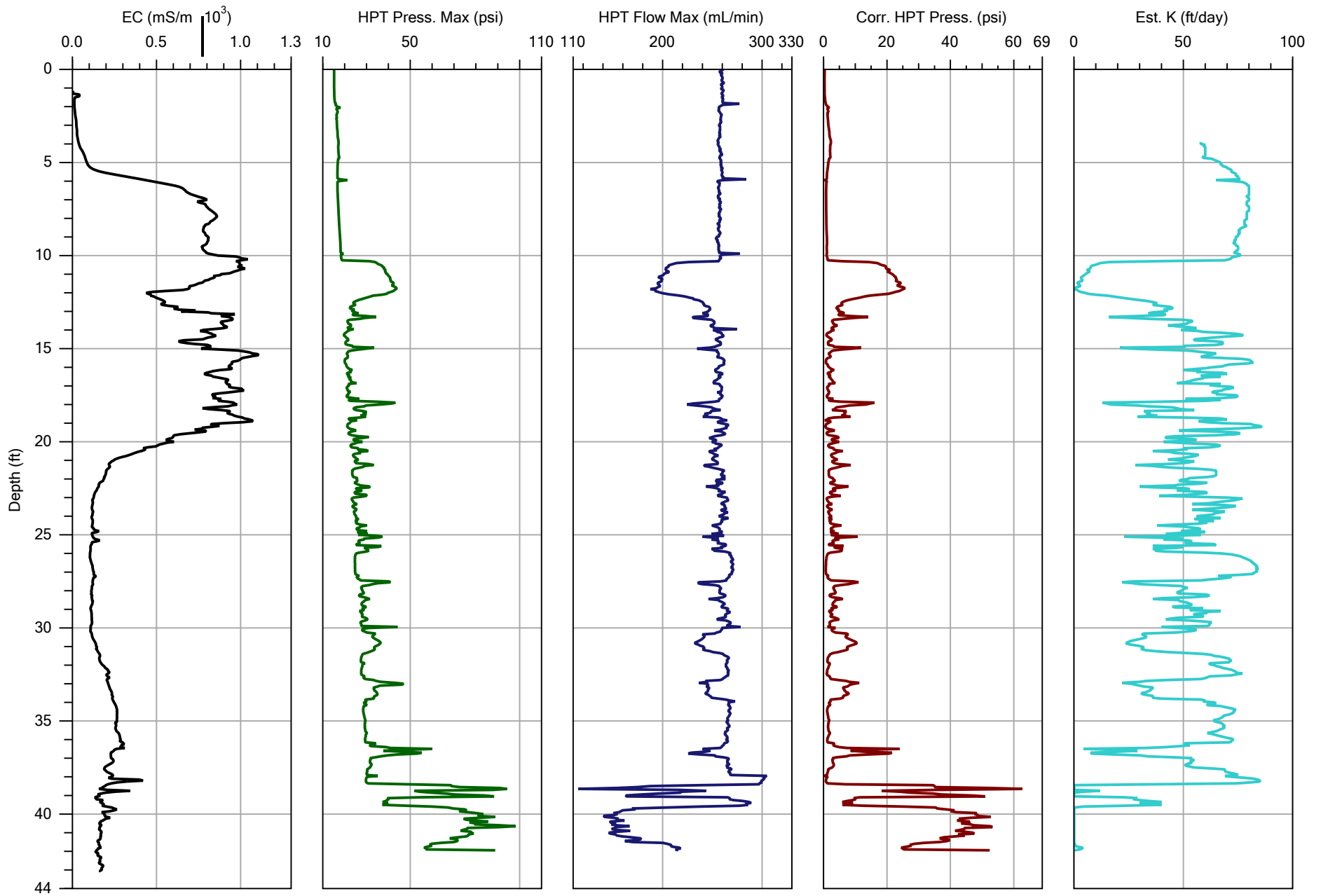
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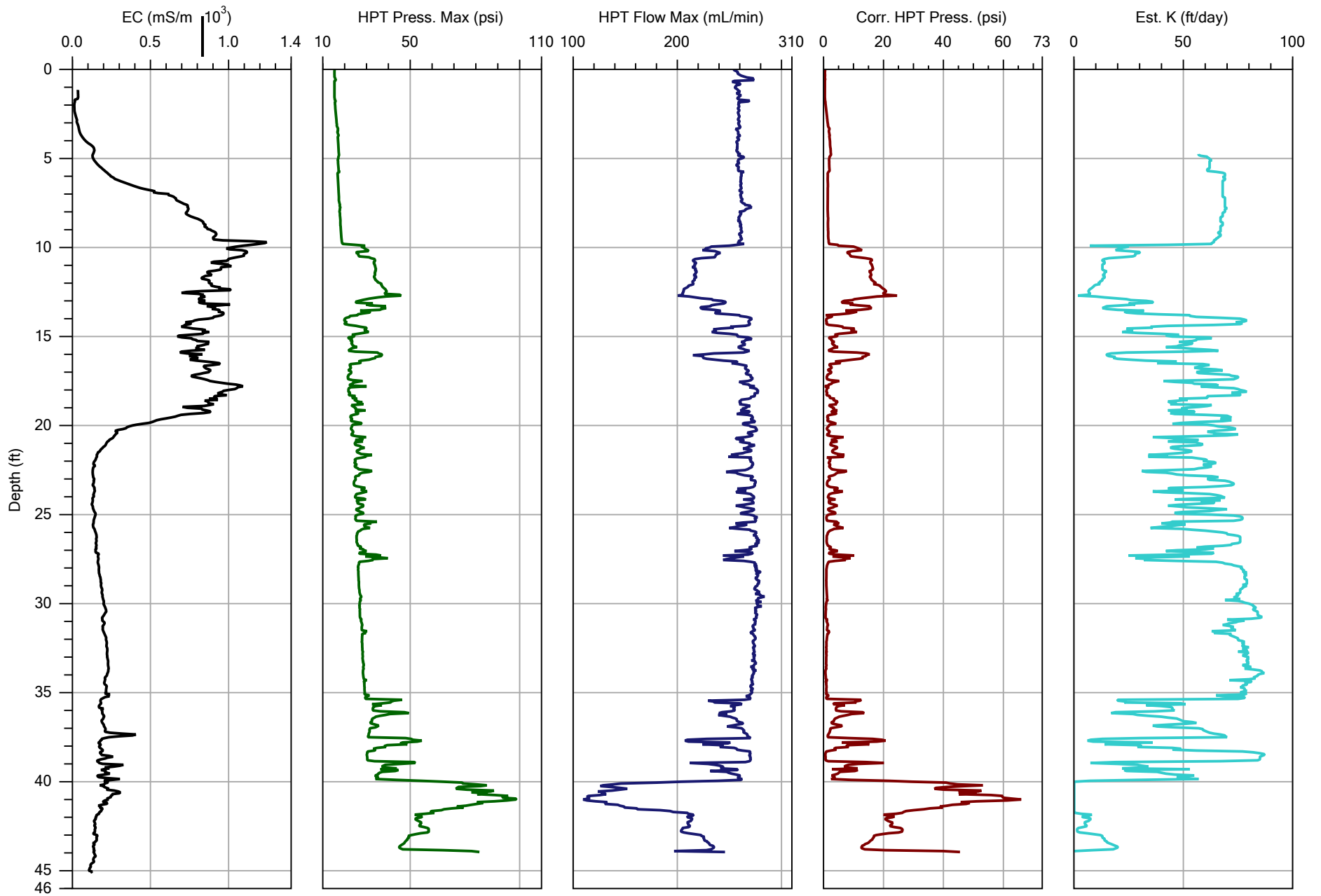
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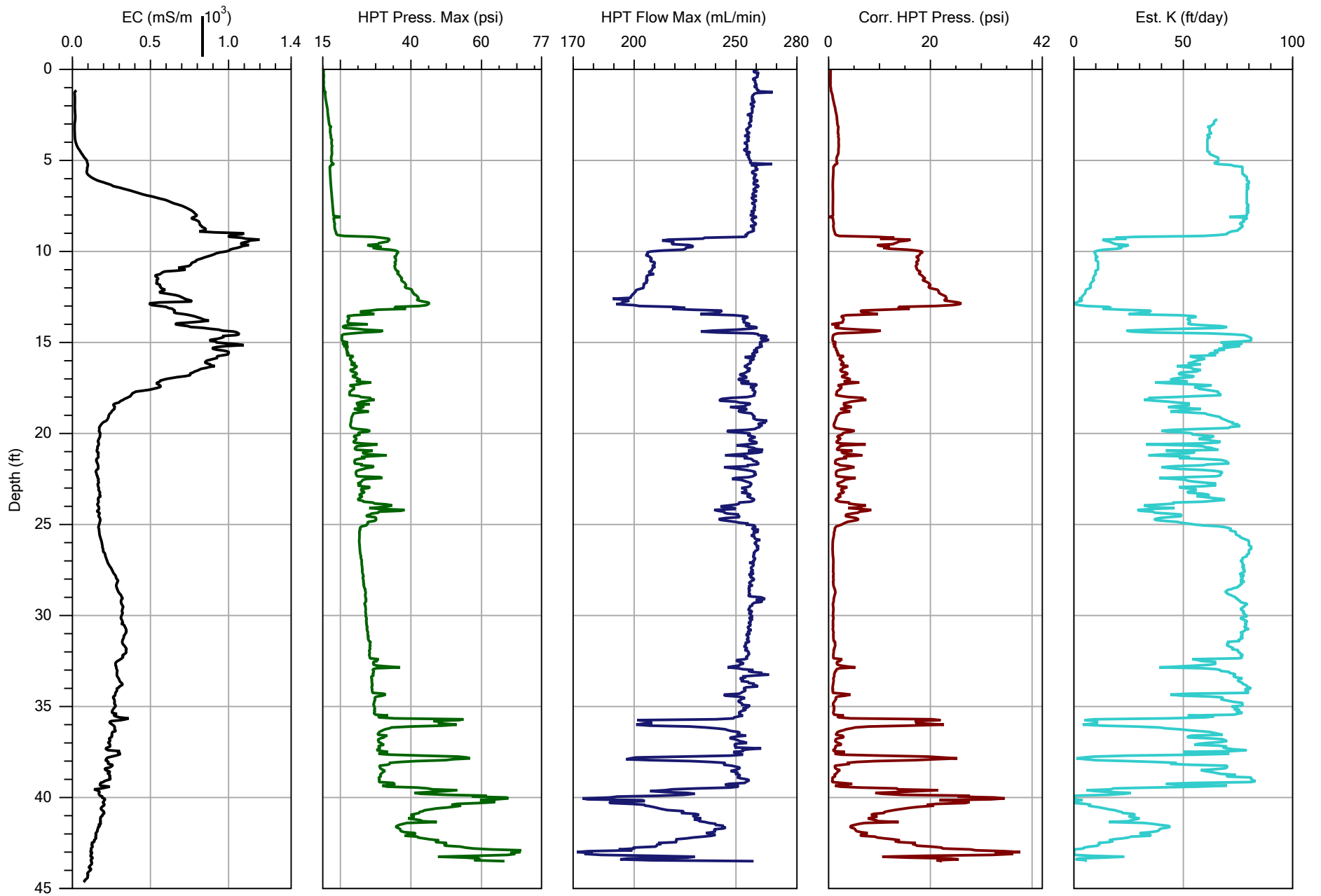
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Project ID: 206-21-1006		Client: Arcadis	Date: 02/13/21
			Location: Brunswick, GA



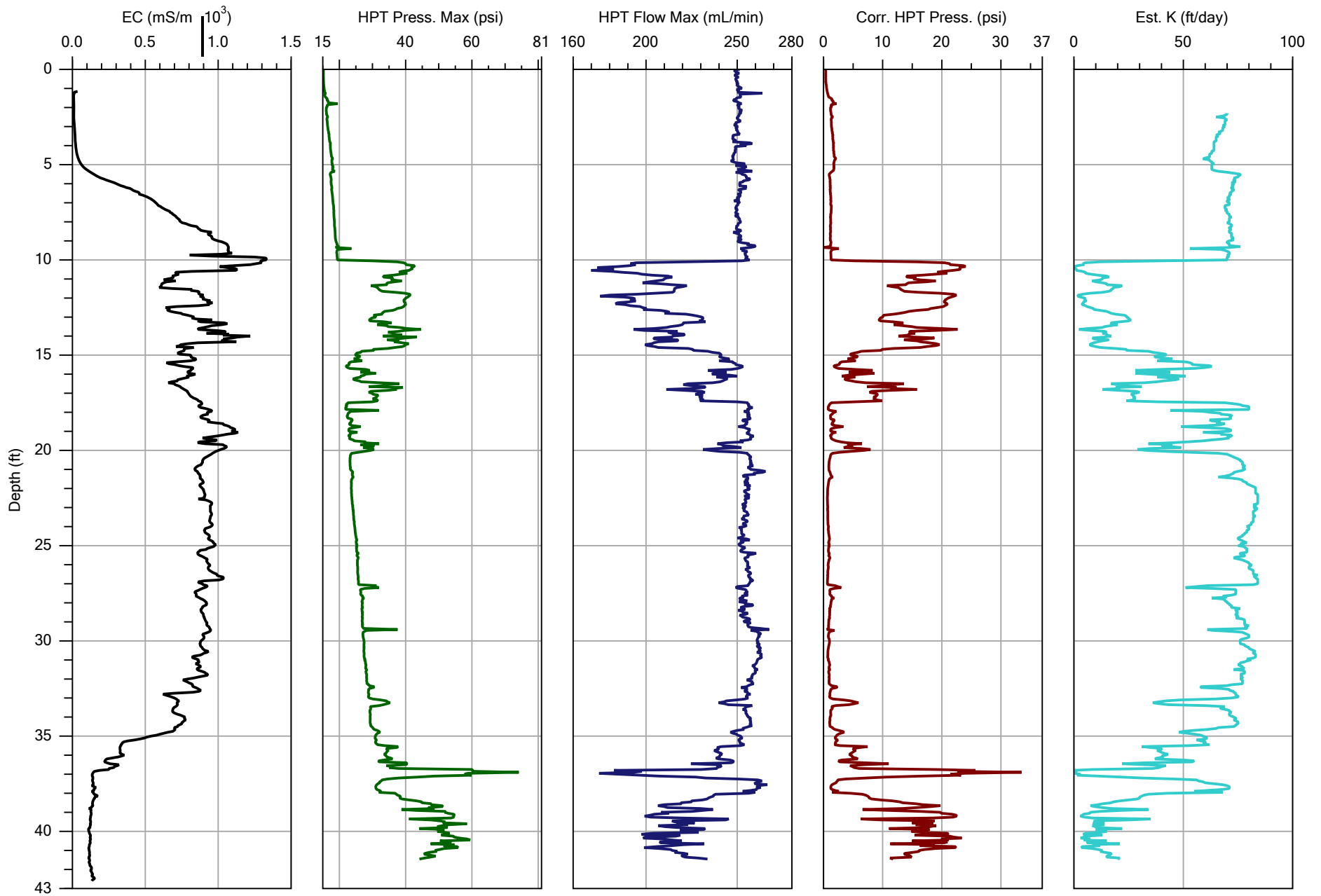
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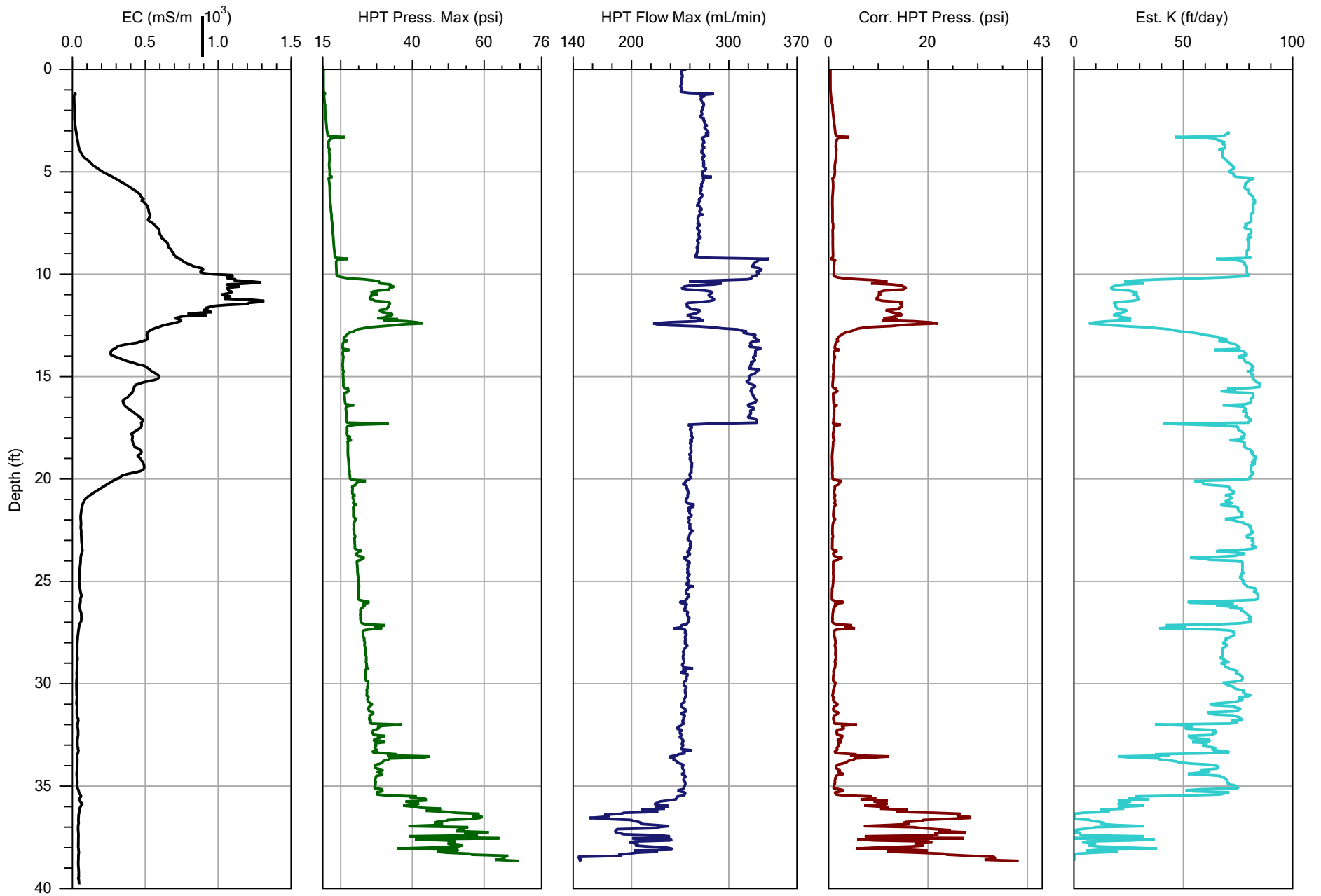
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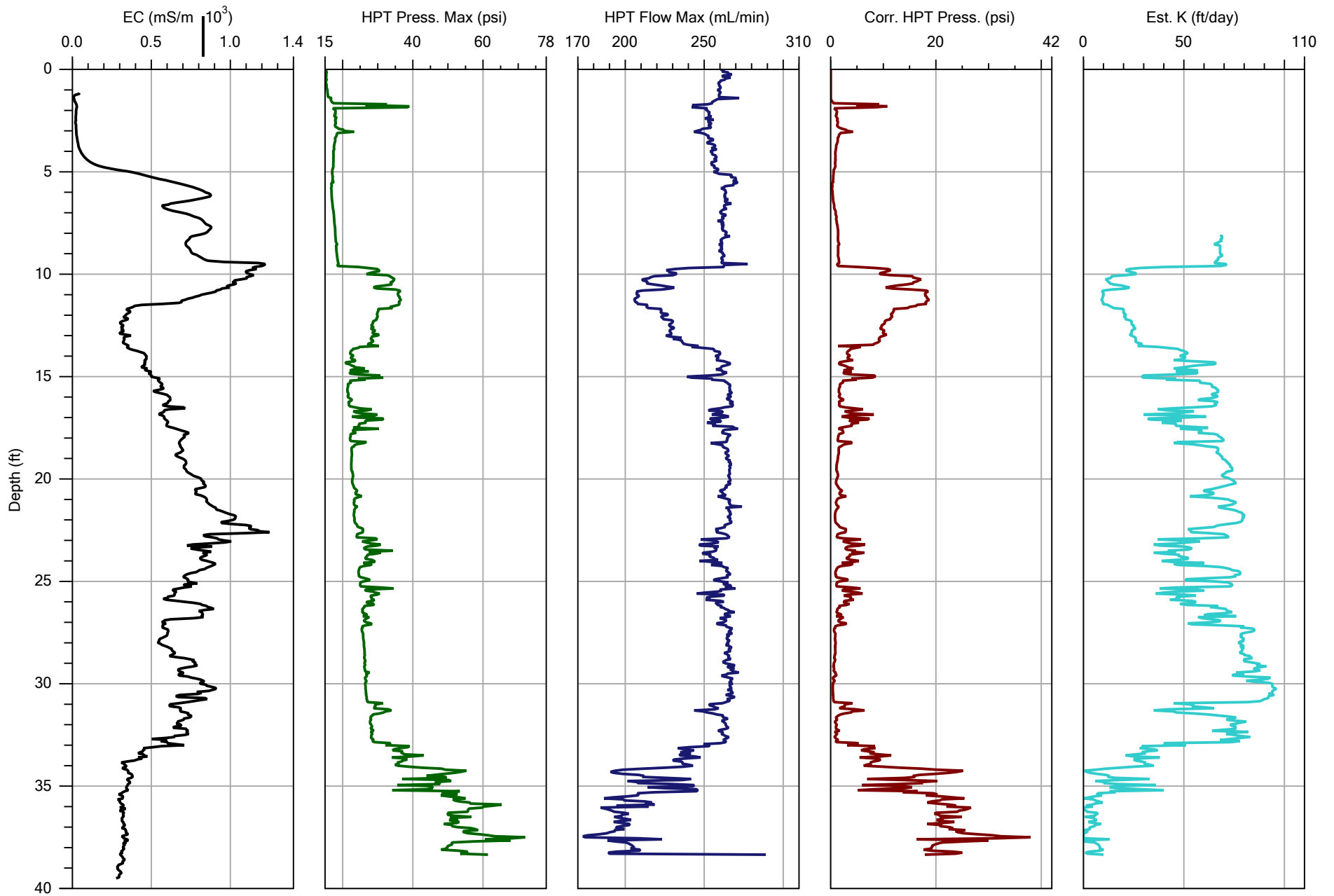
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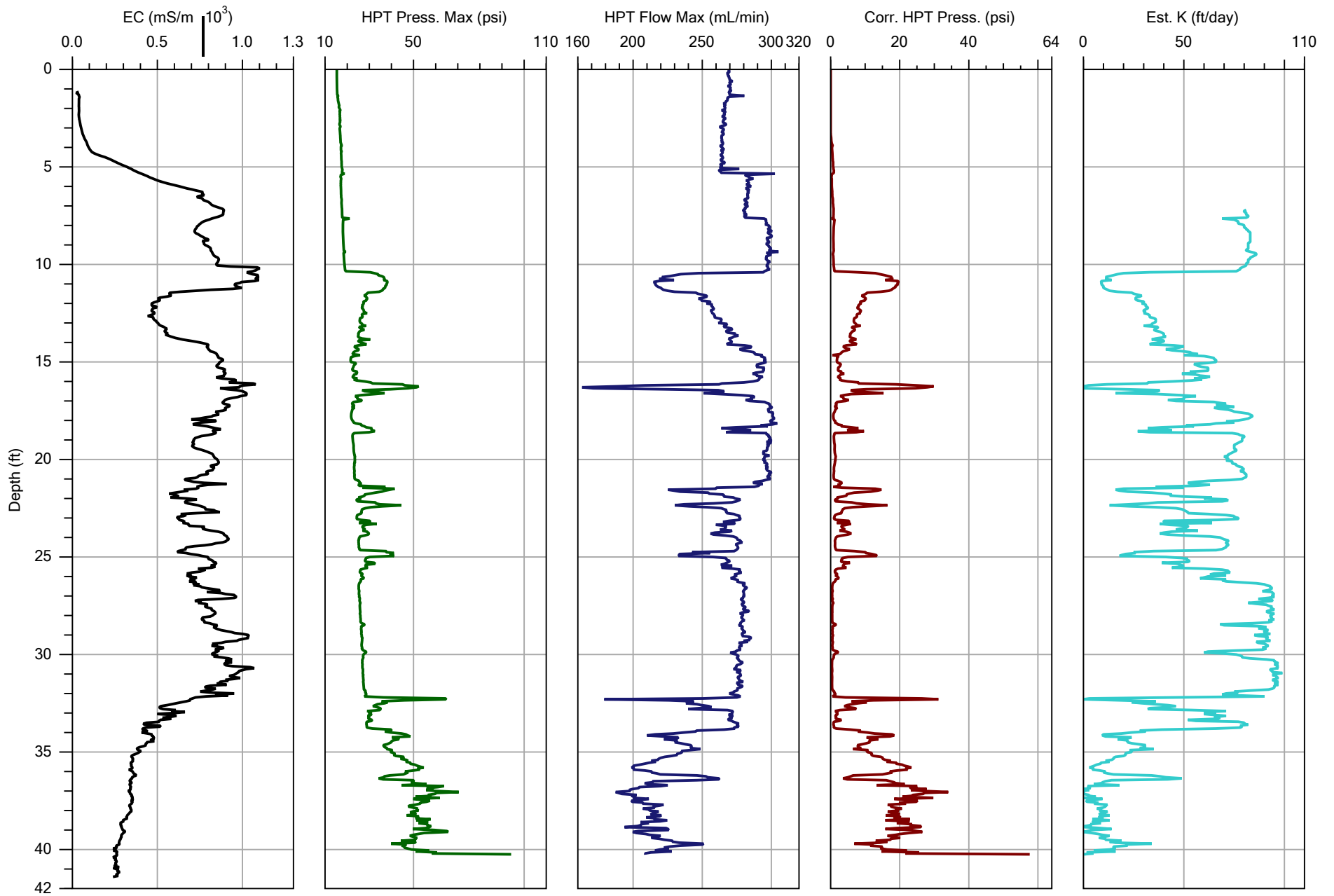
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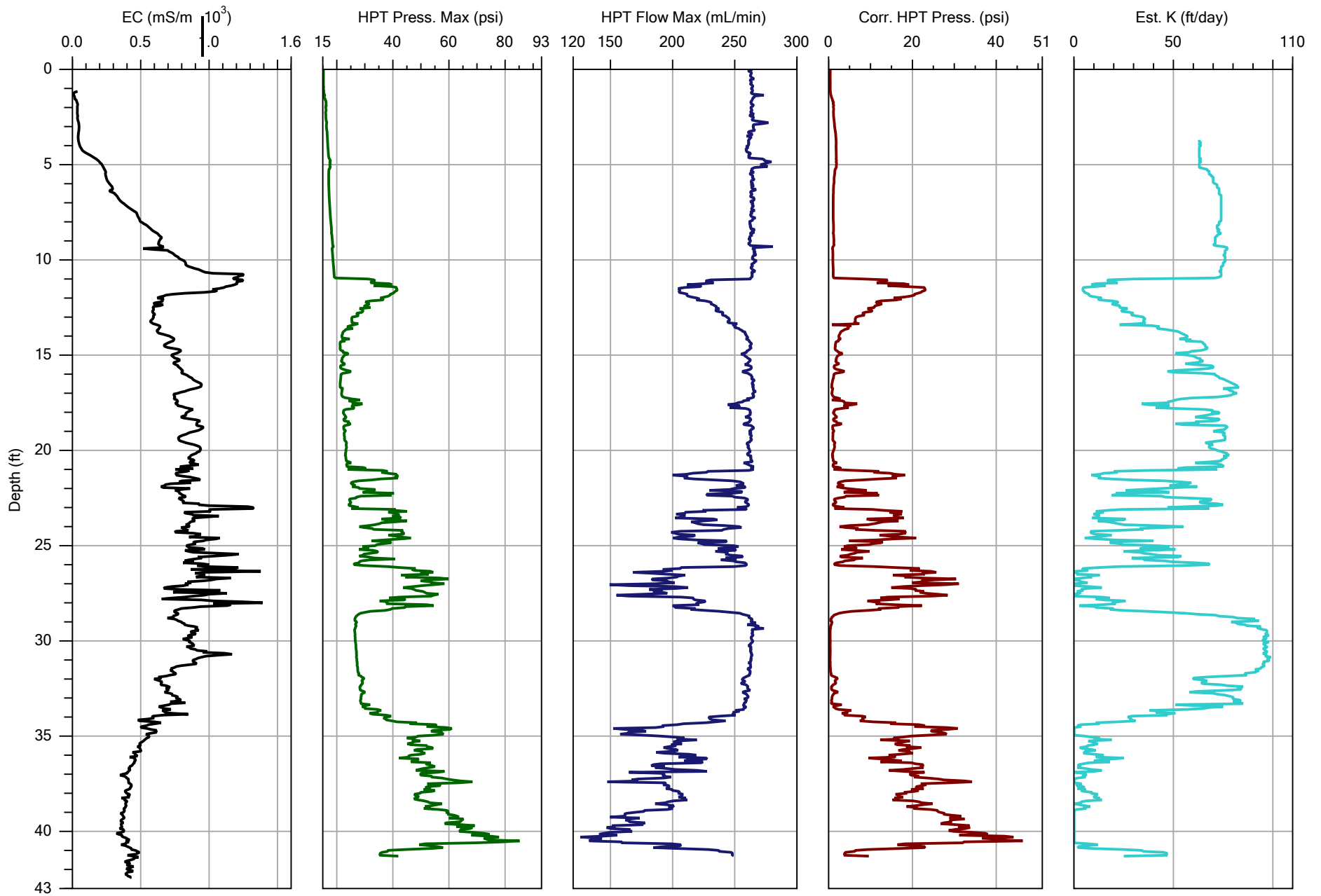
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			Location: Brunswick, GA



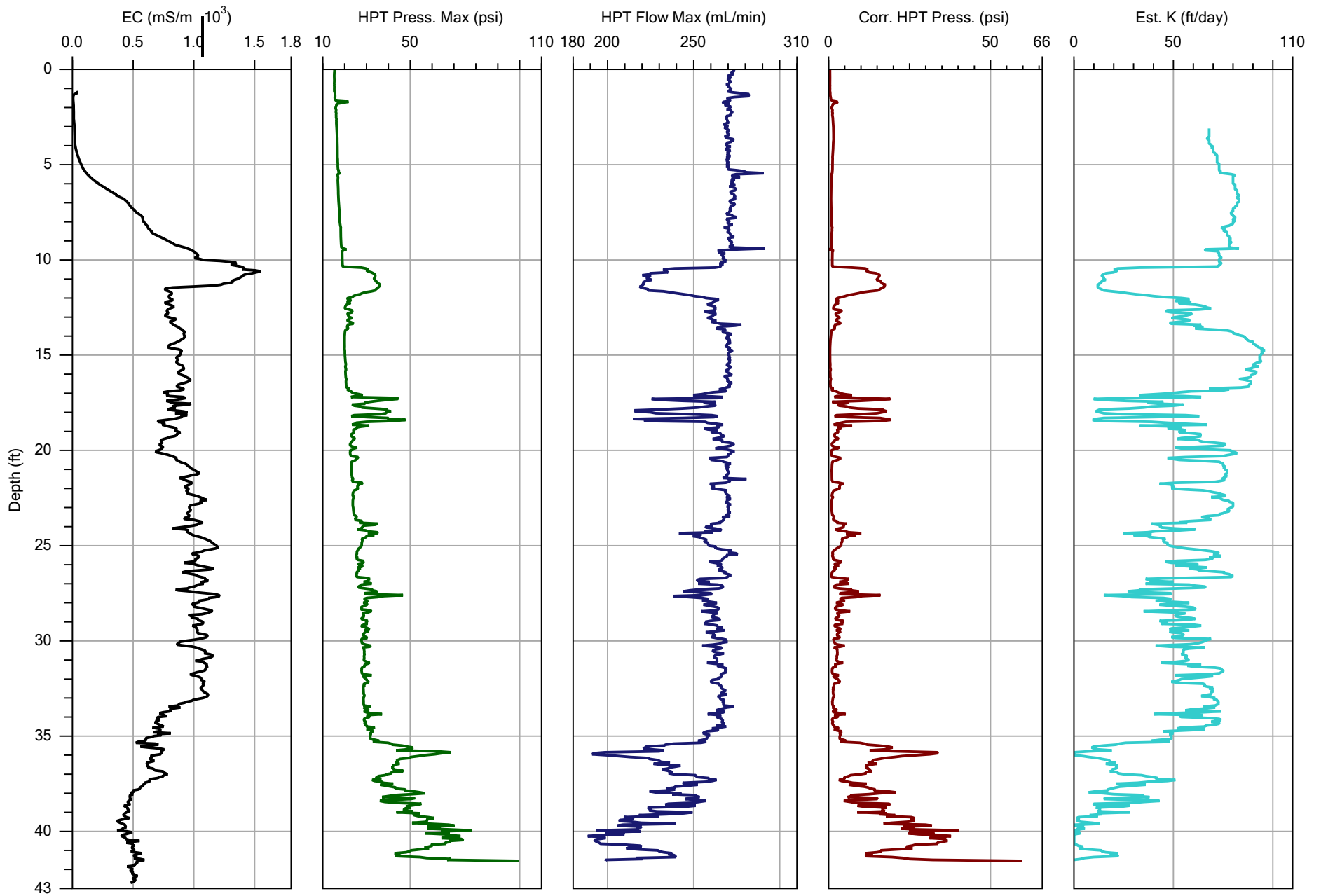
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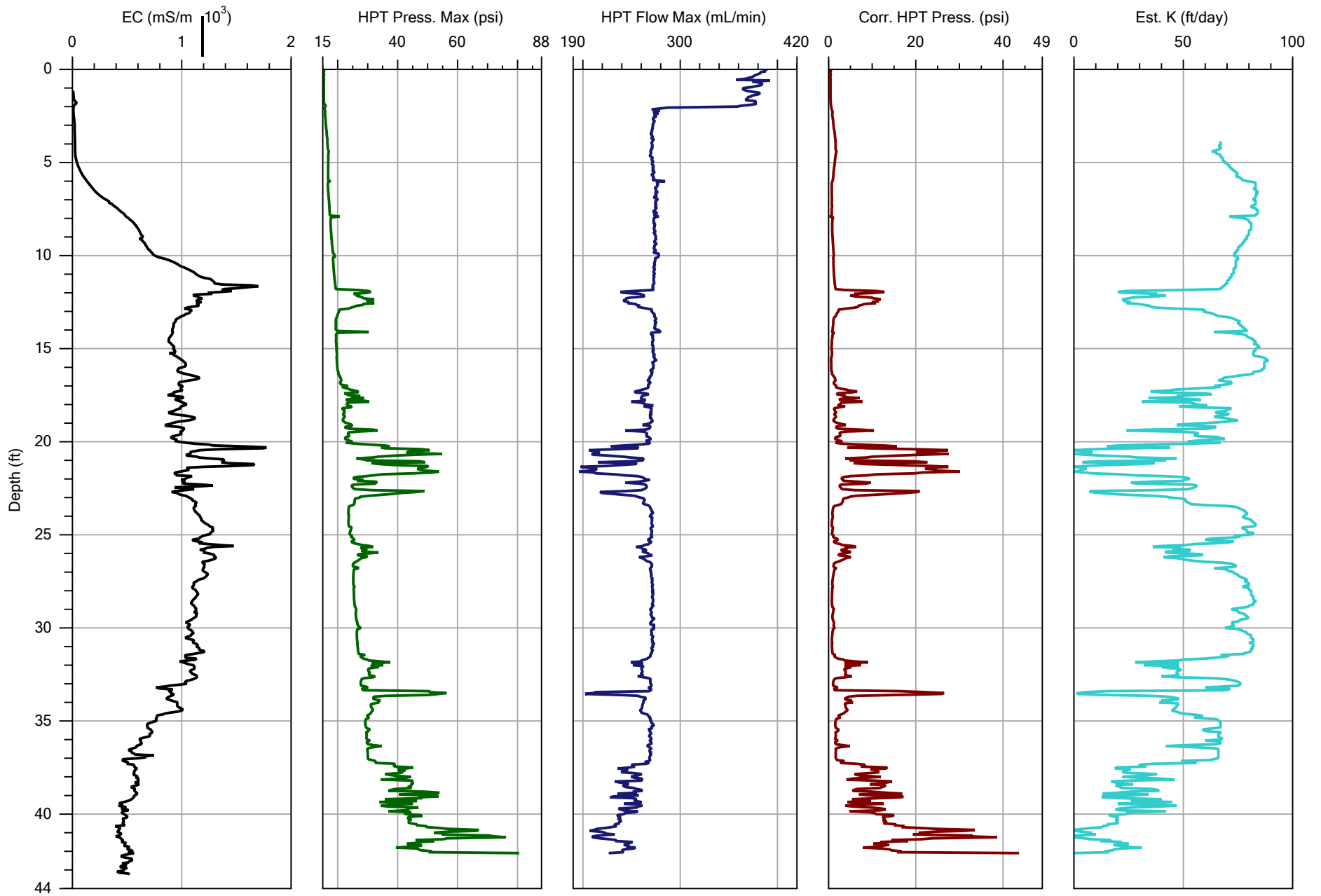
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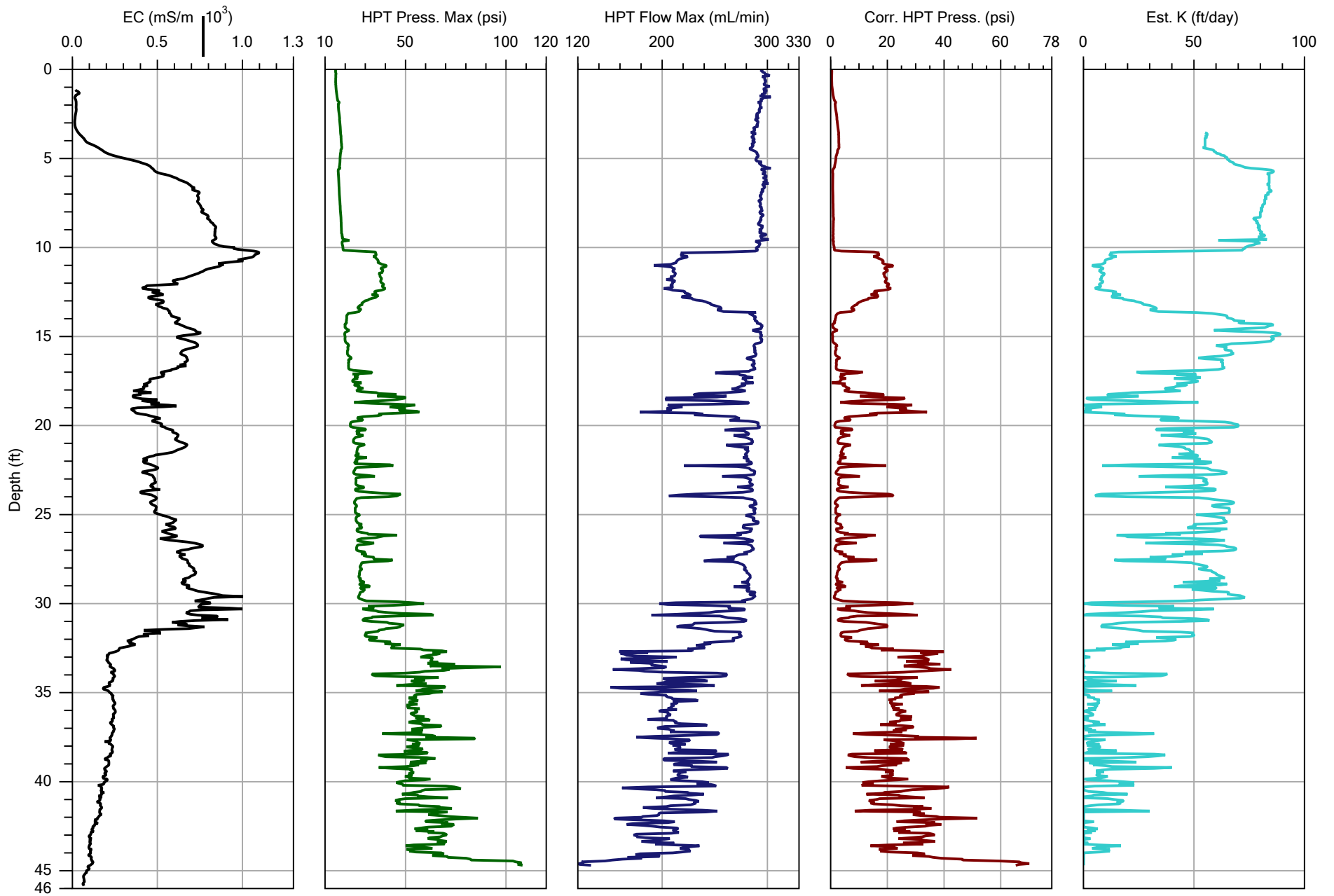
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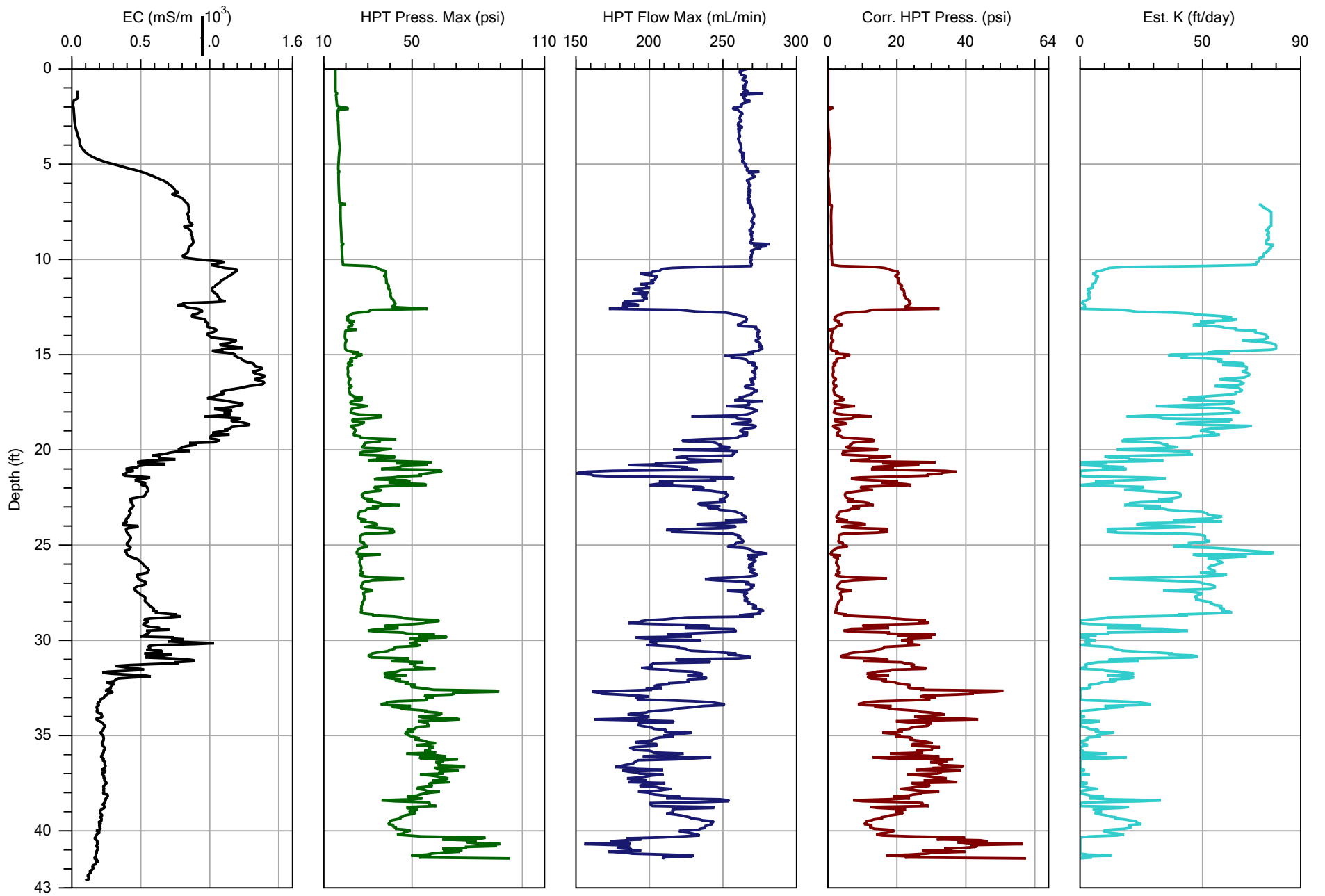
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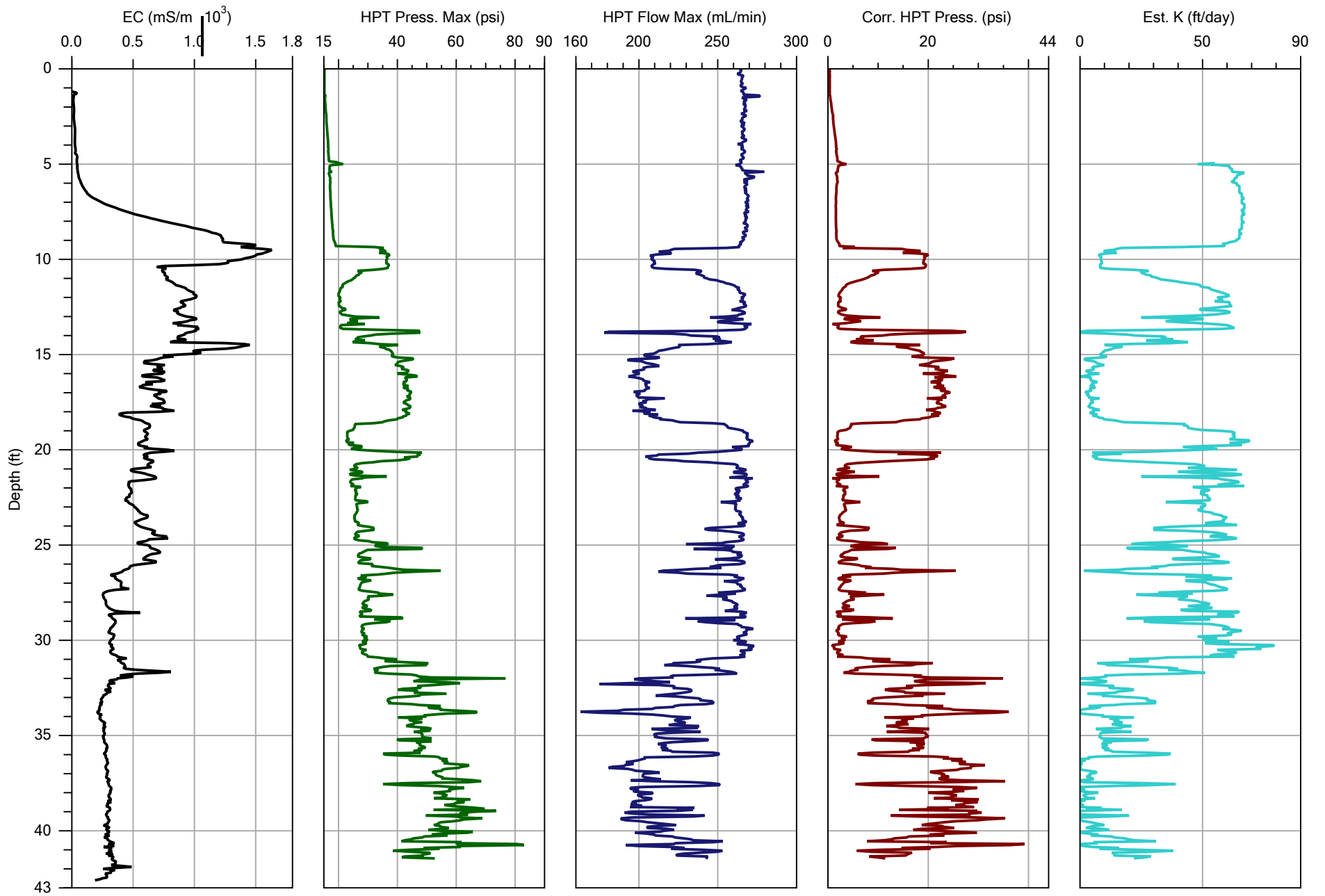
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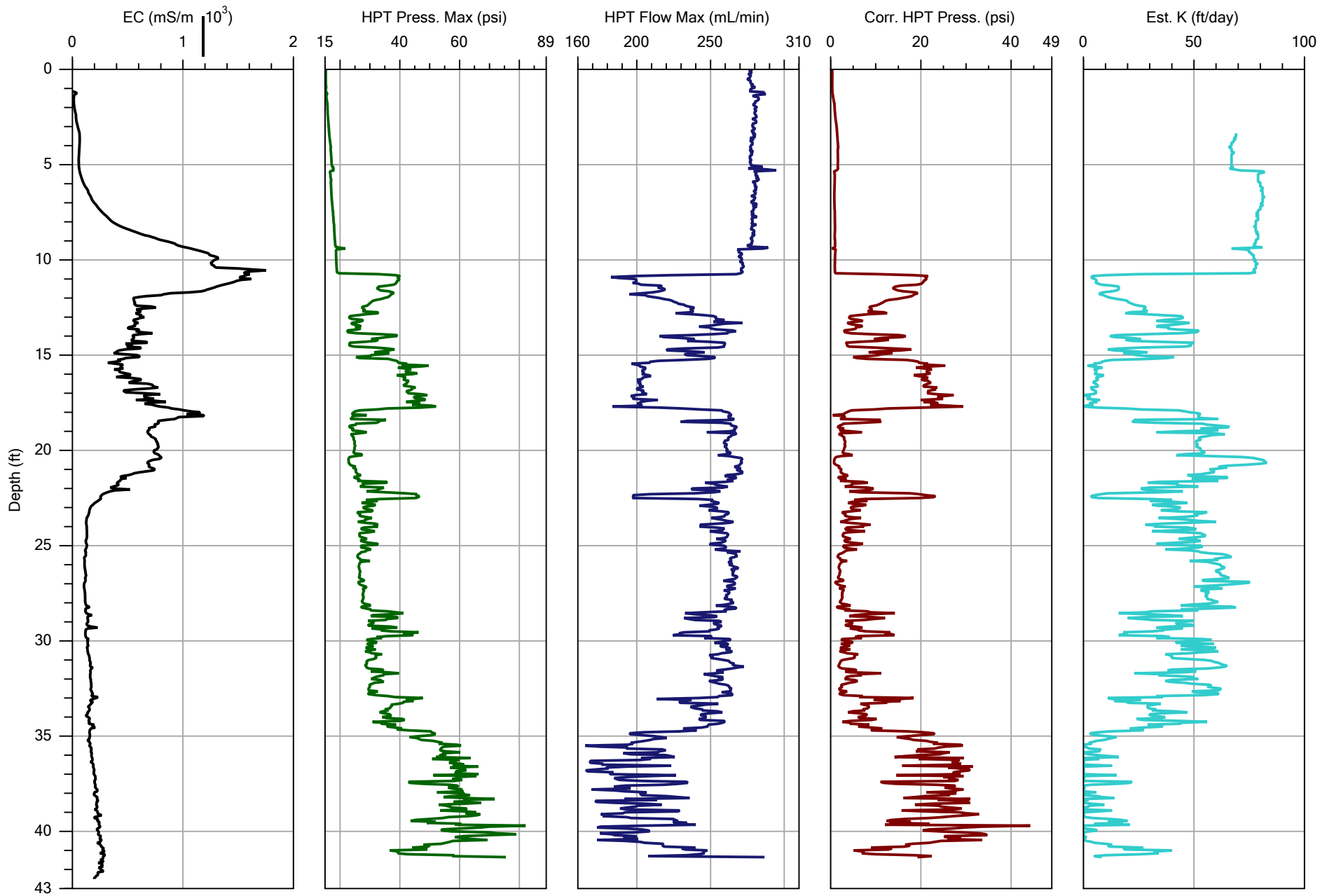
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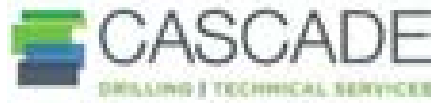
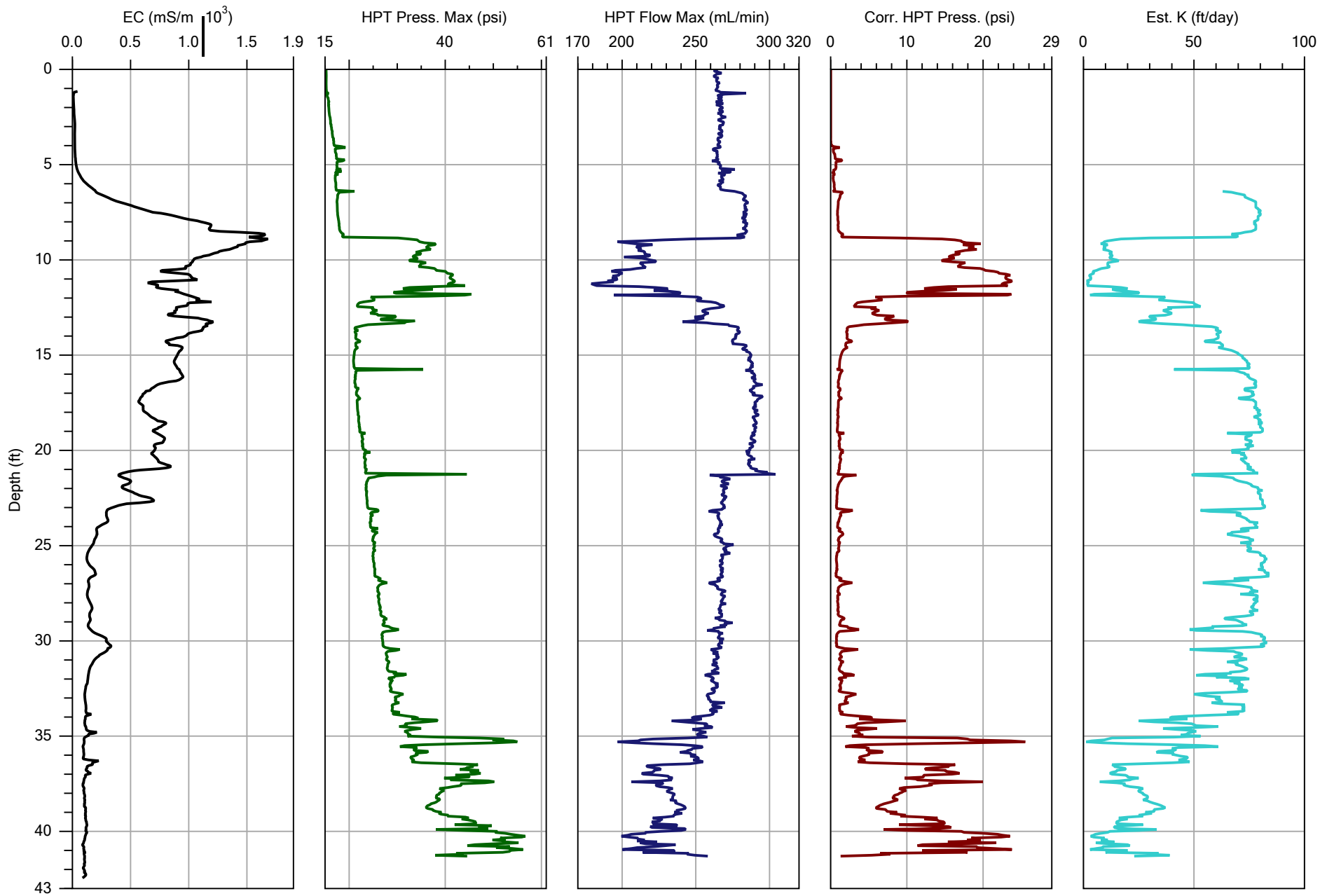
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Company:	CASCAD E	Operator:	D Ferrell	File:	HPT-038.HPT
Project ID:	206-21-1006	Client:	Arcadis	Date:	02/16/21
				Location:	Brunswick, GA



Company:	CASCADÉ	Operator:	D Ferrell	File:	HPT-039.HPT
Project ID:	206-21-1006	Client:	Arcadis	Date:	02/16/21
				Location:	Brunswick, GA



Company:	CASCADÉ	Operator:	D Ferrell	File:	HPT-040.HPT
Project ID:	206-21-1006	Client:	Arcadis	Date:	02/16/21
				Location:	Brunswick, GA

ATTACHMENT 2

Sampling Logs



ARCADIS CALIBRATION LOGS

FEBRUARY 23, 2021

0730 - Go calibrate back up YSE Pro Plus
 Pipe ID = 043000

General	Pre	Post	
pH 4	3.96	4.00	
pH 7	6.99	7.00	
pH 10	10.11	10.01	
Spec Con 1413	1456	1413	764.98 ^{bar} min.
DO 100%	110.8%	100.3%	
ORP 240mV	246.1	240.0	

Hach 2100 Q Cal check - 10 NTU; Verification reading - 10.2 NTU

FEBRUARY 24, 2021

0645 - GW arrive @ site; organize equipment, Cal Equipment		
YSI Pro Plus - Pirc ENV IO - 043000		
<u>Standard</u>	<u>Pre</u>	<u>Post</u>
pH4	4.15	4.00
pH7	7.11	7.00
pH10	10.13	10.02
Spic Con 1413	1426	1413
DO % 100%	104.5%	100%
OR PMU 240	242.5	240.0
Cal check	Actual 21000	10.0 NTU standard -
Verification:	10.4 NTU	

FEBRUARY 25, 2021

6:20 On site - checking calibration on Hach
 21000 Turbidity meter

100 NTU AT	99 = OK
10 NTU AT	10 = OK
0 NTU AT	0 = OK

0645 - New arrive @ plant, organize equipment / Cal water quality meters

YSI Pro Plus - Pre IO = 040000 -

Standard	Pre-cal	Post-cal
pH 4	3.89	4.00
pH 7	6.91	7.00
pH 10	10.13	10.01
spec Cor 1413	1427	1413
DO 100%	102.7%	100.1%
ORP 240 mV	241.0	240.0

Cal verify check Hach 21000 w/ 10 NTU -
 reading 10.1 NTU

FEBRUARY 26, 2021

6:34	ON SITE - CHECKING CALIBRATION TRIABILITY METER
	HACH, 100 NTU = 98 OK
	50 NTU = 50 OK
	0 NTU = 0 OK

0915 - Calibrate water quality instruments
 YSI Pro Plus - Pic ID = 043600

<u>Standard</u>	<u>Actual</u>	<u>Point Cal</u>
pH4	4.13	4.00
pH7	7.04	7.00
pH10	10.09	10.01
spec con 1413	1430	1413
DO 100%	100.9%	100.0%
ORP 20mv	239.4	240.0
tach 21002 cal verify	10 NTU = 10.1 NTU ✓	

Project No. 30050105.00006 Well ID VAP-14-W-(5-10)

Page 1 of 1
Date 2/22/2011

Project Name/Location GPL Plant

Weather Sunny

Measuring Pt. Description Top of Casing Screen Setting (ft-ov) 5-10 Casing Diameter (in) 4.5 inch

Well Material X PVC SS

Static Water Level (ft-ov) 5.13 Total Depth (ft-ov) 10ft bgs Water Column/ Gallons in Well _____

MP Elevation _____ Pump Intake (ft-ov) _____ Purge Method _____

Sample Method Low Flow Sampling

Pump On/Off 0811/0851 Volumes Purged _____ Other Pressure Pur: Pump

Sample Time: Label 0810 Replicate/ Code No. X
Start 0840
End 0851

Sampled by GW

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance		
												Color	Odor	
2 consecutive readings for stabilization					(within 0.1)	(within 5%)		10 or lower	0.2 or 10%					
0811	Pump on												Orange	Slight
0825	14	500L	/		6.57	23273	/	30.0	0.45	16.8	-13.5	Clear	Slight	
0830	19	500L	/		6.37	23332	/	19.9	0.44	16.7	-17.7	|	|	
0835	24	500L	/		6.37	23368	/	6.35	0.43	16.5	-19.5	|	|	
ALL data 2/23/2011														

Constituents Sampled	Container	Number	Preservative
<u>see COL</u>			

Well Casing Volumes

Gallons/foot	1" = 0.04	1.5" = 0.06	2" = 0.08	3" = 0.10	4" = 0.14
	1.25" = 0.06	2" = 0.16	3" = 0.27	4" = 0.55	

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush Mound / ~~Stick Up~~ Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30000105 Well ID VAD-14-W-(17-19)

Page 1 of 1
Date 2/23/2021

Project Name/Location CRP Rock Manganese

Weather Sunny/Clouds

Measuring Pt. Description Top of Casing Screen Setting (ft) 17-19 Casing Diameter (in) 2 inch Nock

Well Material 3 PVC
SS

Static Water Level (ft) 7.15 ft bgs Total Depth (ft) ~19 ft bgs Water Column Gallons in Well _____

MP Elevation _____ Pump Intake (ft) ~18 ft bgs Purge Method Periodic
Other Submersible

Sample Method Low Flow Sampling

Pump On/Off 1145 / 1422 Volumes Purged _____
Sample Time: Label 1235 Replicate/Code No. _____
Start 1235 End 1422
MS/MSD + Duplicate DUPID = DUP-01-W-02232021
DUP-01-W-02232021

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
1145	Pump on													
1215	30	500L	/		7.10	18411	/	936	1.29	21.4	-321.6	2000	Strong	
1220	35	500L	/		7.07	18203	/	637	0.93	21.5	-325.2			
1225	40	500L	/		7.06	18239	/	672	0.80	21.5	-325.1			
1230	45	500L	/		7.06	18247	/	57.9	0.77	21.5	-324.9			
1235	Begin sampling													
1422	Completed Sampling													

[Signature]
2/23/2021

Constituents Sampled	Container	Number	Preservative
<u>See Col</u>			

Well Casing Volumes	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.12	4" = 0.16
Gallons/Foot	1.27 = 0.04	2 = 0.16	3 = 0.27	4 = 0.37	4 = 0.50	6 = 1.47

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mud / Stick-Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAP-14-W(2A-24)

Page 1 of 1
Date 2/23/2021

Project Name/Location GPC Plant McMurray

Weather Sunny

Measuring Pt. Description Top of Casing Screen Setting (ft-in) 22-24 Casing Diameter (in.) approx 1-inch

Well Material PVC
X SS

Static Water Level (ft-in) 8.74 ft bwa Total Depth (ft-in) ~24 ft ^{by Water Column} Gallons in Well _____

MP Elevation / Pump Intake (ft-in) ~24 ft Purge Method Per pump
Centrifugal _____
Submersible _____
Other Cooper _____

Sample Method Low Flow Sampling

Pump On/Off 0858/0931 Volumes Purged _____

Sampled by GW

Sample Time: Label 0915 Replicate/ Code No. /
Start 0915
End 0931 * Stick up + 2.5 ft Ags

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm) (within 2%)	Salinity	Turbidity (NTU) 10 or over	Dissolved Oxygen (mg/L) 0.2 or 10%	Temp (C) (F)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
0953	Run up on pump				~150 mL/min									
0900	150 mL				7.01	26156		55.0	0.96	17.6	-301	8000	Slight	
0905	13	150 mL			7.01	26175		78.3	0.91	17.7	-303			
0910	18	150 mL			7.01	26194		25.1	0.89	17.8	-301			
0915	Pump sampling													
0931	Ended Sampling i Pump off													

[Handwritten signature]
2/23/2021

Constituents Sampled	Container	Number	Preservative
<u>Spec. Col</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2" = 0.16	2.5" = 0.26	3" = 0.36	4" = 0.57
	1.25" = 0.06	2" = 0.16	2.5" = 0.27	3" = 0.37	4" = 0.57	

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

Project No. 2005005 Well ID VAR-14-W-(29-31)
 Project Name/Location GAP Plant Materials

Date 2/28/02
 Weather Sunny

Measuring Pt. Description Top of Casing Screen Setting (ft) 29-31 Casing Diameter (in) 1 inch

Well Material PVC SS

Static Water Level (ft) 5.35 ft bgs Total Depth (ft) ~31 ft bgs Water Column/ Gallons in Well _____

MP Elevation ✓ Pump Intake (ft) ~30 ft bgs Purge Method Peri-pump
 Centrifugal Submersible Other Peri-pump

Sample Method Low Flow Sampling

Pump On/Off 0800 / 0800 Volumes Purged _____

Sample Time: Label 0945 Replicate/ Code No. ✓
 Start 0945
 End 0955

Sampled by LOW

VAR-14-W-(29-31)

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (Micro) (within 0.1) (within 5%)	Salinity	Turbidity (NTU) 10 or lower	Dissolved Oxygen (mg/L) 0.2 or 10%	Temp. (°C) (°F)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
0910	Pump on; purging @ ~ 1.50 gpm													
0920	12	1.50	✓		7.47	25734	—	38.5	0.43	16.5	-325	✓	360	
0935	17	1.50	✓		7.39	25260	—	26.8	0.32	16.5	-340.3	✓	✓	
0940	22	1.00	✓		7.37	25325	—	28.9	0.31	16.5	-344.7	✓	✓	
0945	Begin Sampling													
0955	End Sampling													
Rest of table is crossed out														

Constituents Sampled	Container	Number	Preservative
<u>see COL</u>			

Well Casing Volumes	1" = 0.04	1.5" = 0.09	2" = 0.15	3" = 0.27	3.5" = 0.38	4" = 0.53	6" = 1.47
Gallons/Foot	1.27 = 0.06	2" = 0.15	3" = 0.27	4" = 0.53			

Well Information
 Well Location: _____
 Condition of Well: _____
 Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No
 Well Locked at Departure: Yes / No
 Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Page 1 of 1

Project No. 30000105 Well ID VAP-14-W-(29-31)
(31-33)

Date 2/23/01

Project Name/Location GAR Plant McHenry

Weather Sunny/60°

Measuring Pt. Description Top of Casing Screen Setting (ft) 31-33 Casing Diameter (in) 2 inch

Well Material PVC
2 1/2"

Static Water Level (ft) 5.73 ft bgs Total Depth (ft) ~33 ft bgs Water Column Gallons in Well _____

MP Elevation _____ Pump Intake (ft) ~32 ft bgs Purge Method _____

Sample Method Low Flow Sampling

Pump On/Off 09:02/10:35 Volumes Purged _____

Sample Time: Label 1035 Start 10:35 End 10:35

Sampled by OW

Time	Minutes Elapsed	Rate (gpm) (est.)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm)	Salinity	Turbidity (NTU) (1 or less)	Dissolved Oxygen (mg/L) (2.0 or less)	Temp. (°C) (°F)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
09:02														
09:58	9	150L			7.64	24410		47.8	0.65	17.1	-3078		Strong	
10:04	14	150L			7.40	24479		11.2	0.20	17.7	-3931			
10:09	19	150L			7.40	24167		8.32	0.19	17.7	-3466			
10:14	24	150L			7.38	24100		10.2	0.20	17.9	-3475			
10:18														
10:35														

09:58

[Handwritten signature]
2/23/01

Constituents Sampled	Container	Number	Preservative
<u>see LOC</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.08	2" = 0.16	2.5" = 0.25	3" = 0.36	4" = 0.57
	1.25" = 0.06	2" = 0.16	2.5" = 0.25	3" = 0.36	4" = 0.57	5" = 0.81

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID WAP-3J-W-5-10

Date 2/23/2021

Project Name/Location GPC Plant Memmus

Weather Sunny w/Clouds

Measuring Pt. Description Top of Casing Screen Setting (ft) 5-18 Casing Diameter (in.) 2008 1 inch

Well Material 5 PVC 55

Static Water Level (ft) 5.28 ft Total Depth (ft) 9.00 ft Water Column/ Gallons in Well _____

MP Elevation 1 Pump Intake (ft) 1.90 ft Purge Method Peri-pump

Sample Method Low Flow Sampling

Pump On/Off 1430/1530 Volumes Purged _____

Sample Time: Label 1500 Replicate/ Code No. X

Sampled by GW

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (C) (F)	Redox (mV)	Appearance	
											Color	Odor
2 consecutive readings for stabilization												
1432	Begin Purging											
Prior to collecting field parameters												
1447	15	200L	/		6.90	21377	16.3	0.85	20.5	-130.3	2100	4/42
1452	20	200L	/		6.85	21506	15.8	0.46	20.2	-128.2	1	1
1457	25	200L	/		6.84	21179	14.9	0.95	20.1	-129.3		
1500	Begin sampling											
1530	Complete sampling											
WAP-3J-W-5-10 2/23/2021												

Constituents Sampled	Container	Number	Preservative
<u>see Col</u>			

Well Casing Volume	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.12
Gallons/Foot	1.28 = 0.08	2" = 0.16	3" = 0.24	4" = 0.32	5" = 0.40

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mast / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAD-31W-1820

Date 2/24/2021
 Weather Spring 50's

Project Name/Location Plant McManus

Measuring Pt. Description Top of Casing Screen Setting (ft) 18-20 Casing Diameter (in.) 2000 \varnothing 1 inch

Well Material 4" PVC
X SS

Static Water Level (ft) 7.20 ft bgs Total Depth (ft) ~19.0 Water Column/ Gallons in Well

MP Elevation ✓ Pump Intake (ft) ~20 Purge Method Peri-pump

Sample Method Low Flow Sampling

Pump On/Off 0723 ✓ Volumes Purged _____

Sample Time: Label 0745 Replicate/ Code No. ✓
 Start 0745
 End 0803

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance		
												Color	Odor	
2 consecutive readings for stability					(within 0.1)	(within 5%)		10 or lower	0.2 or less					
* Initial purge performed by C. Lawson 2/23/2021 to remove heavy sediments														
0723	Purge on													
0732	9	150	✓	~150 ml/min	6.87	20484	✓	32.7	2.60	15.7	-324.1	✓	✓	
0737	14	150	✓		6.87	20682	✓	21.5	2.18	16.4	-320.3	✓	Strong	
0742	19	150	✓		6.85	20550	✓	16.1	1.71	17.67	-312.5	✓	✓	
0745	Began Sampling													
0803	Ended Sampling													
 2/24/2021														

Constituents Sampled	Container	Number	Preservative
<u>5cc Col</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	3" = 0.10	4" = 0.13	6" = 0.17
	1.27 = 0.06	2" = 0.11	2" = 0.17	4" = 0.22		

Well Information

Well Location: _____

Condition of Well: _____

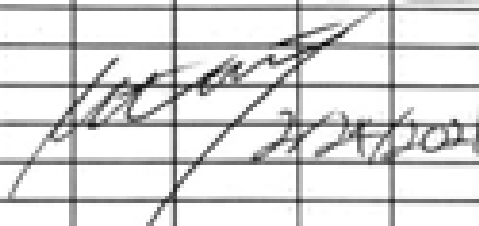
Well Completion: Flush Mgmt / Sick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

Project No. 30050105 Well ID VAP-31-W-2224 Page 1 of 1
 Date 2/24/2021
 Project Name/Location Plant Materials Weather Sunny ~ 50S
 Measuring Pt. Below Ground 22-24 Casing Description Top of Casing Setting (ft) 22-24 Diameter (in) 3-inch Well Material Steel
 Static Water Level (ft) 6.95 ft bgs Total Depth (ft) 22.65 ft Water Column Gallons in Well _____
 MP Elevation X Pump Intake (ft) ~23 ft Discharge Method _____
 Pump On/Off / Volumes Purged _____
 Sample Time: Label 0807 Replicate/Code No. _____ Other Ground Pen. Pipe Sample Method Low Flow Sampling
 Start 0807 End 0825 Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Temp (F/C)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (F)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
Initial purge performed by C. Larson on 2/22/2021 to remove heavy sediments; purge time ~ 10-15 min														
0750		Purging												
0753	3	600	/		7.58	22.14	/	86.3	0.79	19.2	-329	2225	Slurry	
0758	6	500	/		7.37	22.14	/	17.3	0.69	20.0	-274			
0759	9	506	/		6.77	22.34	/	18.5	0.72	20.0	-324			
0802	12	500	/		6.77	22.35	/	15.6	0.77	20.0	-345			
0805	15	500	/		6.77	22.69	/	17.2	0.81	20.0	-342			
0807	Began sampling													
0825	Ended sampling													
														

Constituents Sampled	Container	Number	Preservative
<u>see lab</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.08	2" = 0.16	3" = 0.36	4" = 0.60	6" = 1.47
	1.28" = 0.06	2" = 0.16	3" = 0.37	4" = 0.60		

Well Information

Well Location: _____
 Condition of Well: _____
 Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No
 Well Locked at Departure: Yes / No
 Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 3005015 Well ID VAP-31-W(29-3)

Date 2/24/02

Project Name/Location Plant M. Manus

Weather Sunny ~ 50°

Measuring Pt. BGS Screen Setting (ft) 29-31 Casing Diameter (in.) 2 inch

Well Material PVC
X SS

Static Water Level (ft) 8.15 ft bgs Total Depth (ft) ~ 31.4 bgs Water Column/ Gallons in Well

MP Elevation X Pump Intake (ft) ~ 30 Purge Method: Cartridge
Submersible
Other Deeping Pvc pump

Sample Method Low Flow Sampling

Sample Time: Label OB30 Replicate/ Code No. X
Start 0830
End

Sampled by GW

Time	Minutes Elapsed	Purge Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (C) (F)	Redox (mV)	Appearance		
												Color	Odor	
2 consecutive readings for stabilization														
Initial prime performed by G. Lawson on 2/23/02 ~ 20-25 min to remove														
have sediment/ low turbidity														
OB33 Purge on purging ~ 150 min														
OB33	10	100						6.23						
OB37	17	150			7.19	256.51		95.7	1.20	17.9	-32.1		Stony	
OB42	22	150			7.17	256.60		33.9	1.10	18.0	-36.4			
OB47	27	150			7.13	256.14		21.9	1.05	18.2	-36.9			
OB50	Begin Sampling													
OB55	Completed Sampling													
<i>[Signature]</i>														
<i>[Signature]</i>														

Constituents Sampled	Container	Number	Preservative
<u>SealOC</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	3" = 0.10	4" = 0.16	6" = 0.34
	1.37" = 0.06	2" = 0.08	2.5" = 0.07	4" = 0.16		

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Method / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

Project No. 30050105

Well ID UAP-31-W-31-33

Date 2/29/2011 Page 1 of 1

Project Name/Location Port Moresby

Weather _____

Measuring Pt. Description Below pump screen Screen Setting (ft) 31-33

Casing Diameter (in.) 200mm 1 inch

Well Material PVC SS

Static Water Level (ft) 5.10 Total Depth (ft) 32.9

Water Column/ Gallons in Well _____

MP Elevation X Pump Intake (ft) ~31

Purge Method _____

Sample Method Low Flow Sampling

Pump On/Off Off Volumes Purged _____

Compress Submersible Other Leakproof Per-pump

Sample Time: Label 0902 Replicate 0903 Code No. 0904

Sampled by Law

Time	Minutes Elapsed	Rate (gpm) (ml/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm) (µmhos/cm)	Salinity	Turbidity (NTU) (10 or lower)	Dissolved Oxygen (mg/L) (1% or 10%)	Temp. (C) (F)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
* Initial purge performed by Leckson ~25-30min to remove sediment reduce turbidity														
0857 Purge pump purging @ ~150ml/min														
0902	5	150	/		7.31	26219	/	19.9	0.91	17.1	-342.6	Clear	Slight	
0907	10	150	/		7.13	26531	/	18.5	0.65	17.5	-340.3			
0912	15	150	/		7.00	26509	/	6.83	0.65	17.5	-342.2			
0917	20	150	/		7.05	26475	/	2.92	0.65	17.5	-357.6			
0920	Clean sampling													
0923	Completed sampling													
<i>[Handwritten signature]</i>														

Constituents Sampled	Container	Number	Preservative
<u>See COL</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2.5" = 0.08	3.5" = 0.09	6" = 0.12
	1.25" = 0.05	2" = 0.07	3" = 0.09	4" = 0.08	

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount Stick Up

Well Locked at Arrival: Yes No

Well Locked at Departure: Yes No

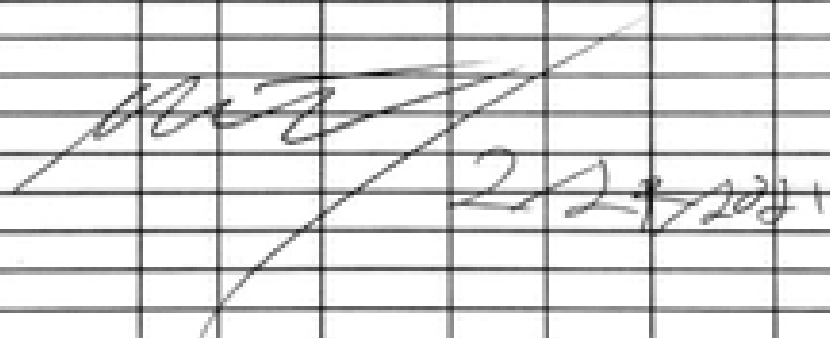
Key Number To Well: _____

Project No. 30050105 Well ID VAP-6-W-(B-10)
 Project Name/Location Plant McManis

Page 1 of 1
 Date 2/24/2011
 Weather Sunny ~60s
 Well Material JK PVC
X SS

Measuring Pt. Description 60s Screen Setting (ft) B-10 Casing Diameter (in.) 3.562 1 inch
 Static Water Level (feet) 5.32 ft bgs Total Depth (ft) 10.20 ft bgs Water Column/ Gallons in Well _____
 MP Elevation _____ Pump Intake (ft) ~9 Purge Method Aspirate - pump
 Pump On/Off 109 / 123 Volumes Purged _____
 Sample Time: Label 1214 Replicate/ Code No. X
 Start 1214 Other Seepage
 End 1232

Sample Method Low Flow Sampling
 Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth in Water (ft)	Gallons Purged	pH	Conductivity (uS/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
109	Pump on	Purging @ 500ml/min; initial prod. water extremely turbid												
1140	Reduced flow to ~150ml/min													
1205	54	250ml	/	/	7.01	25396	/	33.0	0.84	19.9	-192.1	Clear	Slight	
1208	57	250ml	/	/	6.97	25395	/	24.0	0.70	19.9	-185.9	/	/	
1211	60	250ml	/	/	6.95	25384	/	24.7	0.72	19.9	-187.2	/	/	
1214	Begin sampling													
1232	Completed Sampling													
														

Constituents Sampled	Container	Number	Preservative
<u>for Col</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.09	2" = 0.16	2.5" = 0.26	3" = 0.36	4" = 0.58	6" = 1.47
	1.27" = 0.06	2" = 0.16	2" = 0.27	4" = 0.88			

Well Information

Well Location: _____ Well Locked at Arrival: Yes / N

Condition of Well: _____ Well Locked at Departure: Yes / N

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 3005005 Well ID: VAP (6-W)-(15-17)

Page 1 of 1
Date 2 April 2011

Project Name/Location Plant McManus

Weather Spring 2011

Measuring Pt. A. 603 Screen Setting (ft) 15-17 Casing Diameter (in) 2 inch

Well Material Steel
SS

Static Water Level (ft) 5.70 Total Depth (ft) 116.98 Water Column/ Gallons in Well

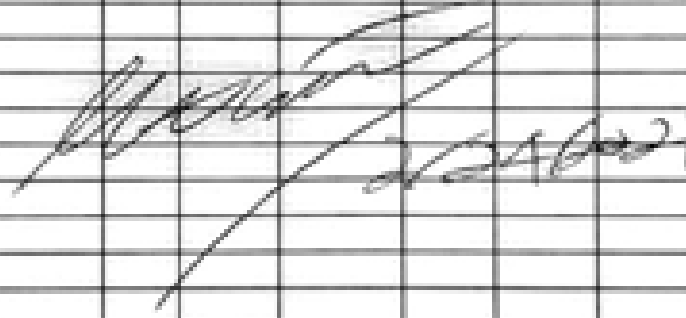
MP Elevation / Pump Intake (ft) 1-15 Pump Method Peristaltic

Sample Method Low Flow Sampling

Pump On/Off / Volumes Purged / Other Peristaltic

Sample Time: Label 1143 Replicate/ Code No. X

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µMhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Rohm (m)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
1112	10	500	/		7.17	23019	/	56.2	2.47	21.2	-3059	Clear	Slight	
1156	23	500	/		6.70	22924	/	15.1	1.91	21.2	-342.1	/	/	
1140	28	500	/		6.77	22845	/	16.5	1.85	21.2	-348.3	/	/	
1143	31	300	/		6.75	22314	/	16.66	1.80	21.1	-347.5	/	/	
1143	Design Sampling Completed													
1150	Completed Sampling													
														

Constituents Sampled	Container	Number	Preservative

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.13	4" = 0.17
	1.25" = 0.06	2" = 0.11	3" = 0.17	4" = 0.25		

Well Information


Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAP-G-W-(17-29) Date 2/24/2021
 Project Name/Location Plant McManus Weather 20°C-60%
 Measuring Pt. Description Top of Casing Screen Setting (m) 27-29 Casing Diameter (in) 2.00 inch Well Material Steel
 Static Water Level (m) 6.82 Actual Depth (m) 29.40m Water Column/ Gallons in Well _____
 MP Elevation X Pump Intake (m) ~20 Purge Method Peri-pump Sample Method Low Flow Sampling
 Pump On/Off 1156/1315 Volumes Purged _____
 Sample Time: Label 1303 Replicate/ Code No. X Other Seepage Sampled by GW
 Start 1303
 End 1315

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm) (with 25)	Salinity	Turbidity (NTU) (10 or less)	Dissolved Oxygen (mg/L) (2.0 or 25%)	Temp. (°C) (°F)	Redox (mV)	Appearance		
												Color	Color	
3 consecutive readings for stabilization														
1156	Purge; initial purge clearing out many sediments/reduce turbidity													
1245	Redoxed thio to ~250 µM/L													
1250	516	250	/		6.83	2787	/	18.3	2.47	22.2	374.3	Clear	Stagnant	
1255	601	250	/		6.85	2780.4	/	18.1	1.69	22.1	-308.4	|	|	
1300	646	250	/		6.80	2788.7	/	9.19	1.57	22.1	366.0			
1303	Begin Sampling													
1315	Completed Sampling													
														

Constituents Sampled	Container	Number	Preservative
See Lab			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	3" = 0.10	4" = 0.14
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No
 Condition of Well: _____ Well Locked at Departure: Yes / No
 Well Completion: Flush Mount / Stick Up Key Number To Well: _____

Project No. 20050105 Well ID VAP-G-W-(33.5-35.5)

Date 2/24/2011

Project Name/Location Plant McManus

Weather Sunny-Clear

Measuring Pt. Ag5 Screen Setting (ft) 33.5-35.5 Casing Diameter (in) 2 inch

Well Material PVC
X SS

Static Water Level (ft) 0.54 ft Ag5 Total Depth (ft) 35.9 ft Ag5 Water Column/ Gallons in Well

MFL Elevation X Pump Intake (ft) ~34.5 Purge Method Peri-pump
Centrifugal
Submersible
Other Seepump

Sample Method Low Flow Sampling

Pump On/Off Off Volumes Purged _____

Sample Time: Label 1350 Replicate/ Code No. X
Start 1350
End 1415

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for salinity														
1255														
1315														
1335	60	150	/		6.94	28837	/	571	2.15	23.2	-377.6	Black	Strong	
1340	65	150	/		6.89	28780	/	427	2.08	23.2	-383.5	|	|	
1345	70	150	/		6.87	28987	/	293	1.90	23.1	-389.0	|	|	
1350														
1415														

[Handwritten signature] 2/24/2011

Constituents Sampled	Container	Number	Preservative
<u>Acid</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.08	2" = 0.16	3" = 0.36	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 20050104 Well ID VAP-26-w-810

Date 2/24/02 Page 1 of 1

Project Name/Location Plant Mammals

Weather Sunny 60s

Measuring Pt. A-105 Screen Setting (ft) 8-10 Casing Diameter (in) 1.315 inches

Well Material Steel

Static Water Level (ft) 6.18 Total Depth (ft) 10.00 Water Column/Gallons in Well

MP Elevation X Pump Intake (ft) -1.15 Purge Method: Submersible

Sample Method Low Flow Sampling

Pump On/Off 16:17/17:10 Volumes Purged

Sample Time: Label KAS Replicates X
Start 16:15 Code No.
End 17:10

Sampled by OC

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mv)	Appearance		
												Color	Clarity	
3 consecutive readings for stabilization														
* Initial purge performed by C. Lawson; well produces ~2000 L/min														
16:21	9	150ml			6.43	2209		56.2	3.36	18.3	-817	Clear	Slime	
16:35	14	150ml			6.40	2688		14.9	2.68	18.2	-819			
16:40	19	150ml			6.36	2673		9.82	2.52	18.1	-762			
16:45	Began Sampling													
17:10	Completed Sampling													
2/24/02														

Constituents Sampled	Container	Number	Preservative
See Col			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	3" = 0.10	4" = 0.14
	1.25" = 0.05	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAP-26-w(11-13)
 Project Name/Location M^cMANS
 Measuring Pt. 1A w/6 Screen 11-13 Casing 6"
 Description Top of Casing Setting in soil 11-13 Diameter (in.) 6"
 Static Water Level (ft) 7.30 ft Total Depth (ft) 12.95 ft Water Column 5.65 Gallons in Well
 MP Elevation X Pump Intake (ft) ~2 Purge Method Centrifugal Sample Method Low Flow Sampling
 Pump On/Off 0900/1030 Volumes Purged < Submersible
 Other Generator Pump
 Sample Time: Label 1030 Replicate/Code No. X
 Start 0900
 End 1030 Sampled by GW

Page 1 of 1
 Date 2/25/2021
 Weather Clear 60°C
 Well Material X PVC
SS
 Sample Method Low Flow Sampling
 Sampled by GW

Time	Minutes Elapsed	Rate (gpm) (m/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm) with 1% NaCl	Salinity	Turbidity (NTU) 10 or lower	Dissolved Oxygen (mg/L) 0.2 or 10%	Temp. (°C) (°F)	Redox (mV)	Appearance		
												Color	Odor	
1 consecutive readings for stabilization														
<u>INITIAL AIRBORN BY CL ON 2/24/2021 WENT DAY EAST</u>														
<u>Extremely low production ~50ml/min</u>														
<u>0900</u>	<u>To soil</u>				<u>7.10</u>	<u>1056</u>		<u>330</u>	<u>1.69</u>	<u>18.8</u>	<u>-382</u>	<u>Clear</u>	<u>Stable</u>	
<u>0920</u>	<u>Begin Sampling</u>													
<u>1030</u>	<u>Complete Sampling</u>													
<u>2/25/2021</u>														

Constituents Sampled	Container	Number	Preservative
<u>col col</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	3" = 0.10	4" = 0.14	6" = 0.27
	1.20" = 0.05	2" = 0.10	3" = 0.17	4" = 0.25		

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush/Seal / Stick Up Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAP26-W-06-08

Page 1 of 1
 Date 2/25/2021
 Weather Sunny/Clear

Project Name/Location Plant McManus

Measuring Pt. ft 405 Screen Setting name: 26-28 Casing Diameter (in): 2.000 inches

Well Material CPVC
~~Steel~~

Static Water Level (feet) 701.5 Total Depth (feet) 28.0 Water Column/Gallons in Well _____

MP Elevation X Pump Intake (feet) 2.7 Purge Method _____

Sample Method Low Flow Sampling

Pump On/Off 0737 Volume Purged _____
 Other MS/MSD collected

Sample Time: Label 0755 Replicate/Code No. X Sampled by GW
 Start 0755
 End 0806
NP10 = DUP-02-W-02252021

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Salinity (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°F)	Notes	Appearance	
											Color	Odor
2 consecutive readings for verification												
* Initial purge performed on 2/25/21 by C. Lawson to reduce turbidity												
0735												
0745	10	350	/	/	7.11	3814	/	95.9	1.73	17.8	2810	slight
0748	13	350	/	/	7.17	3803	/	96.7	1.89	17.9	2856	/
0751	16	350	/	/	7.13	3785	/	98.6	1.92	17.9	2891	/
0755	Begin sampling											
0800	GW completed sampling											
2/25/2021												

Constituents Sampled	Container	Number	Preservative
See COL			

Well Casing Volumes

Gallons/foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.13	4" = 0.18
	1.2" = 0.03	2" = 0.08	2" = 0.07	2" = 0.07	2" = 0.07	2" = 0.07

Well Information

Well Location: _____	Well Locked at Arrival: <u>Yes</u> / No
Condition of Well: _____	Well Locked at Departure: <u>Yes</u> / No
Well Completion: <u>Flush Mound</u> / <u>Stick Up</u>	Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAP-20 W-(34-36)

Page 1 of 1
Date 2/25/2021

Project Name/Location Plant Mc Murry

Weather July 60s

Measuring Pt. A-bys Screen 34-36 Casing 2 inch
Description Tap water Setting (ft) 34-36 Diameter (in.) 2 inch

Well Material PVC
X SS

Static Water Level (ft) 7.9 ft A-bys Total Depth (ft) 36.10 ft Water Column/ Gallons in Well

MP Elevation X Pump Intake (ft) 1.35 ft Purge Method: Centrifugal
Pump On/Off 0755 Volumes Purged _____ Submersible
Other Success Air pumps

Sample Method Low Flow Sampling

Sample Time: Label 0810 Replicate/ Code No. X
Start 0810
End 0840

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°F)	Redox (mV)	Appearance	
												Color	Clarity
* Intial purge performed by C Larson on 2/24/2021 and continued on 2/25/2021 to reduce turbidity													
0755	Flow rate reduced from 500ml/min to 250ml/min												
0758	3	250	/	/	7.45	9796	/	44.6	1.43	17.4	-255.3	Clear	Slight
0801	6	250	/	/	7.31	9872	/	50.2	1.14	17.5	-279.0		
0804	9	250	/	/	7.29	9858	/	48.5	1.13	17.5	-285.7		
0807	12	250	/	/	7.20	9851	/	67.8	1.13	17.5	-288.9		
0810	Oregon Sampling												
0840	Completed Sampling												
WATER													

Constituents Sampled	Container	Number	Preservative
<u>Sealed</u>			

Well Casing Volumes	1" x 0.04	1.5" x 0.08	2" x 0.12	3" x 0.20	4" x 0.30
Gallons/foot	1.27 x 0.06	2" x 0.14	3" x 0.27	4" x 0.45	6" x 1.17

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 20050105 Well ID VAP-32-W-(5-10)

Date Page 1 of 1
2/25/2004

Project Name/Location Point McHenry

Weather _____
Well Material PVC

Measuring Pt. A-605 Screen Setting in well 5-10 Casing Diameter 1.25 inch

Static Water Level (ft) 619.0 top Total Depth (ft) 9.00 (top) Water Column/ Casing in Well _____

MP Elevation X Pump Intake (ft) or 9 ft (top) Pump Method _____

Pump On/Off 1132/1135 Volumes Purged _____

Sample Method Low Flow Sampling

Sample Time: Label 1117 Replicate/ Code No. 2
Start 1117
End 1135

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C)	Redox (mV)	Appearance		
												Color	Clarity	
1 consecutive readings for calibration														
1050	10	300	/	/	6.73	20526	/	36.5	2.92	15.6	-87.6	clear	slightly	
1100	10	300	/	/	6.75	20563	/	2.96	2.92	15.6	-87.1	|	|	
1108	18	300	/	/	6.77	20576	/	1.66	2.15	15.6	-88.1	|	|	
1111	21	300	/	/	6.75	20563	/							
1114	24	300	/	/	6.74	20552	/							
1117	Begin Sampling													
1135	Completed Sampling													
1135 - 1138														

Constituents Sampled	Container	Number	Preservative
<u>see loc</u>			

Well Casing Volumes
 Gallons/Foot: 1" = 0.04, 1.5" = 0.08, 2" = 0.12, 2.5" = 0.16, 3" = 0.20, 4" = 0.27, 6" = 0.42

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mound / Shut Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

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ARCADIS Groundwater Sampling Form

Project No. 30050005 Well ID VA32-C-(22-24) Date 2/20/2024
 Project Name/Location Plant Mains Weather Sunny - 64°
 Measuring Pt. A106 Screen 22-24 Casing 4" PVC
 Description Flow Meter Setting (ft) 22-24 Diameter (in) 4"
 Well Material PVC
 Static Water Level (ft) 5.70 ft Total Depth (ft) 23.07 ft Water Column / Gallons in Well _____
 MFL Elevation _____ Pump Intake (ft) ~23 Pump Method _____ Sample Method Low Flow Sampling
 Pump On/Off 11:17/12:40 Volumes Purged _____ Other Permeable Pump
 Sample Time: Label 1220 Replaced _____
 Start 12:20 Code No. X
 End 12:40 Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Temperature (°C)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Total Solids (mg/L)	Appearance	
											Color	Odor
A composite reading for calibration												
11:37	0	0										
12:00	0	0										
12:09	300	/	/	7.65	25.94	/	88.5	0.76	22.2	386	Yellow	Strong
12:12	250	/	/	7.66	25.88	/	81.4	0.74	22.2	357	|	|
12:15	250	/	/	7.66	25.89	/	81.9	0.70	22.2	356	|	|
12:20	Begin Sampling											
12:40	End Sampling											
Continued (225/240)												

Constituents Sampled	Container	Number	Preservative
See Col			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1 1/2" = 0.08	2" = 0.12	3" = 0.20	4" = 0.30	6" = 0.54
	1.27 = 0.06	2" = 0.16	2 1/2" = 0.27	3" = 0.45		

Well Information

Well Location: _____	Well Locked at Arrival: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No
Condition of Well: <input checked="" type="checkbox"/> Fish Mouth / <input type="checkbox"/> Stick Up	Well Locked at Departure: <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No
Well Completion: <u>Fish Mouth / Stick Up</u>	Key Number To Well: _____

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ARCADIS Groundwater Sampling Form

Project No. 3000105 Well ID VAP-32-62-20-30 Date 1/1/2005
 Project Name/Location Point McHenry Weather Sunny
 Measuring Pt. Layer Screen 20-30 Casing 20-30
 Description Top of casing Setting (ft) 30-34 Diameter (in) 2-1/2
 Static Water Level (ft) 7.03 Total Depth (ft) 29.90 Water Column / Gallons in Well _____
 MFL Elevation X Pump Intake (ft) C-20 Purge Method _____
 Pump On/Off 1240/1215 Volume Purged _____
 Sample Time: Label 1203 Replicate/Code No. X Other Special Recovery
 Start 1203 End 1215 Sample Method Low Flow Sampling
 Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Specific Conductance (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance		
												Color	Odor	
Comprehensive readings for calibration														
1040														
1120														
1145														
1150	100	150	/		7.51	26040	/	367	1.67	22.4	-250			
1155	100	150	/		7.35	26109	/	357	1.63	20.4	-260			
1200	150	150	/		7.33	26113	/	509	1.55	22.4	-344			
1203														
1215														


 2/25/2005

Constituents Sampled	Container	Number	Preservative
4cc Calc			

Well Casing Volumes

Casing Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.14
	1.2" = 0.05	2" = 0.16	3" = 0.27	4" = 0.58	

Well Information

Well Location: _____	Well Locked at Arrival: Yes / No
Condition of Well: _____	Well Locked at Departure: Yes / No
Well Completion: Flush Mount / Stick Up	Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 3005015 Well ID VAP-18-W-(5-10)

Date 2/25/2011
 Weather Sunny - 70s
 Well Material Steel

Project Name/Location LAR Plant/McMurry's

Measuring Pt. 4-202 Screen 5-10 Casing Diameter in. 1.500

Description Perforated Casing Setting (ft) 5-10 Water Column/Gallons in Well

Static Water Level (ft) 5.20 Total Depth (ft) 9.84(4)3 Pump Intake (ft) 1.9 Purge Method

MP Elevation X Pump On/Off 1300/1305 Volumes Purged _____

Sample Time: Label 1442 Replicate/Code No. X

Sample Method Low Flow Sampling
 Sampled by OW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm) within 1ft	Salinity	Turbidity (NTU) or less	Dissolved Oxygen (mg/L) or %	Temp. (°C)	Redox (mV)	Appearance		
												Color	Smell	
* consecutive readings for stabilization														
1300														
1330														
1355														
1430														
1435														
1443	500	/	/	/	6.76	8613	/	96.9	22.7	18.0	-201.3	Clear	Strong	
1446	500	/	/	/	6.75	8620	/	83.5	23.6	18.0	-201.6	|	|	
1449	500	/	/	/	6.74	8640	/	69.6	22.6	18.0	-222.7	|	|	

Constituents Sampled	Container	Number	Preservative
<u>for Col</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.12	4" = 0.16
	1.37" = 0.06	2" = 0.10	2.5" = 0.13	3" = 0.16		

Well Information

Well Location: _____	Well Locked at Arrival: <u>Yes</u> / No
Condition of Well: _____	Well Locked at Departure: <u>Yes</u> / No
Well Completion: <u>Flush Mount</u> / Stick Up	Key Number To Well: _____

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ARCADIS Groundwater Sampling Form

Project No. 300-00105 Well ID VAP-10-W(21-23) Date 3/10/04
 Project Name/Location LAFC Plant McAllen Weather Sunny 70°
 Measuring Pt. A.064 Screen Setting (ft) 21-23 Casing Diameter (in) 2.00 inch Well Material 2" PVC
 Description Top of Casing
 Static Water Level (ft) 60.75 Total Depth (ft) 22.80 Water Column/Gallons in Well _____
 MP Elevation _____ Pump Intake (ft) 22-05 Surge Method _____
 Pump On/Off 1340 Volumes Purged _____
 Sample Time: Label 1407 Replicate/Code No. X Other Surface Per-pump Sample Method Low Flow Sampling
 Start 1357 End 1405 Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Flow (mL)	Appearance			
												Color	Smell		
3 consecutive readings for stabilization															
1340															
1340															
1340															
1350					6.76	19300		93.1	2.16	23.0	342.2		cloudy	strong	
1350					6.76	19300		98.4	2.11	23.0	342.0				
1404					6.75	19365		100.6	2.04	23.0	342.3				
1407	Begin Sampling														
1410	Completed Sampling														
2/25/04															

Constituents Sampled	Container	Number	Preservative
CO ₂ COL			

Well Casing Volumes	1" ± 0.04	1.5" ± 0.06	2.0" ± 0.08	3.0" ± 0.12	4" ± 0.16
Gallons/foot	1.27 ± 0.05	2 ± 0.16	3 ± 0.27	4 ± 0.38	6 ± 0.48

Well Location: _____ Well Locked at Arrival: Yes / No
 Condition of Well: _____ Well Locked at Departure: Yes / No
 Well Completion: Flush Mount / Stick Up Key Number To Well: _____

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ARCADIS Groundwater Sampling Form

Project No. 30092105 Well ID VAP-10-U-PC-20 Date 2/25/2011
 Project Name/Location Plant McManus Weather Sunny 70°
 Measuring Pt. Screen Casing Diameter (in) 1.25 Well Material 2" P
 Description Top of Casing Setting in case 26-28 Water Column/
 Static Water Level (feet) 235.4 Total Depth (feet) 28.0 Gallons in Well
 MP Elevation X Pump Intake (feet) 2.75 Purge Method
 Pump On/Off Hand Volumes Purged _____
 Sample Time: Label 1410 Start 1413 End 1416
 Sample Method Low Flow Sampling Sampled by GC

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Specific Gravity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°F)	Redox (mV)	Appearance	
											Color	Clarity
3 consecutive readings for stabilization												
1350	10	0.5	26.5	~ 1000	7.1	1.000	15.0	1.27	22.5	300	Clear	Shiny
1410	20	0.5	26.5	1	7.12	1.000	15.0	1.27	22.5	300	Clear	Shiny
1413	23	0.5	26.5	1	7.12	1.000	15.0	1.26	22.5	300	Clear	Shiny
1416	26	0.5	26.5	1	7.10	1.000	15.0	1.22	22.5	300	Clear	Shiny
1425	Open Sampling											
1430	Closed Sampling											

Handwritten signature/initials

Constituents Sampled	Container	Number	Preservative
<u>See log</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.13	4" = 0.17
	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.13	4" = 0.17	

Well Information

Well Location: _____	Well Locked at Arrival: Yes / No
Condition of Well: _____	Well Locked at Departure: Yes / No
Well Completion: <u>Flush Mount / Start-Up</u>	Key Number To Well: _____

Project No. 30050105

Well ID VAP-29-U.(510)

Date 2/26/2021

Project Name/Location Plant Removal

Weather Sunny 70s

Measuring Pt. 4105 Screen 5-10
 Description Top of casing Setting (ft) 5-10

Casing Diameter (in) 2 inch 1.25 in

Well Material PVC

Static Water Level (ft) 4.50 Total Depth (ft) 9.80 ft

Water Column Gallons in Well _____

MP Elevation X Pump Intake (ft) MP 4105 Purge Method _____
 Pump On/Off 1055 Volumes Purged _____

Centrifugal _____
 Submersible _____
 Other Seeping PVC pipe

Sample Method Low Flow Sampling

Sample Time: Label 1059 Replicate/Code No. X
 Start 1059
 End 11A

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance		
												Color	Odor	
3 consecutive readings for distribution														
1035 -														
1050	15	500	/	/	6.94	15060	/	26.3	2.97	18.7	241.3	Clear	Strong	
1053	18	500	/	/	6.93	15194	/	28.2	1.75	18.5	245	/	/	
1056	21	500	/	/	6.90	15250	/	23.9	1.54	18.5	250.0	/	/	
1059	Open sampling													
11A	Completed sampling													
2/26/2021														

Constituents Sampled	Container	Number	Preservative
<u>See COL</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.12	4" = 0.16	6" = 0.24
	1.25" = 0.05	2" = 0.08	2.5" = 0.10	3" = 0.12	4" = 0.16		

Well Information

Well Location: _____	Well Locked at Arrival: Yes / No
Condition of Well: _____	Well Locked at Departure: Yes / No
Well Completion: <u>Flush Meant / Stick Up</u>	Key Number To Well: _____

Project No. 30050105 Well ID VAP-29-L-19-21

Date 2/26/2021

Project Name/Location Plant Recovery

Weather Sunny ~ 20s

Measuring Pt. 5.20 ft Screen 19-21 Casing Diameter (in.) 2.00 inch

Well Material PE
X SS

Static Water Level (ft) 5.20 ft Total Depth (ft) 19.21 Water Column/ Gallons in Well

MP Elevation X Pump Intake (ft) ~20 Purge Method: Submersible

Sample Method Low Flow Sampling

Pump On/Off Off Volumes Purged _____ Other Seismic Perc Pump

Sample Time: Label 1134 Replicate/ Code No. X

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (microhm/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (C) (F)	Redox (mv)	Appearance		
												Color	Color	
3 consecutive readings for stabilization														
1049														
1115		60ml	/	/	6.54	26352	/	84.4	1.42	22.4	-300.9	Clear	Slightly	
1128		60ml	/	/	6.52	26369	/	60.6	1.35	22.4	-301.0	/	/	
1131		60ml	/	/	6.52	26412	/	31.6	1.20	22.4	-304.2	/	/	
1134		Oxygen Supplying												
1150		Completed Supplying												

[Handwritten signature and date 2/26/2021 over the bottom portion of the data table]

Constituents Sampled	Container	Number	Preservative
<u>see log</u>	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Well Casing Volumes

Gallons/Foot	8" = 0.04	10" = 0.06	12" = 0.08	14" = 0.10	16" = 0.14
	1.25" = 0.08	2" = 0.18	2" = 0.37	4" = 0.85	

Well Information

Well Location: _____	Well Locked at Arrival: <u>Yes</u> / <u>/</u> / <u>No</u>
Condition of Well: _____	Well Locked at Departure: <u>Yes</u> / <u>/</u> / <u>No</u>
Well Completion: <u>Flush Mount</u> / <u>Stick Up</u>	Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050/50 Well ID WAP-29-W-04-26

Date 2/26/2014

Project Name/Location Plant M-Menus

Weather Sunny w/70s

Measuring Pt. A Screen Setting (ft-in) 24-26 Casing Diameter (in.) 2 inch

Well Material 

Static Water Level (ft-in) 6.24 ft Total Depth (ft-in) 25.70 ft Water Column Gallons in Well _____

MP Elevation X Pump Intake (ft-in) 23.64 Purge Method: Constant Submersible Other Surface Air Pump

Sample Method Low Flow Sampling

Pump On/Off NS Volumes Purged _____

Sample Time: Label 1215 Replicate/Code No. X
Start 1215
End 1230

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Depth (ft)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
<u>1205</u>	<u>15</u>	<u>500</u>	<u>✓</u>	<u>✓</u>	<u>6.68</u>	<u>26607</u>	<u>✓</u>	<u>68.9</u>	<u>0.44</u>	<u>22.7</u>	<u>3331</u>	<u>clear</u>	<u>strong</u>	
<u>1208</u>	<u>18</u>	<u>500</u>	<u>✓</u>	<u>✓</u>	<u>6.67</u>	<u>26609</u>	<u>✓</u>	<u>58.1</u>	<u>0.45</u>	<u>22.7</u>	<u>3203</u>	<u>|</u>	<u>|</u>	
<u>1211</u>	<u>21</u>	<u>500</u>	<u>✓</u>	<u>✓</u>	<u>6.67</u>	<u>26591</u>	<u>✓</u>	<u>✓</u>	<u>0.44</u>	<u>22.7</u>	<u>3295</u>	<u>|</u>	<u>|</u>	
<u>1215</u>	<u>Begin Sampling</u>													
<u>1230</u>	<u>Completed Sampling</u>													

Constituents Sampled	Container	Number	Preservative
<u>See Lab</u>			

Well Casing Volumes
 Gallons/Foot: 1" = 0.04, 1.5" = 0.06, 2" = 0.08, 2.5" = 0.10, 3" = 0.13, 4" = 0.18, 6" = 0.27

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Slick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 30050105 Well ID VAP-29-W-(30-32)

Page 1 of 1
Date 2/20/21

Project Name/Location Antony's Crows

Weather Sunny 70

Measuring Pt. G-05C Screen 30-32 Casing Diameter (in.) 1 inch
Description Tapwater Setting (in.)

Well Material Steel

Static Water Level (ft.) 5.40 Total Depth (ft.) 32.0 Water Column/Gallons in Well

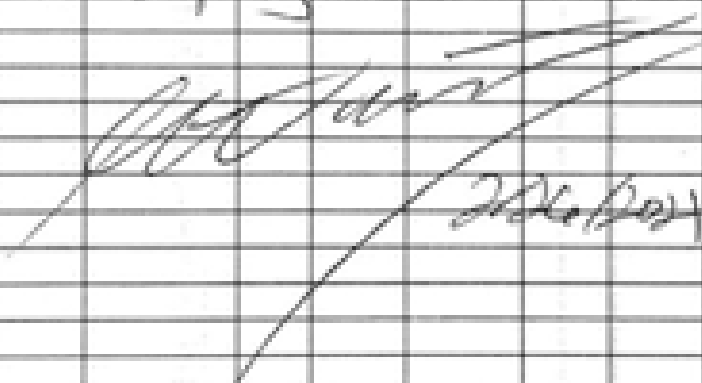
MP Elevation X Pump Intake (ft.) ~31.45 Purge Method: Centrifugal

Sample Method Low Flow Sampling

Pump On/Off 143/130 Volumes Purged Other None

Sample Time: Label 147 Replicate/Code No. X
Start 147
End 150

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Sp. Cond. (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C / °F)	pH	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
113 person to rise tank and nearby														
1230	500	/	/	/	6.57	23081	/	84.1	0.72	22.1	7.62	Clear	Slight	
1241	500	/	/	/	6.56	23076	/	68.3	0.67	20.1	7.85			
1244	500	/	/	/	6.56	22079	/	61.9	0.60	22.1	7.74			
1247	Main Sampling Completed Sampling													
1300														
														

Constituents Sampled	Container	Number	Preservative
<u>See Col</u>			

Well Casing Volumes	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.12	3.5" = 0.14	4" = 0.16
Gallons/Foot	1.27 = 0.06	2" = 0.10	3" = 0.17	4" = 0.23	5" = 0.30	6" = 0.37	8" = 0.48

Well Information

Well Location: _____ Well Locked at Arrival: Yes / No

Condition of Well: _____ Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: _____

Project No. 30000105 Well ID: VAP-15-W-(15-17)

Date: 2/26/201

Project Name/Location: Plant McManus

Weather: Sunny - 70s

Measuring Pt. #4 Screen Setting (ft-sg): 15-17 Casing Diameter (in): 2.5 in liner

Well Material: PVC
SS

Static Water Level (ft-sg): 710.25 Total Depth (ft-sg): 16.95 Water Column Gallons in Well: _____

MP Elevation: _____ Pump Intake (ft-sg): ~16.4 ft-sg Purge Method: _____

Sample Method: Low Flow Sampling

Pump On/Off: 1410 / 1445 Volumes Purged: _____

Submersible: _____
Other: Garrett Per pump

Sample Time: Label 1434 Replicate/Code No. X
Start 1434 End _____

Sampled by: GW

Time	Minutes Elapsed	Rate (gpm) (ml/min)	Depth to Water (ft)	Gallons Purged	pH	Cond. (µmhos/cm) (µS/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance		
												Color	Odor	
2 consecutive readings for stabilization					(within 0.1)	(within 2%)		10 or lower	0.2 or 10%					
1410		Pump on												
1425	15	500	/	/	6.94	23017	/	45.0	1.31	22.4	-340.2	Clear	Slight	
1428	18	500	/	/	6.93	22970	/	39.7	1.22	22.4	-342.3	|	|	
1431	21	500	/	/	6.94	22890	/	70.1	1.07	22.4	-345.6			
1434		Purge Sampling												
1445		Completed Sampling												

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Constituents Sampled	Container	Number	Preservative
<u>Geo Col</u>	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.06	2" = 0.08	2.5" = 0.10	3" = 0.14
	1.25" = 0.06	2" = 0.10	2.5" = 0.17	3" = 0.25	

Well Information

Well Location: _____	Well Locked at Arrival: <u>Yes</u> / <u>No</u>
Condition of Well: _____	Well Locked at Departure: <u>Yes</u> / <u>No</u>
Well Completion: <u>Flush Mount</u> / <u>Stick Up</u>	Key Number To Well: _____

ARCADIS Groundwater Sampling Form

Project No. 300 20 105 Well ID VAR 29-4(20-22)

Date 2/26/11 Page 1 of 1

Project Name/Location Pink Meadows

Weather _____

Measuring Pt. A-5 Screen Setting interval 20-22 Casing Diameter (in) 4 inch

Well Material Steel

Static Water Level (feet) 7.10 Total Depth (feet) 22.0 Water Column Gallons in Well _____

MP Elevation X Pump Intake (feet) 24 Purge Method _____

Sample Method Low Flow Sampling

Pump On/Off 1430/1450 Volumes Purged _____

Sampled by GW

Sample Time: Label 1445 Replicate/Code No. X

Time	Minutes Elapsed	Flow (gpm)	Depth to Water (ft)	Gallons Purged	pH	Temp (F)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (F)	Redox (mV)	Appearance	
Consecutive readings for stabilization					(within 0.1)	(within 0.2)		(1.0 or lower)	(3.2 or 10%)			Color	Odor
<u>ADD Tap on pump and 500ml/min</u>													
<u>1436</u>	<u>16</u>	<u>500</u>	<u>7.10</u>	<u>1</u>	<u>6.95</u>	<u>22.446</u>	<u>1</u>	<u>46.1</u>	<u>0.89</u>	<u>22.8</u>	<u>-359</u>	<u>clear</u>	<u>slight</u>
<u>1439</u>	<u>19</u>	<u>500</u>	<u>7.10</u>	<u>1</u>	<u>6.96</u>	<u>22.423</u>	<u>1</u>	<u>60.2</u>	<u>0.94</u>	<u>22.9</u>	<u>-339</u>	<u>1</u>	<u>1</u>
<u>1442</u>	<u>22</u>	<u>500</u>	<u>7.10</u>	<u>1</u>	<u>6.94</u>	<u>22.415</u>	<u>1</u>	<u>86.7</u>	<u>0.91</u>	<u>22.8</u>	<u>-32.8</u>	<u>1</u>	<u>1</u>
<u>1445</u>	<u>Begin Sampling</u>												
<u>1450</u>	<u>Completed Sampling</u>												

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Constituents Sampled	Container	Number	Preservation
<u>60606</u>			

Well Casing Volumes	1" x 0.04	1.5" x 0.04	2" x 0.04	3" x 0.04	4" x 0.04
Gallons/Foot	1.27 x 0.08	2" x 0.16	3" x 0.27	4" x 0.48	5" x 1.07

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Slick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

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ARCADIS Groundwater Sampling Form

Project No. 300 3015

Well ID LA15-W-06-03

Date 2/26/03

Project Name/Location Plant Materials

Weather Sunny, 70°

Measuring Pt. ft-bys Screen 26-28
 Description 26-28 Setting (ft) 26-28

Casing Diameter (in.) well 1.5 in

Well Material well

Static Water Level (ft) 7.68 ft Total Depth (ft) 27.00

Water Column Gallons in Well

MP Elevation X Pump Intake (ft) 1-27

Purge Method

Sample Method Low Flow Sampling

Pump On/Off 1423/1525 Volumes Purged

Centrifugal
Submersible
Other Peri-pump

Sample Time: Label 150 Replicate/Code No. X
 Start 1430
 End 1525

Sampled by GW

Time	Minutes Elapsed	Rate (gpm)	Depth to Water (ft)	Gallons Purged	pH	Conductivity (µmhos/cm)	Salinity	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°F)	Redox (mv)	Appearance		
												Color	Odor	
3 consecutive readings for stabilization														
1423	Pump on				(within 0.1)	(within 2%)		10 or lower	0.2 or 10%					
1501		500	/	/	7.16	18086	/	78.5	0.74	22.1	-361.0	Clear	Strong	
1504		500	/	/	7.5	18082	/	51.3	0.69	22.1	-362.4	|	|	
1507		500	/	/	7.15	18059	/	39.9	0.56	22.1	-363.8			
1510	Begin Sampling													
1525	Completed Sampling													

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Constituents Sampled	Container	Number	Preservative
<u>see log</u>			

Well Casing Volumes

Gallons/Foot	1" = 0.04	1.5" = 0.08	2" = 0.16	2.5" = 0.25	3" = 0.37	4" = 0.50	6" = 1.47
	1.33" = 0.05	2" = 0.16	2" = 0.37	2" = 0.50			

Well Information

Well Location: _____

Condition of Well: _____

Well Completion: Flush Mount / Sock Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: _____

ATTACHMENT 3

Data Validation and Laboratory Analytical Reports



Georgia Power Company

Data Review

McManus Plant – Brunswick, GA

Metals and Miscellaneous Analyses

SDG #s 92523889, 92523918, 92524147, 92524150 and 92524152

Analyses Performed By:

Pace Analytical

Peachtree Corners, GA and Asheville, NC

Report #41405R

Review Level: Tier II

Project: 30050105.10

Summary

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #s:92523889, 92523918, 92524147, 92524150 and 92524152 for samples collected in association with the Georgia Power Company McManus site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis	
						MET	MISC
92523889	VAP-14-W (5-10)	92523889-1	Water	02/23/21		X	X
	VAP-14-W (5-10)	92523889-2	Water	02/23/21		X	X
	VAP-14-W (5-10)	92523889-3	Water	02/23/21		X	X
	VAP-14-W (5-10)	92523889-4	Water	02/23/21		X	X
92523918	VAP-14-W (17-19)	92523918-1	Water	02/23/21		X	X
	DUP-01-W (022321)	92523918-2	Water	02/23/21	VAP-14-W (17-19)	X	X
92524147	VAP-06-W (33.5-35.5)	92524147-1	Water	02/24/21		X	X
92524150	VAP-31-W (31-33)	92524150-1	Water	02/24/21		X	X
	VAP-06-W (15-17)	92524150-2	Water	02/24/21		X	X
	VAP-06-W (8-10)	92524150-3	Water	02/24/21		X	X
	VAP-06-W (27-29)	92524150-4	Water	02/24/21		X	X
92524152	VAP-31-W (5-10)	92524152-1	Water	02/23/21		X	X
	VAP-31-W (18-20)	92524152-2	Water	02/24/21		X	X
	VAP-31-W (22-24)	92524152-3	Water	02/24/21		X	X
	VAP-31-W (29-31)	92524152-4	Water	02/24/21		X	X

Note:

Miscellaneous Analysis includes alkalinity, Total Dissolved Solids (TDS), sulfide, Biological Oxygen Demand (BOD), anions (chloride, nitrate, nitrite and sulfate), orthophosphorous and Total Organic Carbon (TOC).

SDG 92523889

1. Sample VAP-14-W (5-10) was used as the MS/MSD for the alkalinity and TOC analysis.

SDG 92523918

1. Sample VAP-14-W (17-19) was used as the MS/MSD for the metals, alkalinity, sulfide, anions, orthophosphorous and the TOC analysis. Sample VAP-14-W (17-19) was used as the lab duplicate for the TDS and BOD analysis.

SDG 92524147

1. Sample VAP-06-W (33.5-35.5) was used as the MS/MSD for the metals, alkalinity, and anions analysis. Sample VAP-06-W (33.5-35.5) was used as the lab duplicate for the TDS analysis.

Analytical Data Package Documentation

The table below evaluates the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed chain-of-custody form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data package completeness and compliance		X		X	

Note:

QA = quality assurance

Inorganic Analysis Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 6010D, 6020B, 300.0, 9060 and Standard Methods SM4500-P E-2011, SM2320B-2011, SM2540C-2011, SM4500-S2D-2011 and SM5210B-2011. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002 and USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified, and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
 - J The reported value was obtained from a reading less than the reporting limit (RL), but greater than or equal to the method detection limit (MDL).
- Quantitation (Q) Qualifiers
 - E The reported value is estimated due to the presence of interference.
 - N Spiked sample recovery is not within control limits.
 - * Duplicate analysis is not within control limits.
- Validation Qualifiers
 - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The analyte was not detected above the reporting limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Metals Analyses

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010D/6020B	Water	180 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD)/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

All analytes associated with MS/MSD recoveries were within control limits except for the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
VAP-06-W (33.5-35.5)	Manganese (Dissolved)	70%	57%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD except for sample VAP-6-W (33.5-35.5) where the total arsenic RPD was above the control limit. The parent sample was qualified as estimated for arsenic.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
VAP-14-W (17-19) / DUP-01-W (022321)	Calcium	287	298	3.8%
	Iron	0.14	0.067	AC
VAP-14-W (17-19) / DUP-01-W (022321)	Magnesium	543	536	1.3%

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
	Manganese	0.26	0.26	0.0%
	Potassium	120	500 U	AC
	Sodium	2880	2970	3.1%
	Calcium (Dissolved)	240	262	8.8%
	Iron (Dissolved)	0.080	0.050 U	AC
	Magnesium (Dissolved)	468	519	10.3%
	Manganese (Dissolved)	0.27	0.24	11.8%
	Potassium (Dissolved)	98.7	111	11.7%
	Sodium (Dissolved)	2650	2610	1.5%
	Arsenic	0.42	0.42	0.0%
	Boron	0.95 J	0.97 J	AC
	Arsenic (Dissolved)	0.17	0.16	6.1%
	Boron (Dissolved)	0.97 J	0.89 J	AC

Notes:

AC = Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

6. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

A site-specific serial dilution was not included in the data package.

7. General Assessment – Total vs. Dissolved

When the dissolved concentration exceeded the associated total concentration, and both results were five times greater than the RL, then the %D between the total and dissolved concentrations must be less than 10%.

The calculated %D between the total and the dissolved sample results were within the control limit.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist for Metal

METALS; SW-846 6010D/6020B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)					
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks	X				X
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X ¹	
Matrix Spike Duplicate (MSD) %R		X		X ¹	
MS/MSD Precision (RPD)		X		X ¹	
Field/Lab Duplicate (RPD)		X		X	
ICP Serial Dilution %D	X				X
Total vs. Dissolved		X		X	
Reporting Limit Verification		X		X	

Notes:

%R Percent recovery

RPD Relative percent difference

X¹ Data was acceptable with the exception of the data listed in the text above.

General Chemistry Analyses

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Alkalinity by SM 2320B-2011	Water	14 days from collection to analysis	Cool to <6 °C.
TDS by SM 2540C-2011	Water	7 days from collection to analysis	Cool to <6 °C.
Sulfide by SM4500-S2D-2011	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
BOD by SM 5210B-2011	Water	48 hours from collection to analysis	Cool to <6 °C.
Anions (Chloride, Nitrate, Nitrite and Sulfate) by EPA 300.0	Water	28 days from collection to analysis	Cool to <6 °C.
Orthophosphate by SM 4500-P E-2011	Water	48 hours from collection to analysis	Cool to <6 °C.
TOC by EPA 9060A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

The analyses that exceeded the holding time are presented in the following table.

Sample Locations	Holding Time	Criteria
VAP-31-W (5-10)	3 days	<2 days

Sample results associated with sample locations analyzed by analytical method SM 5210B-2011 were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) /Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

All analytes associated with MS/MSD recoveries were within control limits except for the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
VAP-14-W (17-19)	Nitrate	69%	69%
	Nitrite	<30%	<30%
VAP-06-W (33.5-35.5)	Nitrate	56%	52%
	Nitrite	40%	40%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to the parent sample.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate sample results exhibited RPDs within the control limit.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
VAP-14-W (17-19) / DUP-01-W (022321)	Alkalinity	720	752	4.3%
	TDS	13000	13000	0.0%
	Sulfide	85.6	72.9	16.0%
	BOD	2.0 U	2.0 U	AC
	Chloride	5480	7260	27.9%
VAP-14-W (17-19) / DUP-01-W (022321)	Sulfate	295	1040	NC

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
	Orthophosphate	0.66	0.82	AC
	Mean TOC	9.3	9.8	5.2%

Notes:

AC = Acceptable

NC = Non-compliant

The analyte sulfate associated with samples locations VAP-14-W (17-19) and DUP-01-W (022321) exhibited a field duplicate RPD greater than the control limit. The associated sample results from sample locations for the listed analyte were qualified as estimated.

5. Laboratory Control Sample (LCS) /Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist for General Chemistry

Methods: Various EPA and Standard Methods	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier II Validation					
Holding Times		X		X ¹	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate (LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X ¹	
Matrix Spike Duplicate (MSD) %R		X		X ¹	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X ¹	

Notes:

%R Percent recovery

RPD Relative percent difference

X¹ Data was acceptable with the exception of the data listed in the text above.

VALIDATION PERFORMED BY: Rachelle Borne

SIGNATURE:



DATE: May 20, 2021 Revised June 3, 2021

PEER REVIEW: Joseph C. Houser

DATE: May 24, 2021

Chain of Custody Corrected Sample Analysis Data Sheets

ID# _____

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order # 1112345

Sample ID	Collection Date/Time	Type of Sample	PARAMETER ANALYSIS & METHOD										REMARKS				
			CHLORIDE	COPPER	IRON	PHOSPHORUS	SULPHUR	NITROGEN	DETERMINED	KIT	TDC	BOO		TQS			
VAP-14-W (5-10)	2/23/04 9:15	W															
VAP-14-W (22-24)	2/23/04 9:15	W															
VAP-14-W (29-31)	2/23/04 9:45	W															
VAP-14-W (31-35)	2/23/04 10:15	W															
<p>Special Instructions/Comments: <u>matrix = As, Fe, Mn, Mg, Co, Ni, K, O</u></p> <p><u>Dissolved metals: Fe, Cd, Ni</u></p> <p><u>PHCS</u></p> <p>Cover Category Seal (Y) <input type="checkbox"/> (N) <input type="checkbox"/></p> <p>Sample Storage: _____</p> <p>Condition/Label: _____</p> <p>Preparation By: <u>Wendell Willard</u></p> <p>Analysis By: <u>Ed EX</u></p> <p>Project Name: _____</p> <p>Prepared By: _____</p> <p>Lab Work Order # <u>1112345</u></p> <p>Method: <u>1700</u></p> <p>Kit: <u>TC</u></p> <p>Method: <u>MSD</u></p> <p>Project Name: _____</p> <p>Prepared By: _____</p>																	



ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (5-10) Lab ID: 92523889001 Collected: 02/23/21 08:40 Received: 02/24/21 12:30 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	196	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:22	7440-70-2	
Iron	3.9	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:10	7439-89-6	
Magnesium	588	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:22	7439-95-4	
Manganese	0.13	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:10	7439-96-5	
Potassium	199	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:22	7440-09-7	
Sodium	4340	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 10:57	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	164	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:23	7440-70-2	
Iron, Dissolved	3.3	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:21	7439-89-6	
Magnesium, Dissolved	529	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:23	7439-95-4	
Manganese, Dissolved	0.12	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:21	7439-96-5	
Potassium, Dissolved	166	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:23	7440-09-7	
Sodium, Dissolved	3900	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 14:53	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:36	7440-38-2	
Boron	1.7J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:36	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 13:11	7440-38-2	
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 13:11	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	109	mg/L	5.0	5.0	1		02/25/21 17:16		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 17:16		
Alkalinity, Total as CaCO3	109	mg/L	5.0	5.0	1		02/25/21 17:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	15900	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.47	mg/L	0.10	0.050	1		02/25/21 07:03	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	02/25/21 07:22	03/02/21 06:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (5-10) **Lab ID: 92523889001** Collected: 02/23/21 08:40 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5400	mg/L	80.0	48.0	80		02/25/21 08:33	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 21:45	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 21:45	14797-65-0	
Sulfate	253	mg/L	80.0	40.0	80		02/25/21 08:33	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.25	mg/L	0.050	0.012	1		02/25/21 03:08		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	10.8	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Total Organic Carbon	10.8	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Total Organic Carbon	10.9	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Total Organic Carbon	11.0	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Mean Total Organic Carbon	10.9	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (22-24) Lab ID: 92523889002 Collected: 02/23/21 09:15 Received: 02/24/21 12:30 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	263	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:25	7440-70-2	
Iron	2.1	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:14	7439-89-6	
Magnesium	648	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:25	7439-95-4	
Manganese	0.38	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:14	7439-96-5	
Potassium	199	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:25	7440-09-7	
Sodium	4740	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:00	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	216	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:39	7440-70-2	
Iron, Dissolved	0.063	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:24	7439-89-6	
Magnesium, Dissolved	572	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:39	7439-95-4	
Manganese, Dissolved	0.35	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:24	7439-96-5	
Potassium, Dissolved	158	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:39	7440-09-7	
Sodium, Dissolved	4500	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 14:56	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.32	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:40	7440-38-2	
Boron	1.7J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:40	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.18	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:42	7440-38-2	
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:42	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	708	mg/L	5.0	5.0	1		02/25/21 17:44		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 17:44		
Alkalinity, Total as CaCO3	708	mg/L	5.0	5.0	1		02/25/21 17:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18800	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	87.2	mg/L	10.0	5.0	100		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (22-24) **Lab ID: 92523889002** Collected: 02/23/21 09:15 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7760	mg/L	100	60.0	100		02/25/21 08:48	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 21:59	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 21:59	14797-65-0	
Sulfate	900	mg/L	100	50.0	100		02/25/21 08:48	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.56	mg/L	0.25	0.059	5		02/25/21 03:09		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Total Organic Carbon	10.7	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Total Organic Carbon	10.7	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Mean Total Organic Carbon	10.5	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (29-31) Lab ID: 92523889003 Collected: 02/23/21 09:45 Received: 02/24/21 12:30 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	261	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:28	7440-70-2	
Iron	0.89	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:17	7439-89-6	
Magnesium	584	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:28	7439-95-4	
Manganese	0.35	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:17	7439-96-5	
Potassium	206	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:28	7440-09-7	
Sodium	4690	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:04	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	209	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:42	7440-70-2	
Iron, Dissolved	0.14	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:28	7439-89-6	
Magnesium, Dissolved	495	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:42	7439-95-4	
Manganese, Dissolved	0.31	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:28	7439-96-5	
Potassium, Dissolved	165	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:42	7440-09-7	
Sodium, Dissolved	4310	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:00	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.078	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:44	7440-38-2	
Boron	2.1J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:44	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.044	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:46	7440-38-2	
Boron, Dissolved	2.1J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:46	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	440	mg/L	5.0	5.0	1		02/25/21 17:58		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 17:58		
Alkalinity, Total as CaCO3	440	mg/L	5.0	5.0	1		02/25/21 17:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17800	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	41.7	mg/L	10.0	5.0	100		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:07		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (29-31) **Lab ID: 92523889003** Collected: 02/23/21 09:45 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8200	mg/L	100	60.0	100		02/25/21 09:02	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 22:14	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 22:14	14797-65-0	
Sulfate	655	mg/L	100	50.0	100		02/25/21 09:02	14808-79-8	
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		02/25/21 03:09		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Mean Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (31-33) Lab ID: 92523889004 Collected: 02/23/21 10:10 Received: 02/24/21 12:30 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	248	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:32	7440-70-2	
Iron	0.77	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:21	7439-89-6	
Magnesium	537	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:32	7439-95-4	
Manganese	0.30	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:21	7439-96-5	
Potassium	194	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:32	7440-09-7	
Sodium	4410	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:07	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	213	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:46	7440-70-2	
Iron, Dissolved	0.29	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:31	7439-89-6	
Magnesium, Dissolved	492	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:46	7439-95-4	
Manganese, Dissolved	0.29	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:31	7439-96-5	
Potassium, Dissolved	167	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:46	7440-09-7	
Sodium, Dissolved	4050	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:03	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.032	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:59	7440-38-2	
Boron	2.0J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:59	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.012	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:50	7440-38-2	
Boron, Dissolved	2.0J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:50	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	413	mg/L	5.0	5.0	1		02/25/21 18:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 18:07		
Alkalinity, Total as CaCO3	413	mg/L	5.0	5.0	1		02/25/21 18:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17800	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	46.0	mg/L	10.0	5.0	100		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:08		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (31-33) **Lab ID: 92523889004** Collected: 02/23/21 10:10 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7370	mg/L	100	60.0	100		02/25/21 09:16	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 22:28	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 22:28	14797-65-0	
Sulfate	866	mg/L	100	50.0	100		02/25/21 09:16	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.46	mg/L	0.050	0.012	1		02/25/21 03:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Total Organic Carbon	7.1	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Mean Total Organic Carbon	7.0	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	

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CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Sample ID	Collection Date	Sample Type	Matrix	PARAMETER ANALYSIS & METHOD										REMARKS			
				TOTAL METALS	DISSOLVE METALS	ALKALINITY	Ca, Mg, Na, K	Sulfate	NO ₃ -N	Orthophosphate	K ₂ T	TBC	BOD		TDS		
MATT 0208 ARCHAOL	9-19-15	22 BY		1	1	1	1	1	1	1	1	1	1	1	1		
SYAO WOOD PINE BLVD				1	1	1	1	1	1	1	1	1	1	1	1		
ROANOK NC 27603				1	1	1	1	1	1	1	1	1	1	1	1		
MIRAMIS RIVER - Richmond				1	1	1	1	1	1	1	1	1	1	1	1		
VAP-14-wc(17-19)	9/23/15		X W														001
AUSE01-wc(022015)	11		X W														002
MIRAMIS RIVER (17-15)	11		X W														001

Special Instructions: **MIRAMIS AT 12, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100**
 Disposed metals are field filling
 * TOTAL ARE OUTGIVEN AT THE BY HAND THAT

Special Order Instructions

Order Category: Standard Rush Expedite

Special Instructions: **SMITHSONIAN INSTITUTION**

Special Instructions: **FIELD**

Special Instructions: **PRICE / AVI**

Special Instructions: **PER 121 1930**



ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

Sample: VAP-14-W (17-19) Lab ID: 92523918001 Collected: 02/23/21 12:35 Received: 02/24/21 12:30 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	287	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:35	7440-70-2	M6
Iron	0.14	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:24	7439-89-6	
Magnesium	543	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:35	7439-95-4	M6
Manganese	0.26	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:24	7439-96-5	
Potassium	120	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:35	7440-09-7	M6
Sodium	2880	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:10	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	240	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:49	7440-70-2	M6
Iron, Dissolved	0.080	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:35	7439-89-6	
Magnesium, Dissolved	468	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:49	7439-95-4	M6
Manganese, Dissolved	0.27	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:35	7439-96-5	
Potassium, Dissolved	98.7	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:49	7440-09-7	M6
Sodium, Dissolved	2650	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:06	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.42	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:15	7440-38-2	M6
Boron	0.95J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:15	7440-42-8	M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.17	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:21	7440-38-2	M6, R1
Boron, Dissolved	0.97J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:21	7440-42-8	M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	720	mg/L	5.0	5.0	1		02/25/21 18:16		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 18:16		
Alkalinity, Total as CaCO3	720	mg/L	5.0	5.0	1		02/25/21 18:16		M1
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13000	mg/L	2500	2500	1		02/24/21 18:42		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	85.6	mg/L	25.0	12.5	250		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:13		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Sample: VAP-14-W (17-19) **Lab ID: 92523918001** Collected: 02/23/21 12:35 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5480	mg/L	70.0	42.0	70		02/25/21 09:30	16887-00-6	M6
Nitrate as N	ND UJ	mg/L	0.10	0.060	1		02/25/21 09:59	14797-55-8	M6
Nitrite as N	ND	mg/L	0.10	0.050	1	R	02/25/21 09:59	14797-65-0	M6
Sulfate	295 J	mg/L	10.0	5.0	10		02/24/21 22:42	14808-79-8	M6
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		02/25/21 03:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Total Organic Carbon	9.1	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Mean Total Organic Carbon	9.3	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

Sample: DUP-01-W (02232021) Lab ID: 92523918002 Collected: 02/23/21 00:00 Received: 02/24/21 12:30 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	298	mg/L	10.0	9.4	100	02/25/21 02:37	02/26/21 14:18	7440-70-2	
Iron	0.067	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:45	7439-89-6	
Magnesium	536	mg/L	10.0	6.8	100	02/25/21 02:37	02/26/21 14:18	7439-95-4	
Manganese	0.26	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:45	7439-96-5	
Potassium	ND	mg/L	500	304	100	02/25/21 02:37	02/26/21 14:18	7440-09-7	
Sodium	2970	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 14:18	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	262	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 16:02	7440-70-2	
Iron, Dissolved	ND	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:55	7439-89-6	
Magnesium, Dissolved	519	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 16:02	7439-95-4	
Manganese, Dissolved	0.24	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:55	7439-96-5	
Potassium, Dissolved	111	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 16:02	7440-09-7	
Sodium, Dissolved	2610	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:19	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.42	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 14:03	7440-38-2	
Boron	0.97J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 14:03	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.16	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 13:07	7440-38-2	
Boron, Dissolved	0.89J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 13:07	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	752	mg/L	5.0	5.0	1		02/25/21 18:57		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 18:57		
Alkalinity, Total as CaCO3	752	mg/L	5.0	5.0	1		02/25/21 18:57		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13000	mg/L	2500	2500	1		02/24/21 18:42		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	72.9	mg/L	10.0	5.0	100		02/25/21 07:05	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	02/25/21 07:22	03/02/21 06:17		H2

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Sample: DUP-01-W (02232021) **Lab ID: 92523918002** Collected: 02/23/21 00:00 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7260	mg/L	100	60.0	100		02/25/21 08:13	16887-00-6	
Nitrate as N	ND	mg/L	1.0	0.60	10		02/24/21 21:24	14797-55-8	
Nitrate as N	0.13	mg/L	0.10	0.060	1		02/25/21 09:44	14797-55-8	H1
Nitrite as N	ND	mg/L	1.0	0.50	10		02/24/21 21:24	14797-65-0	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/25/21 09:44	14797-65-0	H1
Sulfate	1040 J	mg/L	14.0	7.0	14		02/25/21 03:02	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.82	mg/L	0.25	0.059	5		02/25/21 03:07		H1
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	9.9	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Total Organic Carbon	9.7	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Total Organic Carbon	9.8	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Total Organic Carbon	9.9	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Mean Total Organic Carbon	9.8	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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FOR: []

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

LAB WORK ORDER # 65524167

PROJECT: Highway 270
 SITE: Site 370
 ANALYST: SYDE WOOD
 PROJECT: BALWIS, NC 27607
 PROJECT: McMinnuc-Balwisch
 PROJECT: 30050185.00006

Sample ID	Description	Type	Matrix
<u>WFL-02-1635-356</u>	<u>CONC</u>	<u>SD</u>	<u>X</u>

PARAMETER ANALYSIS & METHOD	C	C	R	F	E	G	F	F
TOTAL Solids								
DISTURBED Solids								
ALUMINUM BY 280 UPL	1	1	1	1	1	1	1	1
SULFIDE BY DR ZL	3	3	3	3	3	3	3	3
BIOLOGICAL Solids								
ORTHOPHOSPHATE KIT	1	1	1	1	1	1	1	1
TOC								
BOD								
TDS								

Special Instructions/Comments: METHODS: AT, Fe, mg, mg, Cu, Mn, K, B
DISSOLVE METHODS: quarter filter
DATA: PWS DISTRICT
AT: 500 ml sample analyzed on 12/24/11 by TAT

Lab Name: DACS
 Analyst: SYDE WOOD
 Date: 12/25/11
 Sample Type: CONC
 Matrix: SD
 Container: 500 ml

Preparation By	Preparation Date	Transportation By	Transportation Date	Reception By	Reception Date
<u>Grant Alwood</u>	<u>12/25/11</u>	<u>FoxEx</u>	<u>12/25/11</u>	<u>Smart Edge</u>	<u>12/25/11</u>
<u>WFL-02-1635-356</u>	<u>12/25/11</u>	<u>WFL-02-1635-356</u>	<u>12/25/11</u>	<u>WFL-02-1635-356</u>	<u>12/25/11</u>

REMARKS:
 1. ...
 2. ...
 3. ...
 4. ...
 5. ...
 6. ...
 7. ...
 8. ...



ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524147

Sample: VAP-6-W (33.5-35.5) **Lab ID: 92524147001** Collected: 02/24/21 13:50 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	462	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:37	7440-70-2	M6
Iron	6.4	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:37	7439-89-6	
Magnesium	689	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:37	7439-95-4	M6
Manganese	1.6	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:37	7439-96-5	
Potassium	168	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:37	7440-09-7	M6
Sodium	5690	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 18:49	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	408	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:26	7440-70-2	M6
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:26	7439-89-6	
Magnesium, Dissolved	636	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:26	7439-95-4	M6
Manganese, Dissolved	1.4 J	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:26	7439-96-5	M6
Potassium, Dissolved	154	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:26	7440-09-7	M6
Sodium, Dissolved	4990	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 01:40	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND UJ	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 10:55	7440-38-2	D3,R1
Boron	2.4J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 10:55	7440-42-8	D3,M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 20:40	7440-38-2	D3
Boron, Dissolved	2.2J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 20:40	7440-42-8	D3,M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	700	mg/L	5.0	5.0	1		02/26/21 18:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/26/21 18:29		
Alkalinity, Total as CaCO3	700	mg/L	5.0	5.0	1		02/26/21 18:29		M1
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20600	mg/L	2500	2500	1		02/25/21 18:51		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	59.1	mg/L	10.0	5.0	100		02/26/21 06:36	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	02/26/21 05:00	03/03/21 01:28		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

Sample: VAP-6-W (33.5-35.5) **Lab ID: 92524147001** Collected: 02/24/21 13:50 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	9250	mg/L	100	60.0	100		02/25/21 20:35	16887-00-6	M6
Nitrate as N	ND UJ	mg/L	10.0	6.0	100		02/25/21 20:35	14797-55-8	D3, M6
Nitrite as N	ND UJ	mg/L	10.0	5.0	100		02/25/21 20:35	14797-65-0	D3, M6
Sulfate	853	mg/L	100	50.0	100		02/25/21 20:35	14808-79-8	M6
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.24	mg/L	0.050	0.012	1		02/26/21 03:50		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Mean Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	

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ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page of

Lab Work Order # 91520150

Client: WPAAP water Project: 919-415-2284

Site: Sho-350

Sample Location: Surface water Park Ave

Requester: RAULIEN N.C. 27607 Matthews, Wake Co. Assessor

Mailing Address: 3805 8105-00006

Parameter	C	E	R	S	P	G	E	S
Total metals								
Dissolved metals								
Alkalinity								
CL, SO ₄ , NO ₃ KIT								
BETHOPHOS								
Sulfide								
Ammonia + 2, 4, 6								
TOL								
BOD								
TDS								

PARAMETER ANALYSIS & METHOD

Preparation: As is

Storage: As is

Analysis: As is

Remarks: As is

Sample ID	Collection Date	Time	Temp (°F)	Depth	Matrix
VAP-31-w (31-53)	2/24/14	9:10			W
VAP-06-w (06-10)	2/24/14	11:43			W
VAP-06-w (06-10)	2/25/14	12:14			W
VAP-06-w (06-10)	2/27-29	2/27/14 13:03			W

Special Instructions: Metals: As, Fe, Mn, and Cu, May 18
Dissolved metals: As, Fe, Mn, and Cu, May 18
Total Dissolved As as

Special Blank Requirements: None

Chain of Custody:

Collected by: PAUL

Transported by: Stantec/PAUL

Delivered by: PAUL

Received by: PAUL

Signature: PAUL

Date: 2-25-14 11:00

ARCADIS logo

WHITE - Laboratory request with results

YELLOW - Lab copy

PINK - Reviewed by Arcadis



ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-31-W (31-33) Lab ID: 92524150001 Collected: 02/24/21 09:20 Received: 02/25/21 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	282	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:51	7440-70-2	
Iron	ND	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:51	7439-89-6	
Magnesium	618	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:51	7439-95-4	
Manganese	0.32	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:51	7439-96-5	
Potassium	184	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:51	7440-09-7	
Sodium	5380	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:02	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	238	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:52	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:52	7439-89-6	
Magnesium, Dissolved	548	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:52	7439-95-4	
Manganese, Dissolved	0.28	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:52	7439-96-5	
Potassium, Dissolved	163	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:52	7440-09-7	
Sodium, Dissolved	4510	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 01:53	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.038	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:15	7440-38-2	D3
Boron	2.3J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:15	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.020	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:01	7440-38-2	D3
Boron, Dissolved	1.6J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:01	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	420	mg/L	5.0	5.0	1		02/26/21 19:07		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/26/21 19:07		
Alkalinity, Total as CaCO3	420	mg/L	5.0	5.0	1		02/26/21 19:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18200	mg/L	2500	2500	1		03/02/21 19:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	33.2	mg/L	10.0	5.0	100		02/26/21 06:36	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	02/26/21 05:00	03/03/21 01:31		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-31-W (31-33) **Lab ID: 92524150001** Collected: 02/24/21 09:20 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8180	mg/L	100	60.0	100		02/25/21 18:12	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 18:12	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 18:12	14797-65-0	D3
Sulfate	977	mg/L	100	50.0	100		02/25/21 18:12	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.92	mg/L	0.25	0.059	5		02/26/21 03:49		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Mean Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-06-W (15-17) Lab ID: 92524150002 Collected: 02/24/21 11:43 Received: 02/25/21 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	191	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:54	7440-70-2	
Iron	1.0	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:54	7439-89-6	
Magnesium	496	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:54	7439-95-4	
Manganese	0.31	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:54	7439-96-5	
Potassium	157	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:54	7440-09-7	
Sodium	4450	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:05	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	177	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:55	7440-70-2	
Iron, Dissolved	0.85	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:55	7439-89-6	
Magnesium, Dissolved	477	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:55	7439-95-4	
Manganese, Dissolved	0.29	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:55	7439-96-5	
Potassium, Dissolved	152	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:55	7440-09-7	
Sodium, Dissolved	4010	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 01:56	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:19	7440-38-2	D3
Boron	2.0J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:19	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:05	7440-38-2	D3
Boron, Dissolved	1.8J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:05	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	237	mg/L	5.0	5.0	1		03/08/21 17:23		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:23		
Alkalinity, Total as CaCO3	237	mg/L	5.0	5.0	1		03/08/21 17:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17300	mg/L	2500	2500	1		03/02/21 19:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	15.9	mg/L	10.0	5.0	100		02/26/21 06:37	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	02/26/21 05:00	03/03/21 01:35		-B2-

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-06-W (15-17) **Lab ID: 92524150002** Collected: 02/24/21 11:43 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7080	mg/L	100	60.0	100		02/25/21 19:09	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 19:09	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 19:09	14797-65-0	D3
Sulfate	900	mg/L	100	50.0	100		02/25/21 19:09	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.75	mg/L	0.25	0.059	5		02/26/21 03:49		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	8.6	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Total Organic Carbon	8.6	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Total Organic Carbon	8.8	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Total Organic Carbon	8.6	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Mean Total Organic Carbon	8.7	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-06-W (8-10) Lab ID: 92524150003 Collected: 02/24/21 12:14 Received: 02/25/21 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	218	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:57	7440-70-2	
Iron	3.7	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:57	7439-89-6	
Magnesium	611	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:57	7439-95-4	
Manganese	0.24	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:57	7439-96-5	
Potassium	167	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:57	7440-09-7	
Sodium	5050	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:22	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	203	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:59	7440-70-2	
Iron, Dissolved	2.7	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:59	7439-89-6	
Magnesium, Dissolved	605	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:59	7439-95-4	
Manganese, Dissolved	0.22	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:59	7439-96-5	
Potassium, Dissolved	162	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:59	7440-09-7	
Sodium, Dissolved	4270	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:06	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:24	7440-38-2	D3
Boron	1.8J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:24	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:26	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:26	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		03/08/21 17:32		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:32		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		03/08/21 17:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17500	mg/L	2500	2500	1		03/02/21 19:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/26/21 06:37	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	02/26/21 05:00	03/03/21 01:36		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-06-W (8-10) **Lab ID: 92524150003** Collected: 02/24/21 12:14 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8090	mg/L	100	60.0	100		02/25/21 19:38	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 19:38	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 19:38	14797-65-0	D3
Sulfate	1060	mg/L	100	50.0	100		02/25/21 19:38	14808-79-8	
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		02/26/21 03:50		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Total Organic Carbon	5.9	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Mean Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-06-W (27-29) Lab ID: 92524150004 Collected: 02/24/21 13:03 Received: 02/25/21 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	407	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:01	7440-70-2	
Iron	22.8	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:01	7439-89-6	
Magnesium	660	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:01	7439-95-4	
Manganese	1.9	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:01	7439-96-5	
Potassium	173	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:01	7440-09-7	
Sodium	5550	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:25	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	351	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:02	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:02	7439-89-6	
Magnesium, Dissolved	597	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:02	7439-95-4	
Manganese, Dissolved	1.5	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:02	7439-96-5	
Potassium, Dissolved	158	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:02	7440-09-7	
Sodium, Dissolved	4770	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:09	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:36	7440-38-2	D3
Boron	2.4J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:36	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:30	7440-38-2	D3
Boron, Dissolved	1.8J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:30	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	643	mg/L	5.0	5.0	1		03/08/21 17:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:41		
Alkalinity, Total as CaCO3	643	mg/L	5.0	5.0	1		03/08/21 17:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20300	mg/L	2500	2500	1		02/25/21 18:51		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	58.3	mg/L	10.0	5.0	100		02/26/21 06:38	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	02/26/21 05:00	03/03/21 01:40		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-06-W (27-29) **Lab ID: 92524150004** Collected: 02/24/21 13:03 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8950	mg/L	100	60.0	100		02/25/21 20:07	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 20:07	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 20:07	14797-65-0	D3
Sulfate	850	mg/L	100	50.0	100		02/25/21 20:07	14808-79-8	
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		02/26/21 03:50		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.1	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Mean Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	

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CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Sample ID	Collection Date	Time	Location	PARAMETER ANALYSIS & METHOD										REMARKS							
				Chloride	Calcium	Copper	Iron	Lead	Mercury	Nickel	Phosphorus	Sulfur	Zinc		Other						
WATER WORKS AREAS 8006 5th St SUZUKI WATER PARK RAVERIA AT 2200 M'HEAL'S N.C. BEVERAGES 230058185.0000																					
VAP-31-W (5-10)	2/10/08	15:00																			
VAP-31-W (8-20)	2/10/08	15:00																			
VAP-31-W (23-24)	2/10/08	8:00																			
VAP-31-W (25-26)	2/10/08	8:00																			

WATERALS: As Fe, Mn, Mg, Co, Ni, K, B
 Dissolved metals = Field Filter
 * Trace/Disaster Add 2x hr. TAT

PAE of

Coordinate (Lat/Lon)
 Street Not Street
 Sample Source:
 Concentration Unit:

Requester:
 Requester Title:
 Requester Phone:
 Requester Email:

Requester Signature:
 Date:

Requester Address:
 City: State: Zip:

Requester Contact:
 Phone: Email:

Requester Signature:
 Date:



ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (5-10) **Lab ID: 92524152001** Collected: 02/23/21 15:00 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	173	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:04	7440-70-2	
Iron	2.5	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:04	7439-89-6	
Magnesium	490	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:04	7439-95-4	
Manganese	0.082	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:04	7439-96-5	
Potassium	134	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:04	7440-09-7	
Sodium	3900	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:28	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	152	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:06	7440-70-2	
Iron, Dissolved	2.0	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:06	7439-89-6	
Magnesium, Dissolved	458	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:06	7439-95-4	
Manganese, Dissolved	0.076	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:06	7439-96-5	
Potassium, Dissolved	125	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:06	7440-09-7	
Sodium, Dissolved	3360	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:13	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:40	7440-38-2	D3
Boron	1.6J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:40	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:34	7440-38-2	D3
Boron, Dissolved	1.5J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:34	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	123	mg/L	5.0	5.0	1		03/05/21 20:07		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/05/21 20:07		
Alkalinity, Total as CaCO3	123	mg/L	5.0	5.0	1		03/05/21 20:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	15200	mg/L	2500	2500	1		02/25/21 18:51		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.38	mg/L	0.10	0.050	1		02/26/21 06:38	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	ND UJ	mg/L	2.0	2.0	1	02/26/21 05:00	03/03/21 01:24		B2, H2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (5-10) **Lab ID: 92524152001** Collected: 02/23/21 15:00 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6140	mg/L	100	60.0	100		02/25/21 14:44	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/25/21 14:15	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/25/21 14:15	14797-65-0	
Sulfate	767	mg/L	100	50.0	100		02/25/21 14:44	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.22	mg/L	0.050	0.012	1		02/25/21 14:53		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.0	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Total Organic Carbon	5.8	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Total Organic Carbon	5.8	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Total Organic Carbon	5.8	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Mean Total Organic Carbon	5.9	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

Sample: VAP-31-W (18-20) Lab ID: 92524152002 Collected: 02/24/21 07:45 Received: 02/25/21 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	335	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:14	7440-70-2	
Iron	1.2	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:14	7439-89-6	
Magnesium	606	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:14	7439-95-4	
Manganese	0.31	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:14	7439-96-5	
Potassium	109	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:14	7440-09-7	
Sodium	3680	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:31	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	294	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:09	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:09	7439-89-6	
Magnesium, Dissolved	552	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:09	7439-95-4	
Manganese, Dissolved	0.27	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:09	7439-96-5	
Potassium, Dissolved	101	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:09	7440-09-7	
Sodium, Dissolved	3180	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:16	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.63	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:44	7440-38-2	D3
Boron	1.1J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:44	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.39	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:38	7440-38-2	D3
Boron, Dissolved	0.98J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:38	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	879	mg/L	5.0	5.0	1		03/08/21 17:52		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:52		
Alkalinity, Total as CaCO3	879	mg/L	5.0	5.0	1		03/08/21 17:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	15300	mg/L	2500	2500	1		02/25/21 18:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	89.3	mg/L	10.0	5.0	100		02/26/21 06:38	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	02/26/21 05:00	03/03/21 01:41		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (18-20) **Lab ID: 92524152002** Collected: 02/24/21 07:45 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6480	mg/L	100	60.0	100		02/25/21 16:45	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 16:45	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 16:45	14797-65-0	D3
Sulfate	256	mg/L	100	50.0	100		02/25/21 16:45	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.1	mg/L	0.25	0.059	5		02/26/21 03:47		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	10.3	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Total Organic Carbon	10.5	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Mean Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

Sample: VAP-31-W (22-24) Lab ID: 92524152003 Collected: 02/24/21 08:08 Received: 02/25/21 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	260	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:17	7440-70-2	
Iron	2.7	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:17	7439-89-6	
Magnesium	634	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:17	7439-95-4	
Manganese	0.38	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:17	7439-96-5	
Potassium	170	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:17	7440-09-7	
Sodium	5220	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:35	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	203	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:12	7440-70-2	
Iron, Dissolved	0.88	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:12	7439-89-6	
Magnesium, Dissolved	529	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:12	7439-95-4	
Manganese, Dissolved	0.36	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:12	7439-96-5	
Potassium, Dissolved	146	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:12	7440-09-7	
Sodium, Dissolved	4200	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:19	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.31	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:48	7440-38-2	D3
Boron	1.9J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:48	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.079	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:42	7440-38-2	D3
Boron, Dissolved	1.4J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:42	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	741	mg/L	5.0	5.0	1		03/08/21 18:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 18:12		
Alkalinity, Total as CaCO3	741	mg/L	5.0	5.0	1		03/08/21 18:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18500	mg/L	2500	2500	1		02/25/21 18:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	71.1	mg/L	10.0	5.0	100		02/26/21 06:39	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	02/26/21 05:00	03/03/21 01:44		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (22-24) **Lab ID: 92524152003** Collected: 02/24/21 08:08 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8350	mg/L	100	60.0	100		02/25/21 17:14	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 17:14	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 17:14	14797-65-0	D3
Sulfate	636	mg/L	100	50.0	100		02/25/21 17:14	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.2	mg/L	0.25	0.059	5		02/26/21 03:48		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	110	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Total Organic Carbon	104	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Total Organic Carbon	104	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Total Organic Carbon	106	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Mean Total Organic Carbon	106	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

Sample: VAP-31-W (29-31) Lab ID: 92524152004 Collected: 02/24/21 08:50 Received: 02/25/21 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	263	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:21	7440-70-2	
Iron	1.2	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:21	7439-89-6	
Magnesium	597	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:21	7439-95-4	
Manganese	0.37	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:21	7439-96-5	
Potassium	175	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:21	7440-09-7	
Sodium	5230	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:38	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	236	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:16	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:16	7439-89-6	
Magnesium, Dissolved	559	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:16	7439-95-4	
Manganese, Dissolved	0.34	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:16	7439-96-5	
Potassium, Dissolved	166	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:16	7440-09-7	
Sodium, Dissolved	4460	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:22	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.17	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:52	7440-38-2	D3
Boron	2.2J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:52	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.10	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:47	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:47	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	454	mg/L	5.0	5.0	1		03/08/21 18:24		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 18:24		
Alkalinity, Total as CaCO3	454	mg/L	5.0	5.0	1		03/08/21 18:24		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20100	mg/L	2500	2500	1		02/25/21 18:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	54.5	mg/L	10.0	5.0	100		02/26/21 06:40	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	02/26/21 05:00	03/03/21 01:45		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (29-31) **Lab ID: 92524152004** Collected: 02/24/21 08:50 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8050	mg/L	100	60.0	100		02/25/21 17:43	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 17:43	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 17:43	14797-65-0	D3
Sulfate	908	mg/L	100	50.0	100		02/25/21 17:43	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.70	mg/L	0.25	0.059	5		02/26/21 03:48		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	93.3	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Total Organic Carbon	92.4	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Total Organic Carbon	91.0	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Total Organic Carbon	92.8	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Mean Total Organic Carbon	92.4	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	

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Georgia Power Company

Data Review

McManus Plant – Brunswick, GA

Metals and Miscellaneous Analyses

SDG #s 92524425, 92524429, 82524458, 92524617 and 92524618

Analyses Performed By:

Pace Analytical

Peachtree Corners, GA and Asheville, NC

Report #41406R

Review Level: Tier II

Project: 30050105.10

Summary

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #s: 92524425, 92524429, 82524458, 92524617 and 92524618 for samples collected in association with the Georgia Power Company McManus site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis	
						MET	MISC
92524425	VAP-32-W (22-24)	92524425-1	Water	02/25/21		X	X
	VAP-18-W (21-23)	92524425-2	Water	02/25/21		X	X
	VAP-18-W (26-28)	92524425-3	Water	02/25/21		X	X
	VAP-18-W (5-10)	92524425-4	Water	02/25/21		X	X
92524429	VAP-26-W (34-36)	92524429-1	Water	02/25/21		X	X
	VAP-26-W (11-13)	92524429-2	Water	02/25/21		X	X
	VAP-32-W (5-10)	92524429-3	Water	02/25/21		X	X
	VAP-32-W (28-30)	92524429-4	Water	02/25/21		X	X
92524458	VAP-26-W (8-10)	92524458-1	Water	02/24/21		X	X
	VAP-26-W (26-28)	92524458-2	Water	02/25/21		X	X
	VAP-DUP02-W (2-25-21)	92524458-3	Water	02/25/21	VAP-26-W (26-28)	X	X
92524617	VAP-29-W (5-10)	92524617-1	Water	02/26/21		X	X
	VAP-29-W (19-21)	92524617-2	Water	02/26/21		X	X
	VAP-29-W (24-26)	92524617-3	Water	02/26/21		X	X
	VAP-29-W (30-32)	92524617-4	Water	02/26/21		X	X
92524618	VAP-15-W (15-17)	92524618-1	Water	02/26/21		X	X
92524618	VAP-15-W (20-22)	92524618-2	Water	02/26/21		X	X
	VAP-15-W (26-28)	92524618-3	Water	02/26/21		X	X

Data Review Report

Note:

Miscellaneous Analysis includes alkalinity, Total Dissolved Solids (TDS), sulfide, Biological Oxygen Demand (BOD), anions (chloride, nitrate, nitrite and sulfate), orthophosphorous and Total Organic Carbon (TOC).

SDG 92524425

1. Sample VAP-32-W (22-24) was used as the MS/MSD for the alkalinity analysis.
2. Sample VAP-32-W (22-24) was used as the lab duplicate for the TDS analysis.
3. Sample VAO-18-W (5-10) was used as the MS/MSD for the anions and orthophosphate analysis.
4. Sample VAP-18-W (21-23) was used as the MS/MSD for the total and dissolved iron analysis.

SDG 92524458

1. Sample VAP-26-W (8-10) was used as the MS/MSD for the metals analysis.
2. Sample VAP-26-W (26-28) was used as the MS/MSD for the metals, alkalinity, sulfide, anions, orthophosphate and TOC analysis.
3. Sample VAP-26-W (26-28) was used as the lab duplicate for the TDS analysis.

SDG 92524617

1. Samples VAP-29-W (5-10) and VAP-29-W (19-21) were used as the MS/MSDs for the metals analysis.
2. Sample VAP-29-W (5-10) was used as the lab duplicate for the TDS analysis.

SDG 92524618

1. Sample VAP-15-W (26-28) was used as the MS/MSD for the anions analysis.

Analytical Data Package Documentation

The table below evaluates the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed chain-of-custody form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data package completeness and compliance		X		X	

Note:

QA = quality assurance

Inorganic Analysis Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 6010D, 6020B, 300.0, 9060 and Standard Methods SM4500-P E-2011, SM2320B-2011, SM2540C-2011, SM4500-S2D-2011 and SM5210B-2011. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002 and USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified, and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
 - J The reported value was obtained from a reading less than the reporting limit (RL), but greater than or equal to the method detection limit (MDL).
- Quantitation (Q) Qualifiers
 - E The reported value is estimated due to the presence of interference.
 - N Spiked sample recovery is not within control limits.
 - * Duplicate analysis is not within control limits.
- Validation Qualifiers
 - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The analyte was not detected above the reporting limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Metals Analyses

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010D/6020B	Water	180 days from collection to analysis	Preserved to a pH of less than 2.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No other qualification of the sample results was required.

3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD)/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

All analytes associated with MS/MSD recoveries were within control limits except for the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
VAP-18-W (21-23)	Iron (Dissolved)	<30%	<30%

Sample Location	Analyte	MS Recovery	MSD Recovery
VAP-29-W (5-10)	Arsenic (Dissolved)	62%	49%
	Arsenic	134%	68%
	Boron	174%	<30%
	Iron	39%	55%
VAP-26-W (26-28)	Iron (Dissolved)	141%	AC
	Arsenic (Dissolved)	73%	AC
	Boron (Dissolved)	<30%	<30%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD except dissolved iron for sample VAP-26-W (26-28).

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
VAP-26-W (26-28) / VAP-DUP02-W (2-25-21)	Calcium	23.5	23.4	0.4%
	Iron	1.6	2.9	NC
	Magnesium	68.8	67.9	1.3%
	Manganese	0.043 J	0.052	AC
	Potassium	68.1	66.8	1.9%
	Sodium	656	649	1.1%
	Calcium (Dissolved)	21.0	21.4	1.9%
	Iron (Dissolved)	0.5 U	0.24	AC
	Magnesium (Dissolved)	57.3	59.2	3.3%
	Manganese (Dissolved)	0.036	0.031	14.9%
	Potassium (Dissolved)	63.8	63.8	0.0%
	Sodium (Dissolved)	622	584	6.3%
	Arsenic	0.010 U	0.10 U	AC
	Boron	0.81 J	5.0 U	AC
	Arsenic (Dissolved)	0.10 U	0.10 U	AC
Boron (Dissolved)	5.0 U	5.0 U	AC	

Notes:

AC = Acceptable

NC = Non compliant

The compound iron associated with sample locations VAP-26-W (26-28) and VAP-DUP02-W (2-25-21) exhibited a field duplicate RPD greater than the control limit. The associated sample results from sample locations for the listed analyte were qualified as estimated.

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

6. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

A site-specific serial dilution was not included in the data package.

7. General Assessment – Total vs. Dissolved

When the dissolved concentration exceeded the associated total concentration, and both results were five times greater than the RL, then the %D between the total and dissolved concentrations must be less than 20%.

The calculated %D between the total and the dissolved sample results were within the control limit, with the exception of the analytes presented in the following table.

Sample Location	Analytes	Result Total	Result Dissolved	%D
VAP-18-W (21-23)	Iron	2.3	4.0	42.5%
VAP-18-W (26-28)	Iron	0.54	4.9	88.9%
VAP-26-W (11-13)	Iron	0.12	4.2	97.1%
VAP-32-W (5-10)	Iron	1.5	12.6	88.1%

The criteria used to evaluate total and dissolved %D are presented in the following table. In the case of a total and dissolved %D deviation, the sample results are qualified. The qualifications are applied to the associated total and dissolved sample results associated with the sample location referenced above.

Sample Concentration	Control Limit	Sample Result	Qualification
Dissolved sample concentration > total sample concentration and > 5x RL	>20%	Non-detect	UJ
		Detect	J

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist for Metal

METALS; SW-846 6010D/6020B	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)					
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks	X				X
B. Method Blanks		X		X ¹	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X ¹	
Matrix Spike Duplicate (MSD) %R		X		X ¹	
MS/MSD Precision (RPD)		X		X ¹	
Field/Lab Duplicate (RPD)		X		X ¹	
ICP Serial Dilution %D	X				X
Total vs. Dissolved		X		X ¹	
Reporting Limit Verification		X		X	

Notes:

%R Percent recovery

RPD Relative percent difference

X¹ Data was acceptable with the exception of the data listed in the text above.

General Chemistry Analyses

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Alkalinity by SM 2320B-2011	Water	14 days from collection to analysis	Cool to <6 °C.
TDS by SM 2540C-2011	Water	7 days from collection to analysis	Cool to <6 °C.
Sulfide by SM4500-S2D-2011	Water	7 days from collection to analysis	Zinc acetate; preserved to a pH of greater than 9
BOD by SM 5210B-2011	Water	48 hours from collection to analysis	Cool to <6 °C.
Anions (Chloride, Nitrate, Nitrite and Sulfate) by EPA 300.0	Water	28 days from collection to analysis	Cool to <6 °C.
Orthophosphate by SM 4500-P E-2011	Water	48 hours from collection to analysis	Cool to <6 °C.
TOC by EPA 9060A	Water	28 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2.

The analyses that exceeded the holding time are presented in the following table.

Sample Locations	Holding Time	Criteria
VAP-26-W (8-10)	3 days	<2 days

Sample results associated with sample locations analyzed by analytical methods SM5210B-2011 and SM4500-P E-2011 were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) /Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

All analytes associated with MS/MSD recoveries were within control limits except for the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
VAP-15-W (26-28)	Nitrite	48%	52%
VAP-18-W (5-10)	Nitrite	65%	62%
VAP-26-W (26-28)	Nitrite	<30%	<30%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to the parent sample.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ

Control limit	Sample Result	Qualification
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

The laboratory duplicate sample results exhibited RPDs within the control limit.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
VAP-26-W (26-28) / VAP-DUP02-W (2-25-21)	Alkalinity	309	327	5.7%
	TDS	2330	2240	3.9%
	Sulfide	36.8	39.5	7.1%
	BOD	25.1	25.4	1.2%
	Chloride	971	979	0.8%
	Sulfate	4.8	4.7	2.1%

Sample ID/Duplicate ID	Analyte	Sample Result	Duplicate Result	RPD
VAP-26-W (26-28) / VAP-DUP02-W (2-25-21)	Orthophosphate	0.85	0.63	29.7%
	Mean TOC	7.7	7.4	4.0%

Notes:

AC = Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

5. Laboratory Control Sample (LCS) /Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS/LCSD analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS/LCSD analysis exhibited recoveries and RPDs within the control limits.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist for General Chemistry

Methods: Various EPA and Standard Methods	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier II Validation					
Holding Times		X		X ¹	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate (LCSD)		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X ¹	
Matrix Spike Duplicate (MSD) %R		X		X ¹	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	

Notes:

%R Percent recovery

RPD Relative percent difference

X¹ Data was acceptable with the exception of the data listed in the text above.

VALIDATION PERFORMED BY: Rachelle Borne

SIGNATURE:



DATE: May 21, 2021 Revised June 3, 2021

PEER REVIEW: Joseph C. Houser

DATE: May 24, 2021

Chain of Custody Corrected Sample Analysis Data Sheets

ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page of

Lab Work Order # 6732425

WATER USE
 Account: 919-VIS-2284
 Use: 350
 City: ST. LOUIS MOH. GUN

PARAMETER ANALYSIS & METHOD	C				G				B				D			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
TOTAL METALS																
DISSOLVED METALS																
ALKALINITY																
CLORIDE																
SULPHIDE																
NON-METALS ANALYSIS																
DETERMINATION																
KIT																
TOL																
BOD																
TDS																

ANALYSIS DATE
 Date: 01-23-2011
 Time: 14:00
 Location: 3500 S. JONES ST. MOH.

Sample ID	Collection Date	Time	Temp	Exp	Notes
VAF-19-W (01-23)	01/23/11	14:00			X W
VAF-18-W (01-23)	01/23/11	14:00			X W
VAF-18-W (01-23)	01/23/11	14:00			X W

METALS: As, Fe, Mn, Mg, Ca, Al, Pb, K, B
 DISSOLVED METALS: As, Fe, Mn, Mg, Ca, Al, Pb, K, B
 NON-METALS: As, Fe, Mn, Mg, Ca, Al, Pb, K, B

REMARKS
 All metals analyzed on 01/23/11.

Sample ID	Collection Date	Time	Temp	Exp	Notes	Requested by	Approved by	Signature	Date
VAF-19-W (01-23)	01/23/11	14:00			X W	Michelle	Michelle	[Signature]	01/23/11
VAF-18-W (01-23)	01/23/11	14:00			X W	Michelle	Michelle	[Signature]	01/23/11
VAF-18-W (01-23)	01/23/11	14:00			X W	Michelle	Michelle	[Signature]	01/23/11

LABORATORY USE ONLY
 Received by: Michelle
 Date: 01/23/11
 Signature: [Signature]



ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

Sample: VAP-32-W (22-24) Lab ID: 92524425001 Collected: 02/25/21 12:20 Received: 02/26/21 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	207	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:36	7440-70-2	
Iron	2.7	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:36	7439-89-6	
Magnesium	547	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:36	7439-95-4	
Manganese	0.30	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:36	7439-96-5	
Potassium	190	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:36	7440-09-7	
Sodium	5000	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 19:48	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	194	mg/L	1.0	0.94	10	02/28/21 16:17	03/01/21 18:39	7440-70-2	
Iron, Dissolved	0.69	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:51	7439-89-6	
Magnesium, Dissolved	538	mg/L	1.0	0.68	10	02/28/21 16:17	03/01/21 18:39	7439-95-4	
Manganese, Dissolved	0.24	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:51	7439-96-5	
Potassium, Dissolved	182	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 18:39	7440-09-7	
Sodium, Dissolved	4380	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 18:08	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.019	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 20:46	7440-38-2	D3
Boron	1.9J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 20:46	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.014J	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:18	7440-38-2	
Boron, Dissolved	2.1J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:18	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	212	mg/L	5.0	5.0	1		03/01/21 16:56		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 16:56		
Alkalinity, Total as CaCO3	212	mg/L	5.0	5.0	1		03/01/21 16:56		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		02/26/21 18:18		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	9.0	mg/L	5.0	2.5	50		03/02/21 16:30	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	160	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:24		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-32-W (22-24) **Lab ID: 92524425001** Collected: 02/25/21 12:20 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8570	mg/L	100	60.0	100		02/26/21 19:52	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 19:38	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 19:38	14797-65-0	
Sulfate	1200	mg/L	100	50.0	100		02/26/21 19:52	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.53	mg/L	0.25	0.059	5		02/27/21 04:36		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Total Organic Carbon	6.8	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Mean Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

Sample: VAP-18-W (21-23) Lab ID: 92524425002 Collected: 02/25/21 14:07 Received: 02/26/21 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	171	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:39	7440-70-2	
Iron	2.3 J	mg/L	0.050	0.042	1	03/06/21 02:07	03/08/21 23:28	7439-89-6	
Magnesium	440	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:39	7439-95-4	
Manganese	0.23	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:39	7439-96-5	
Potassium	153	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:39	7440-09-7	
Sodium	3770	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 19:51	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	173	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:03	7440-70-2	
Iron, Dissolved	4.0 J	mg/L	0.50	0.42	10	03/09/21 10:30	03/09/21 17:25	7439-89-6	M0
Magnesium, Dissolved	439	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:03	7439-95-4	
Manganese, Dissolved	0.19	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:07	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:03	7440-09-7	
Sodium, Dissolved	3560	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:03	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 20:51	7440-38-2	D3
Boron	1.3J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 20:51	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/28/21 16:17	02/28/21 23:53	7440-38-2	D3
Boron, Dissolved	1.2J	mg/L	2.5	0.62	100	02/28/21 16:17	02/28/21 23:53	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	259	mg/L	5.0	5.0	1		03/01/21 17:23		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:23		
Alkalinity, Total as CaCO3	259	mg/L	5.0	5.0	1		03/01/21 17:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	10900	mg/L	2500	2500	1		02/26/21 18:18		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	25.3	mg/L	5.0	2.5	50		03/02/21 17:41	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	40.0	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:26		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (21-23) **Lab ID: 92524425002** Collected: 02/25/21 14:07 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6300	mg/L	100	60.0	100		02/26/21 20:20	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 20:06	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 20:06	14797-65-0	
Sulfate	765	mg/L	100	50.0	100		02/26/21 20:20	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.49	mg/L	0.25	0.059	5		02/27/21 04:36		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	8.5	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Total Organic Carbon	8.2	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Total Organic Carbon	8.4	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Total Organic Carbon	8.5	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Mean Total Organic Carbon	8.4	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

Sample: VAP-18-W (26-28) Lab ID: 92524425003 Collected: 02/25/21 14:25 Received: 02/26/21 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	143	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:43	7440-70-2	
Iron	0.54 J	mg/L	0.050	0.042	1	03/06/21 02:07	03/08/21 23:42	7439-89-6	
Magnesium	296	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:43	7439-95-4	
Manganese	0.15	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:43	7439-96-5	
Potassium	105	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:43	7440-09-7	
Sodium	2280	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:00	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	142	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:07	7440-70-2	
Iron, Dissolved	4.9 J	mg/L	0.50	0.42	10	03/09/21 10:30	03/09/21 17:38	7439-89-6	
Magnesium, Dissolved	291	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:07	7439-95-4	
Manganese, Dissolved	0.13	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:11	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:07	7440-09-7	
Sodium, Dissolved	2160	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:07	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 20:55	7440-38-2	D3
Boron	1.2J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 20:55	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/28/21 16:17	02/28/21 23:57	7440-38-2	D3
Boron, Dissolved	0.82J	mg/L	2.5	0.62	100	02/28/21 16:17	02/28/21 23:57	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	483	mg/L	5.0	5.0	1		03/01/21 17:34		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:34		
Alkalinity, Total as CaCO3	483	mg/L	5.0	5.0	1		03/01/21 17:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	8450	mg/L	1250	1250	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	35.1	mg/L	5.0	2.5	50		03/02/21 17:42	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	20.0	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:30		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (26-28) **Lab ID: 92524425003** Collected: 02/25/21 14:25 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	3960	mg/L	100	60.0	100		02/26/21 20:48	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 20:34	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 20:34	14797-65-0	
Sulfate	334	mg/L	100	50.0	100		02/26/21 20:48	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.64	mg/L	0.25	0.059	5		02/27/21 04:37		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Mean Total Organic Carbon	7.6	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (5-10) Lab ID: 92524425004 Collected: 02/25/21 14:52 Received: 02/26/21 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	48.7	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:46	7440-70-2	
Iron	1.9	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:46	7439-89-6	
Magnesium	157	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:46	7439-95-4	
Manganese	0.037J	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:46	7439-96-5	
Potassium	77.2	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:46	7440-09-7	
Sodium	1750	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:04	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	43.3	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 01:14	7440-70-2	
Iron, Dissolved	ND	mg/L	1.0	0.83	20	02/28/21 16:17	03/01/21 18:10	7439-89-6	
Magnesium, Dissolved	151	mg/L	2.0	1.4	20	02/28/21 16:17	03/01/21 18:10	7439-95-4	
Manganese, Dissolved	0.027	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:14	7439-96-5	B
Potassium, Dissolved	73.4J	mg/L	100	60.8	20	02/28/21 16:17	03/01/21 18:10	7440-09-7	
Sodium, Dissolved	1610	mg/L	100	12.2	20	02/28/21 16:17	03/01/21 18:10	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:17	7440-38-2	D3
Boron	1.5J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:17	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:22	7440-38-2	D3
Boron, Dissolved	1.4J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:22	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	148	mg/L	5.0	5.0	1		03/01/21 17:44		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:44		
Alkalinity, Total as CaCO3	148	mg/L	5.0	5.0	1		03/01/21 17:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	6800	mg/L	833	833	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		03/02/21 16:33	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	02/27/21 04:40	03/04/21 01:31		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (5-10) **Lab ID: 92524425004** Collected: 02/25/21 14:52 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	2580	mg/L	100	60.0	100		02/26/21 21:15	16887-00-6	M6
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 21:01	14797-55-8	
Nitrite as N	ND	UJ mg/L	0.10	0.050	1		02/26/21 21:01	14797-65-0	M1
Sulfate	384	mg/L	100	50.0	100		02/26/21 21:15	14808-79-8	M6
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.33	mg/L	0.25	0.059	5		02/27/21 04:38		H1
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	14.1	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Total Organic Carbon	13.8	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Total Organic Carbon	13.7	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Total Organic Carbon	13.8	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Mean Total Organic Carbon	13.8	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	

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ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order # 524905

Sample ID	Collection Date	Time	Type	PARAMETER ANALYSIS & METHOD												
				Asbestos	Lead	Cadmium	Copper	Zinc	Chloride	Fluoride	Sulfate	Hardness	Orthophosphate	Iron		
Sample ID: [Blank]																
VAP-26-W (34-26)	7/10/10	11:10	W											3	1	1
VAP-26-W (11-13)	7/16/10	10:30	W											3	1	1
VAP-32-W (5-10)	7/25/10	11:12	W											3	1	1
VAP-32-W (28-30)	7/27/10	12:00	W											3	1	1

REMARKS

1. All Asbestos, Lead, Cadmium, Copper, Zinc, Chloride, Fluoride, Sulfate, Hardness, Orthophosphate, Iron, and TOC tests were performed at the ARCADIS laboratory. All tests were performed in accordance with the applicable methods listed below. All results are reported in this report.

2. All test results are reported in this report. All test results are reported in this report.

PREPARED BY: AS, Fg, Mg, Mn, Ca, Na, K, S
DISCOVERED METALS AND SOILS: [Blank]
TO BE ANALYZED: All tests to be analyzed on 7/27/10

Client: **PACE**
 Project: **Pace**
 Location: **Pace**

Contractor: **AS**
 Date: **7/27/10**

Method: **AS**
 Date: **7/27/10**

Analyst: **AS**
 Date: **7/27/10**

ORDER BY: **GREATLAND**
 APPROVED BY: **[Signature]**
 FAX: **732 1732**

LABORATORY: **ARCADIS**
 APPROVED BY: **[Signature]**
 DATE: **7/27/10**

REMARKS: **AS**



ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

Sample: VAP-26-W (34-36) Lab ID: 92524429001 Collected: 02/25/21 08:10 Received: 02/26/21 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	103	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:49	7440-70-2	
Iron	5.0	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:49	7439-89-6	
Magnesium	190	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:49	7439-95-4	
Manganese	0.083	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:49	7439-96-5	
Potassium	82.0	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:49	7440-09-7	
Sodium	1830	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 20:07	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	94.2	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 01:17	7440-70-2	
Iron, Dissolved	1.2J	mg/L	1.2	1.0	25	02/28/21 16:17	03/01/21 18:13	7439-89-6	
Magnesium, Dissolved	192	mg/L	2.5	1.7	25	02/28/21 16:17	03/01/21 18:13	7439-95-4	
Manganese, Dissolved	0.049	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:17	7439-96-5	
Potassium, Dissolved	80.3J	mg/L	125	76.0	25	02/28/21 16:17	03/01/21 18:13	7440-09-7	
Sodium, Dissolved	1780	mg/L	125	15.3	25	02/28/21 16:17	03/01/21 18:13	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:21	7440-38-2	D3
Boron	1.2J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:21	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:26	7440-38-2	D3
Boron, Dissolved	1.2J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:26	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	326	mg/L	5.0	5.0	1		03/01/21 17:54		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:54		
Alkalinity, Total as CaCO3	326	mg/L	5.0	5.0	1		03/01/21 17:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	6670	mg/L	833	833	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	1.8	mg/L	1.0	0.50	10		03/02/21 17:41	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	02/27/21 04:40	03/04/21 01:34		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-26-W (34-36) **Lab ID: 92524429001** Collected: 02/25/21 08:10 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	2940	mg/L	100	60.0	100		02/26/21 17:34	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 17:20	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 17:20	14797-65-0	
Sulfate	329	mg/L	100	50.0	100		02/26/21 17:34	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.30	mg/L	0.25	0.059	5		02/27/21 04:33		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	4.7	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Mean Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-26-W (11-13)		Lab ID: 92524429002		Collected: 02/25/21 10:30		Received: 02/26/21 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	139	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:52	7440-70-2	
Iron	0.12 J	mg/L	0.050	0.042	1	03/06/21 02:07	03/08/21 23:45	7439-89-6	
Magnesium	386	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:52	7439-95-4	
Manganese	0.15	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:52	7439-96-5	
Potassium	136	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:52	7440-09-7	
Sodium	3010	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:10	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	133	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:16	7440-70-2	
Iron, Dissolved	4.2 J	mg/L	0.50	0.42	10	03/09/21 10:30	03/09/21 17:48	7439-89-6	
Magnesium, Dissolved	373	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:16	7439-95-4	
Manganese, Dissolved	0.13	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:21	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:16	7440-09-7	
Sodium, Dissolved	2770	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:16	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:25	7440-38-2	D3
Boron	1.4J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:25	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:38	7440-38-2	D3
Boron, Dissolved	1.6J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:38	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	434	mg/L	5.0	5.0	1		03/01/21 18:03		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:03		
Alkalinity, Total as CaCO3	434	mg/L	5.0	5.0	1		03/01/21 18:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	11000	mg/L	1250	1250	1		02/26/21 18:19		MW
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	54.5	mg/L	10.0	5.0	100		03/02/21 16:35	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	100	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:36		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-26-W (11-13) **Lab ID: 92524429002** Collected: 02/25/21 10:30 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5330	mg/L	100	60.0	100		02/26/21 18:02	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 17:48	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 17:48	14797-65-0	
Sulfate	194	mg/L	100	50.0	100		02/26/21 18:02	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.6	mg/L	0.25	0.059	5		02/27/21 04:34		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	18.0	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Total Organic Carbon	18.4	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Total Organic Carbon	18.8	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Total Organic Carbon	18.8	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Mean Total Organic Carbon	18.5	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

Sample: VAP-32-W (5-10)		Lab ID: 92524429003		Collected: 02/25/21 11:17		Received: 02/26/21 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	170	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:56	7440-70-2	
Iron	1.5 J	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:56	7439-89-6	
Magnesium	495	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:56	7439-95-4	
Manganese	0.059	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:56	7439-96-5	
Potassium	142	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:56	7440-09-7	
Sodium	4050	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:13	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	162	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:20	7440-70-2	
Iron, Dissolved	12.6 J	mg/L	2.5	2.1	50	02/28/21 16:17	03/01/21 18:20	7439-89-6	
Magnesium, Dissolved	469	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:20	7439-95-4	
Manganese, Dissolved	0.052	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:24	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:20	7440-09-7	
Sodium, Dissolved	3720	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:20	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:30	7440-38-2	D3
Boron	1.4J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:30	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:42	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:42	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	133	mg/L	5.0	5.0	1		03/01/21 18:21		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:21		
Alkalinity, Total as CaCO3	133	mg/L	5.0	5.0	1		03/01/21 18:21		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	16900	mg/L	2500	2500	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	0.11	mg/L	0.10	0.050	1		03/02/21 16:35	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	02/27/21 04:40	03/04/21 01:38		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-32-W (5-10) **Lab ID: 92524429003** Collected: 02/25/21 11:17 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6730	mg/L	100	60.0	100		02/26/21 18:29	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 18:15	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 18:15	14797-65-0	
Sulfate	920	mg/L	100	50.0	100		02/26/21 18:29	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.20	mg/L	0.050	0.012	1		02/27/21 04:35		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.0	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Total Organic Carbon	6.8	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Total Organic Carbon	6.8	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Mean Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

Sample: VAP-32-W (28-30) **Lab ID: 92524429004** Collected: 02/25/21 12:03 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium	271	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:59	7440-70-2	
Iron	7.4	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:59	7439-89-6	
Magnesium	594	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:59	7439-95-4	
Manganese	0.39	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:59	7439-96-5	
Potassium	183	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:59	7440-09-7	
Sodium	4960	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 20:17	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	235	mg/L	1.0	0.94	10	02/28/21 16:17	03/01/21 18:23	7440-70-2	
Iron, Dissolved	0.21	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:40	7439-89-6	
Magnesium, Dissolved	522	mg/L	1.0	0.68	10	02/28/21 16:17	03/01/21 18:23	7439-95-4	
Manganese, Dissolved	0.26	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:40	7439-96-5	
Potassium, Dissolved	168	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 18:23	7440-09-7	
Sodium, Dissolved	4650	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 17:58	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.031	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:47	7440-38-2	D3
Boron	1.9J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:47	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.011J	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:47	7440-38-2	
Boron, Dissolved	2.2J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:47	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	481	mg/L	5.0	5.0	1		03/01/21 18:30		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:30		
Alkalinity, Total as CaCO3	481	mg/L	5.0	5.0	1		03/01/21 18:30		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	22000	mg/L	2500	2500	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	29.8	mg/L	5.0	2.5	50		03/02/21 17:42	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	02/27/21 04:40	03/04/21 01:39		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-32-W (28-30) **Lab ID: 92524429004** Collected: 02/25/21 12:03 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8680	mg/L	100	60.0	100		02/26/21 18:57	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 18:43	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 18:43	14797-65-0	
Sulfate	1120	mg/L	100	50.0	100		02/26/21 18:57	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.77	mg/L	0.25	0.059	5		02/27/21 04:35		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Mean Total Organic Carbon	7.5	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	

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OR

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

LAB WORK ORDER # 0256055

Project Name: 919-415-2284

Location: 330.501/85.41415

Parameter	C	E	E	E	%F	C	E	E	E
PHOSPHATE	1	1	1	1	1	1	1	1	1
AMMONIA	1	1	1	1	1	1	1	1	1
CHLORIDE	1	1	1	1	1	1	1	1	1

PARAMETER ANALYSIS & METHOD

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REMARKS

LAB WORK ORDER # 0256055

DATE 11-10

ANALYST

CLIENT

PROJECT

LOCATION

TIME

DATE

TIME

DATE

TIME

DATE

Sample ID	Collection Date	Time	Temp	PH	PHOSPHATE	AMMONIA	CHLORIDE	SULFIDE	OTHER ANALYSIS	TBC	BOD	TDS
VAP-26-W(8-10) Yeagrum 1688					X					3		
VAP-26-W(26-28) 2801					X					3		
VAP-0-10-D(20-22-25) 2168					X					3		
VAP-26-W(26-28) 2168					X					3		

VAP-26-W(26-28) mg/L

Special Instructions/Comments: MAT 2415 = AS, FR, MA, MYS, CO, NO, K, B

DISINFECTION METHOD AND PLATE COUNTS

4 TO THE AUS DISINFECTED AS ARE TO BE ANALYZED IN 24 HOUR TAT

Project Name: 919-415-2284

Location: 330.501/85.41415

Sample ID: VAP-26-W(8-10) Yeagrum 1688

Collection Date:

Time:

Temp:

PH:

PHOSPHATE:

AMMONIA:

CHLORIDE:

SULFIDE:

OTHER ANALYSIS:

TBC:

BOD:

TDS:

LAB WORK ORDER #

DATE

ANALYST

CLIENT

PROJECT

LOCATION

TIME

DATE



ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-26-W (8-10) **Lab ID: 92524458001** Collected: 02/24/21 16:45 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	222	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 20:09	7440-70-2	
Iron	3.0	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 20:09	7439-89-6	
Magnesium	671	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 20:09	7439-95-4	
Manganese	0.12	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 20:09	7439-96-5	
Potassium	175	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 20:09	7440-09-7	
Sodium	5140	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 20:20	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	218	mg/L	1.0	0.94	10	02/28/21 16:17	03/01/21 18:26	7440-70-2	
Iron, Dissolved	2.5 J	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:44	7439-89-6	
Magnesium, Dissolved	654	mg/L	1.0	0.68	10	02/28/21 16:17	03/01/21 18:26	7439-95-4	
Manganese, Dissolved	0.098	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:44	7439-96-5	
Potassium, Dissolved	172	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 18:26	7440-09-7	
Sodium, Dissolved	4360	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 18:01	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:51	7440-38-2	D3
Boron	1.6J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:51	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND UJ	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:51	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:51	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	96.2	mg/L	5.0	5.0	1		03/01/21 18:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:41		
Alkalinity, Total as CaCO3	96.2	mg/L	5.0	5.0	1		03/01/21 18:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	18500	mg/L	2500	2500	1		02/26/21 18:19		MW
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		03/02/21 16:29	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	ND UJ	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 02:26		B2, H2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-26-W (8-10) **Lab ID: 92524458001** Collected: 02/24/21 16:45 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8740	mg/L	100	60.0	100		02/26/21 14:48	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 14:34	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 14:34	14797-65-0	
Sulfate	1210	mg/L	100	50.0	100		02/26/21 14:48	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.44 J	mg/L	0.25	0.059	5		02/27/21 04:31		H1
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.3	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Total Organic Carbon	6.1	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Total Organic Carbon	6.2	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Total Organic Carbon	6.1	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Mean Total Organic Carbon	6.2	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

Sample: VAP-26-W (26-28) Lab ID: 92524458002 Collected: 02/25/21 07:05 Received: 02/26/21 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	23.5	mg/L	1.0	0.94	10	02/27/21 01:37	03/01/21 20:23	7440-70-2	
Iron	1.6 J	mg/L	0.50	0.42	10	02/27/21 01:37	03/01/21 20:23	7439-89-6	
Magnesium	68.8	mg/L	1.0	0.68	10	02/27/21 01:37	03/01/21 20:23	7439-95-4	
Manganese	0.043J	mg/L	0.050	0.034	10	02/27/21 01:37	03/01/21 20:23	7439-96-5	
Potassium	68.1	mg/L	50.0	30.4	10	02/27/21 01:37	03/01/21 20:23	7440-09-7	
Sodium	656	mg/L	50.0	6.1	10	02/27/21 01:37	03/01/21 20:23	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	21.0	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 00:54	7440-70-2	
Iron, Dissolved	ND UJ	mg/L	0.50	0.42	10	02/28/21 16:17	03/01/21 17:44	7439-89-6	M6, R1
Magnesium, Dissolved	57.3	mg/L	0.10	0.068	1	02/28/21 16:17	03/01/21 00:54	7439-95-4	
Manganese, Dissolved	0.036	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 00:54	7439-96-5	B
Potassium, Dissolved	63.8	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 17:44	7440-09-7	M6
Sodium, Dissolved	622	mg/L	50.0	6.1	10	02/28/21 16:17	03/01/21 17:44	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:56	7440-38-2	D3
Boron	0.81J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:56	7440-42-8	D3, M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND UJ	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:55	7440-38-2	D3, M6
Boron, Dissolved	ND	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:55	7440-42-8	R, D3, M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	309	mg/L	5.0	5.0	1		03/01/21 18:51		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:51		
Alkalinity, Total as CaCO3	309	mg/L	5.0	5.0	1		03/01/21 18:51		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	2330	mg/L	250	250	1		02/26/21 18:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	36.8	mg/L	5.0	2.5	50		03/02/21 16:37	18496-25-8	M6
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	25.1	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:43		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-26-W (26-28) **Lab ID: 92524458002** Collected: 02/25/21 07:05 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	971	mg/L	100	60.0	100		02/26/21 15:16	16887-00-6	M0
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 15:02	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1	R	02/26/21 15:02	14797-65-0	M1
Sulfate	4.8	mg/L	1.0	0.50	1		02/26/21 15:02	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.85	mg/L	0.25	0.059	5		02/27/21 04:32		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Mean Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

Sample: VAP-DUP02-W (2-25-21) Lab ID: 92524458003 Collected: 02/25/21 00:00 Received: 02/26/21 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	23.4	mg/L	1.0	0.94	10	02/27/21 01:37	03/01/21 20:43	7440-70-2	
Iron	2.9 J	mg/L	0.50	0.42	10	02/27/21 01:37	03/01/21 20:43	7439-89-6	
Magnesium	67.9	mg/L	1.0	0.68	10	02/27/21 01:37	03/01/21 20:43	7439-95-4	
Manganese	0.052	mg/L	0.050	0.034	10	02/27/21 01:37	03/01/21 20:43	7439-96-5	
Potassium	66.8	mg/L	50.0	30.4	10	02/27/21 01:37	03/01/21 20:43	7440-09-7	
Sodium	649	mg/L	50.0	6.1	10	02/27/21 01:37	03/01/21 20:43	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	21.4	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 01:47	7440-70-2	
Iron, Dissolved	0.24 J	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:47	7439-89-6	
Magnesium, Dissolved	59.2	mg/L	0.10	0.068	1	02/28/21 16:17	03/01/21 01:47	7439-95-4	
Manganese, Dissolved	0.031	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:47	7439-96-5	B
Potassium, Dissolved	63.8	mg/L	25.0	15.2	5	02/28/21 16:17	03/01/21 18:36	7440-09-7	
Sodium, Dissolved	584	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 18:04	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.10	0.0087	100	02/27/21 01:32	03/01/21 12:14	7440-38-2	D3
Boron	ND	mg/L	5.0	0.85	100	02/27/21 01:32	03/01/21 12:14	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND UJ	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:59	7440-38-2	D3
Boron, Dissolved	ND	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:59	7440-42-8	R D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	327	mg/L	5.0	5.0	1		03/01/21 19:19		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:19		
Alkalinity, Total as CaCO3	327	mg/L	5.0	5.0	1		03/01/21 19:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	2240	mg/L	250	250	1		02/26/21 18:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	39.5	mg/L	10.0	5.0	100		03/02/21 16:39	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	25.4	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:44		B2, H2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-DUP02-W (2-25-21) **Lab ID: 92524458003** Collected: 02/25/21 00:00 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	979	mg/L	100	60.0	100		02/26/21 16:11	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 15:57	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 15:57	14797-65-0	
Sulfate	4.7	mg/L	1.0	0.50	1		02/26/21 15:57	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.63	mg/L	0.25	0.059	5		02/27/21 04:31		<u>H1</u>
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Mean Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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Requester: **Wright Wood**
 Address: **5130 Water Park Ave**
 City: **WFO 300**
 State: **VA**
 Zip: **22094**
 Project: **919-405-2294**

Parameter	C	S	R	F	G	E	E
Residual (1)							
Residual (2)							
Residual (3)							
Residual (4)							
Residual (5)							

Requester Name: **Wright Wood**
 Requester Address: **5130 Water Park Ave**
 Requester City: **WFO 300**
 Requester State: **VA**
 Requester Zip: **22094**
 Project: **919-405-2294**

Sample ID: **VAR-29-W (5-10)**
 Collection Date: **5/10/15**
 Type (1): **W**
 Matrix: **W**

Sample ID	Collection Date	Type (1)	Matrix
VAR-29-W (5-10)	5/10/15	W	W
VAR-29-W (1-21)	1/21/15	W	W
VAR-29-W (4-26)	4/26/15	W	W
VAR-29-W (50-32)	5/32/15	W	W

Parameter Analysis & Method:

TOTAL METALS	3	1	1	1	1	1	1
DISTURBED METALS							
PERMANENT METALS							
CHLORIDE							
SULFIDE							
PHOSPHATE							
KIT							
TOL							
BOB							
TDS							

Sample ID	Collection Date	Type (1)	Matrix	TOTAL METALS	DISTURBED METALS	PERMANENT METALS	CHLORIDE	SULFIDE	PHOSPHATE	KIT	TOL	BOB	TDS
VAR-29-W (5-10)	5/10/15	W	W	1	1	1	1	1	1	3	1	1	1
VAR-29-W (1-21)	1/21/15	W	W	1	1	1	1	1	1	3	1	1	1
VAR-29-W (4-26)	4/26/15	W	W	1	1	1	1	1	1	3	1	1	1
VAR-29-W (50-32)	5/32/15	W	W	1	1	1	1	1	1	3	1	1	1

Special Instructions/Comments: **MATERIALS AS FOR MTA ONLY FOR ANALYSIS OF DISTURBED METALS ONLY FOR ANALYSIS OF DISTURBED METALS ONLY FOR ANALYSIS OF DISTURBED METALS ONLY**

TOTAL DISTURBED METALS ARE TO BE ANALYZED ON 24 TAT

Special Instructions/Comments: **NO SPECIAL INSTRUCTIONS**

Client Name: **PHOS**

Client Address: **5130 Water Park Ave**

Client City: **WFO 300**

Client State: **VA**

Client Zip: **22094**

Project: **919-405-2294**

Sample Receipt: Received Not Received

Container/Seal Type: **2.6**

Shipment By: **FedEx**

Shipment Date: **5/13/15**

Shipment To: **WFO 300**

Shipment By: **PHOS**

Shipment Date: **5/13/15**

Lab Work Order #: **1205**



ANALYTICAL RESULTS

Project: McManus 30050105.00006
 Pace Project No.: 92524617

Sample: VAP-29-W (5-10) Lab ID: 92524617001 Collected: 02/26/21 10:59 Received: 02/27/21 12:45 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	111	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 17:23	7440-70-2	M6
Iron	3.1 J	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 17:23	7439-89-6	M6
Magnesium	282	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 05:54	7439-95-4	M6
Manganese	0.11	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 17:23	7439-96-5	
Potassium	101	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 17:23	7440-09-7	M6
Sodium	2970	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 15:59	7440-23-5	M6
6010 MET ICP, Dissolved Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	116	mg/L	1.0	0.94	10	03/02/21 12:06	03/02/21 18:03	7440-70-2	
Iron, Dissolved	0.73	mg/L	0.50	0.42	10	03/02/21 12:06	03/02/21 18:03	7439-89-6	
Magnesium, Dissolved	303	mg/L	10.0	6.8	100	03/02/21 12:06	03/02/21 16:57	7439-95-4	
Manganese, Dissolved	0.091	mg/L	0.050	0.034	10	03/02/21 12:06	03/02/21 18:03	7439-96-5	
Potassium, Dissolved	105	mg/L	50.0	30.4	10	03/02/21 12:06	03/02/21 18:03	7440-09-7	
Sodium, Dissolved	2840	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 16:57	7440-23-5	
6020 MET ICPMS Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0092J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 16:21	7440-38-2	D3, M6
Boron	ND	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 16:21	7440-42-8	D3, M6
6020 MET ICPMS, Dissolved Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND UJ	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 14:25	7440-38-2	D3, M6
Boron, Dissolved	1.2J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 14:25	7440-42-8	D3, M6
2320B Alkalinity Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	166	mg/L	5.0	5.0	1		03/01/21 19:29		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:29		
Alkalinity, Total as CaCO3	166	mg/L	5.0	5.0	1		03/01/21 19:29		
2540C Total Dissolved Solids Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	10700	mg/L	1250	1250	1		03/01/21 19:02		
4500S2D Sulfide Water Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	7.9	mg/L	5.0	2.5	50		03/02/21 17:44	18496-25-8	
5210B BOD, 5 day Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	276	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 04:31		

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (5-10) **Lab ID: 92524617001** Collected: 02/26/21 10:59 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	4620	mg/L	100	60.0	100		02/27/21 15:32	16887-00-6	
Nitrate as N	0.067J	mg/L	0.10	0.060	1		02/27/21 15:17	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 15:32	14797-65-0	D3
Sulfate	656	mg/L	100	50.0	100		02/27/21 15:32	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.20J	mg/L	0.25	0.059	5		02/27/21 16:08		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	14.9	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Total Organic Carbon	14.8	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Total Organic Carbon	15.3	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Total Organic Carbon	15.1	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Mean Total Organic Carbon	15.0	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006
 Pace Project No.: 92524617

Sample: VAP-29-W (19-21) Lab ID: 92524617002 Collected: 02/26/21 11:34 Received: 02/27/21 12:45 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	230	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:07	7440-70-2	
Iron	0.66 J	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:07	7439-89-6	
Magnesium	623	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:07	7439-95-4	
Manganese	0.33	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:07	7439-96-5	
Potassium	ND	mg/L	500	304	100	03/01/21 10:39	03/02/21 16:12	7440-09-7	
Sodium	4870	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:12	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	222	mg/L	1.0	0.94	10	03/02/21 12:06	03/02/21 17:37	7440-70-2	M6
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/02/21 17:37	7439-89-6	
Magnesium, Dissolved	643	mg/L	10.0	6.8	100	03/02/21 12:06	03/02/21 16:44	7439-95-4	M6
Manganese, Dissolved	0.32	mg/L	0.050	0.034	10	03/02/21 12:06	03/02/21 17:37	7439-96-5	
Potassium, Dissolved	164	mg/L	50.0	30.4	10	03/02/21 12:06	03/02/21 17:37	7440-09-7	M6
Sodium, Dissolved	5070	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 16:44	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND UJ	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 16:57	7440-38-2	D3
Boron	1.3J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 16:57	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND UJ	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 14:54	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 14:54	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	166	mg/L	5.0	5.0	1		03/01/21 19:39		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:39		
Alkalinity, Total as CaCO3	166	mg/L	5.0	5.0	1		03/01/21 19:39		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19900	mg/L	2500	2500	1		03/01/21 19:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	19.1	mg/L	2.5	1.2	25		03/02/21 17:44	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	50700	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 04:52		

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (19-21) **Lab ID: 92524617002** Collected: 02/26/21 11:34 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8450	mg/L	100	60.0	100		02/27/21 16:00	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 15:46	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 16:00	14797-65-0	D3
Sulfate	1100	mg/L	100	50.0	100		02/27/21 16:00	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.21J	mg/L	0.25	0.059	5		02/27/21 16:09		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Mean Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (24-26) **Lab ID: 92524617003** Collected: 02/26/21 12:15 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	191	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:17	7440-70-2	
Iron	7.3 J	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:17	7439-89-6	
Magnesium	540	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:17	7439-95-4	
Manganese	0.38	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:17	7439-96-5	
Potassium	172	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:17	7440-09-7	
Sodium	5350	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:15	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	195	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:26	7440-70-2	
Iron, Dissolved	0.90	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:26	7439-89-6	
Magnesium, Dissolved	544	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:26	7439-95-4	
Manganese, Dissolved	0.35	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:26	7439-96-5	
Potassium, Dissolved	171	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:26	7440-09-7	
Sodium, Dissolved	5120	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:07	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.010J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:01	7440-38-2	--D3
Boron	1.3J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:01	7440-42-8	---D3---
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND UJ	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 14:58	7440-38-2	-D3
Boron, Dissolved	1.9J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 14:58	7440-42-8	-D3-
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	173	mg/L	5.0	5.0	1		03/01/21 19:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:48		
Alkalinity, Total as CaCO3	173	mg/L	5.0	5.0	1		03/01/21 19:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	19900	mg/L	2500	2500	1		03/01/21 19:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	19.2	mg/L	5.0	2.5	50		03/02/21 17:45	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	6420	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:01		-B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (24-26) **Lab ID: 92524617003** Collected: 02/26/21 12:15 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8670	mg/L	100	60.0	100		02/27/21 16:29	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 16:15	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 16:29	14797-65-0	D3
Sulfate	1140	mg/L	100	50.0	100		02/27/21 16:29	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.30	mg/L	0.25	0.059	5		02/27/21 16:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Mean Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (30-32) **Lab ID: 92524617004** Collected: 02/26/21 12:47 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	218	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:20	7440-70-2	
Iron	2.9	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:20	7439-89-6	
Magnesium	565	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:20	7439-95-4	
Manganese	0.27	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:20	7439-96-5	
Potassium	141	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:20	7440-09-7	
Sodium	4400	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:19	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	232	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:29	7440-70-2	
Iron, Dissolved	0.46J	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:29	7439-89-6	
Magnesium, Dissolved	575	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:29	7439-95-4	
Manganese, Dissolved	0.27	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:29	7439-96-5	
Potassium, Dissolved	145	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:29	7440-09-7	
Sodium, Dissolved	4180	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:10	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.016J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:05	7440-38-2	D3
Boron	1.0J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:05	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:02	7440-38-2	D3
Boron, Dissolved	1.2J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:02	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	253	mg/L	5.0	5.0	1		03/01/21 20:10		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:10		
Alkalinity, Total as CaCO3	253	mg/L	5.0	5.0	1		03/01/21 20:10		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	17700	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	38.5	mg/L	10.0	5.0	100		03/02/21 17:40	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	990	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:09		B2

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (30-32) **Lab ID: 92524617004** Collected: 02/26/21 12:47 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7580	mg/L	100	60.0	100		02/27/21 16:58	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 16:43	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 16:58	14797-65-0	D3-
Sulfate	889	mg/L	100	50.0	100		02/27/21 16:58	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.45	mg/L	0.25	0.059	5		02/27/21 16:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Total Organic Carbon	8.0	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Mean Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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Client Name: **MATCO**
 Address: **4000 Highway 15**
 City: **Sto. Jov**
 State: **MD**
 Zip: **21220**
 Contact: **Mr. [Name]**
 Phone: **[Number]**

Parameter	C	S	T	E	C	B	B
Trace Metals							
# of Locations	1	1	1	1	1	1	1
Container	3	3	3	4			

PARAMETER ANALYSIS & METHOD

Parameter	Method
TOTAL Metals	
DISSOLVED Metals	
ALKALINITY	
O ₂ , DO, pH	
SULFIDE	
AMMONIA	
ORTHOPHOSPHATE	
CHLOROPHYLL	
TOC	
BOD	
TDS	

Preparation By: _____

Analysis By: **[Signature]**

Remarks: _____

Sample ID	Collection		Type (1)	Notes	TOTAL Metals	DISSOLVED Metals	ALKALINITY	O ₂ , DO, pH	SULFIDE	AMMONIA	ORTHOPHOSPHATE	CHLOROPHYLL	TOC	BOD	TDS
	Date	Time													
WAP-15-W (15-10)	3/14/20	14:30	X	W	1	1	1	1	1	1	1	1	1	1	1
WAP-15-W (15-23)	3/14/20	14:30	X	W	1	1	1	1	1	1	1	1	1	1	1
WAP-15-W (15-28)	3/14/20	14:30	X	W	1	1	1	1	1	1	1	1	1	1	1

Special Instructions: _____

Special Storage Instructions: _____

Notes: **Metals: As, Fe, Mn, Mg, Co, Ni, K, O**
Disturbance Metals: one field blank
TOTAL Disturbance As are to be analyzed on 24 TAT

Client Name: **ARCADIS**

Address: _____

City: _____

State: _____

Zip: _____

Contact: _____

Phone: _____

Prepared By: **[Signature]**

Reviewed By: **[Signature]**

Analysis By: **[Signature]**

Remarks: _____



ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (15-17)	Lab ID: 92524618001	Collected: 02/26/21 14:34	Received: 02/27/21 12:45	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	183	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:24	7440-70-2	
Iron	0.51	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:24	7439-89-6	
Magnesium	496	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:24	7439-95-4	
Manganese	0.20	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:24	7439-96-5	
Potassium	150	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:24	7440-09-7	
Sodium	4480	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:28	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	174	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:39	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:39	7439-89-6	
Magnesium, Dissolved	459	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:39	7439-95-4	
Manganese, Dissolved	0.19	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:39	7439-96-5	
Potassium, Dissolved	140	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:39	7440-09-7	
Sodium, Dissolved	4210	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:14	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.018J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:09	7440-38-2	-D3-
Boron	1.3J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:09	7440-42-8	-D3-
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0095J	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:06	7440-38-2	-D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:06	7440-42-8	-D3-
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	298	mg/L	5.0	5.0	1		03/01/21 20:20		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:20		
Alkalinity, Total as CaCO3	298	mg/L	5.0	5.0	1		03/01/21 20:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	16300	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	38.3	mg/L	10.0	5.0	100		03/02/21 17:40	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	19000	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:30		-R6-

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (15-17) **Lab ID: 92524618001** Collected: 02/26/21 14:34 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7190	mg/L	100	60.0	100		02/27/21 17:56	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 17:41	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 17:56	14797-65-0	D3
Sulfate	855	mg/L	100	50.0	100		02/27/21 17:56	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.1	mg/L	0.25	0.059	5		02/27/21 16:11		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	11.4	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Total Organic Carbon	11.5	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Total Organic Carbon	11.8	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Total Organic Carbon	11.8	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Mean Total Organic Carbon	11.6	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (20-22) Lab ID: 92524618002 Collected: 02/26/21 14:45 Received: 02/27/21 12:45 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	259	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:27	7440-70-2	
Iron	2.6	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:27	7439-89-6	
Magnesium	606	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:27	7439-95-4	
Manganese	0.32	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:27	7439-96-5	
Potassium	164	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:27	7440-09-7	
Sodium	4300	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:32	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	244	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:43	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:43	7439-89-6	
Magnesium, Dissolved	572	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:43	7439-95-4	
Manganese, Dissolved	0.29	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:43	7439-96-5	
Potassium, Dissolved	151	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:43	7440-09-7	
Sodium, Dissolved	4040	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:17	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:13	7440-38-2	D3
Boron	1.2J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:13	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:11	7440-38-2	D3
Boron, Dissolved	1.3J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:11	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	525	mg/L	5.0	5.0	1		03/01/21 20:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:29		
Alkalinity, Total as CaCO3	525	mg/L	5.0	5.0	1		03/01/21 20:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	16300	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	60.9	mg/L	10.0	5.0	100		03/02/21 17:40	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	364	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:34		R6

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (20-22) **Lab ID: 92524618002** Collected: 02/26/21 14:45 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7130	mg/L	100	60.0	100		02/27/21 18:24	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 18:10	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 18:24	14797-65-0	D3
Sulfate	706	mg/L	100	50.0	100		02/27/21 18:24	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.48	mg/L	0.25	0.059	5		02/27/21 16:12		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Total Organic Carbon	9.3	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Total Organic Carbon	9.5	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Total Organic Carbon	9.6	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Mean Total Organic Carbon	9.5	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (26-28)	Lab ID: 92524618003	Collected: 02/26/21 15:10	Received: 02/27/21 12:45	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	199	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:31	7440-70-2	
Iron	1.5	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:31	7439-89-6	
Magnesium	386	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:31	7439-95-4	
Manganese	0.22	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:31	7439-96-5	
Potassium	116	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:31	7440-09-7	
Sodium	3410	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:35	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	216	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 16:42	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 16:42	7439-89-6	
Magnesium, Dissolved	414	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 16:42	7439-95-4	
Manganese, Dissolved	0.23	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 16:42	7439-96-5	
Potassium, Dissolved	115	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 16:42	7440-09-7	
Sodium, Dissolved	3180	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:20	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.057J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:18	7440-38-2	D3
Boron	1.0J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:18	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.035J	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:15	7440-38-2	D3
Boron, Dissolved	1.4J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:15	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	498	mg/L	5.0	5.0	1		03/01/21 20:41		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:41		
Alkalinity, Total as CaCO3	498	mg/L	5.0	5.0	1		03/01/21 20:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	12400	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	39.7	mg/L	10.0	5.0	100		03/02/21 16:09	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	194	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:38		R6

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (26-28) **Lab ID: 92524618003** Collected: 02/26/21 15:10 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5630	mg/L	100	60.0	100		02/27/21 18:53	16887-00-6	M6
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 18:39	14797-55-8	
Nitrite as N	ND	UJ mg/L	10.0	5.0	100		02/27/21 18:53	14797-65-0	D3, M6
Sulfate	540	mg/L	100	50.0	100		02/27/21 18:53	14808-79-8	M6
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.63	mg/L	0.25	0.059	5		02/27/21 16:13		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Mean Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	

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Georgia Power Company

Data Review

McManus Plant – Brunswick, GA

Metals and Miscellaneous Analyses

SDG #s 180-117730-1 and 180-117730-2

Analyses Performed By:

Eurofins Test America

Pittsburgh, PA

Report #41407R

Review Level: Tier II

Project: 30050105.10

Summary

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #s: 180-117730-1 and 180-117730-2 for samples collected in association with the Georgia Power Company McManus site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis	
						MET	MISC
180-117730-1	SB-06-S (8-10)	180-117730-1	Soil	02/27/21		X	X
	SB-06-S (15-17)	180-117730-2	Soil	02/27/21		X	X
	SB-06-S (27-29)	180-117730-3	Soil	02/27/21		X	X
	SB-06-S (33.5-35.5)	180-117730-4	Soil	02/27/21		X	X
	SB-06-S (8-10)	180-117730-5	Soil	02/27/21		X	X
	SB-06-S (15-17)	180-117730-6	Soil	02/27/21		X	X
	SB-06-S (27-29)	180-117730-7	Soil	02/27/21		X	X
	SB-06-S (33.5-35.5)	180-117730-8	Soil	02/27/21		X	X
	SB-18-S (8-10)	180-117730-9	Soil	02/27/21		X	X
	SB-18-S (21-23)	180-117730-10	Soil	02/27/21		X	X
	SB-18-S (26-28)	180-117730-11	Soil	02/27/21		X	X
	SB-18-S (8-10)	180-117730-12	Soil	02/27/21		X	X
	SB-18-S (21-23)	180-117730-13	Soil	02/27/21		X	X
	SB-18-S (26-28)	180-117730-14	Soil	02/27/21		X	X
	SB-14-S (8-10)	180-117730-15	Soil	02/28/21			
	SB-14-S (29-31)	180-117730-18	Soil	02/28/21			
	SB-14-S (31-33)	180-117730-19	Soil	02/28/21			
	SB-14-S (8-10)	180-117730-20	Soil	02/28/21		X	X
	SB-14-S (29-31)	180-117730-21	Soil	02/28/21		X	X

SDG Number	Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis	
						MET	MISC
	SB-14-S (31-33)	180-117730-22	Soil	02/28/21		X	X
	SB-32-S (5-10)	180-117730-23	Soil	02/28/21		X	X
	SB-32-S (5-10)	180-117730-24	Soil	02/28/21		X	X
	SB-32-S (22-24)	180-117730-25	Soil	02/28/21		X	X
	SB-32-S (28-30)	180-117730-26	Soil	02/28/21		X	X
	SB-32-S (22-24)	180-117730-27	Soil	02/28/21		X	X
	SB-32-S (28-30)	180-117730-28	Soil	02/28/21		X	X
	SB-26-S (5-10)	180-117730-29	Soil	02/28/21		X	X
	SB-26-S (11-13)	180-117730-30	Soil	02/28/21		X	X
	SB-26-S (26-28)	180-117730-31	Soil	02/28/21		X	X
	SB-26-S (34-36)	180-117730-32	Soil	02/28/21		X	X
	SB-26-S (5-10)	180-117730-33	Soil	02/28/21		X	X
	SB-26-S (11-13)	180-117730-34	Soil	02/28/21		X	X
	SB-26-S (26-28)	180-117730-35	Soil	02/28/21		X	X
	SB-26-S (34-36)	180-117730-36	Soil	02/28/21		X	X
180-117730-2	SB-14-S (17-19)	180-117730-16	Soil	02/28/21		X	X
	SB-14-S (22-24)	180-117730-14	Soil	02/28/21		X	X

Note:

Miscellaneous Analysis includes TOC and Acid Volatile Sulfides (AVS)

SDG 180-117730-1

1. Sample SB-06-S (8-10) was used as the MS/MSD for the 6010D SEM/AVS, the AVS analysis and the 6020B analysis.
2. Sample SB-06-S (27-29) was used as the MS/MSD for the 6020B analysis

Analytical Data Package Documentation

The table below evaluates the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed chain-of-custody form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data package completeness and compliance		X		X	

Note:

QA = quality assurance

Inorganic Analysis Introduction

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Methods 6020B, 6010D, SEM, 9034 and Lloyd Kahn. Data were reviewed in accordance with USEPA National Functional Guidelines of July 2002 and USEPA National Functional Guidelines of October 2004.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified, and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers
 - U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
 - J The reported value was obtained from a reading less than the reporting limit (RL), but greater than or equal to the method detection limit (MDL).
- Quantitation (Q) Qualifiers
 - E The reported value is estimated due to the presence of interference.
 - N Spiked sample recovery is not within control limits.
 - * Duplicate analysis is not within control limits.
- Validation Qualifiers
 - J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
 - UJ The analyte was not detected above the reporting limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
 - UB Analyte considered non-detect at the listed value due to associated blank contamination.
 - R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Metals Analyses

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 6010D/6020B	Soil	180 days from collection to analysis	Cool to <6 °C.
SEM	Soil	180 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD)/Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

All analytes associated with MS/MSD recoveries were within control limits except for the following analyte present in the table below.

Sample Location	Analyte	MS Recovery	MSD Recovery
SB-06-S (27-29)	Aluminum	201%	237%

Sample Location	Analyte	MS Recovery	MSD Recovery
SB-06-S (27-29)	Iron	AC	135%

The criteria used to evaluate MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified. The qualifications are applied to all sample results associated with this SDG.

Control limit	Sample Result	Qualification
MS/MSD percent recovery 30% to 74%	Non-detect	UJ
	Detect	J
MS/MSD percent recovery <30%	Non-detect	R
	Detect	J
MS/MSD percent recovery >125%	Non-detect	No Action
	Detect	J

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

MS/MSD analysis was performed in replacement of the laboratory duplicate analysis. The MS/MSD recoveries exhibited acceptable RPD.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not included in the data package.

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

6. Serial Dilution

The serial dilution analysis is used to assess if a significant physical or chemical interference exists due to sample matrix. Analytes exhibiting concentrations greater than 50 times the MDL in the undiluted sample are evaluated to determine if matrix interference exists. These analytes are required to have less than a 10% difference (%D) between sample results from the undiluted (parent) sample and results associated with the same sample analyzed with a five-fold dilution.

A site-specific serial dilution was not included in the data package.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist for Metal

METALS; SW-846 6010D/6020B and SEM	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES)					
Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)					
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Instrument Blanks	X				X
B. Method Blanks		X		X	
C. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Matrix Spike (MS) %R		X		X ¹	
Matrix Spike Duplicate (MSD) %R		X		X ¹	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X
ICP Serial Dilution %D	X				X
Total vs. Dissolved	X				X
Reporting Limit Verification		X		X	

Notes:

%R Percent recovery

RPD Relative percent difference

X¹ Data was acceptable with the exception of the data listed in the text above.

General Chemistry Analyses

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
TOC by Lloyd Kahn	Soil	14 days from collection to analysis	Cool to <6 °C.
AVS by EPA 9034	Soil	14 days from collection to analysis	Cool to <6 °C.

All samples were analyzed within the specified holding time criterion.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Analytes were not detected above the MDL in the associated blanks; therefore, detected sample results were not associated with blank contamination.

3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) /Laboratory Duplicate Analysis

MS/MSD and laboratory duplicate data are used to assess the precision and accuracy of the analytical method.

3.1 MS/MSD Analysis

All metal analytes must exhibit a percent recovery within the established acceptance limits of 75% to 125%. The MS recovery control limits do not apply for MS/MSD performed on sample locations where the analyte's concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater. In instance where this is true, the data will not be qualified even if the percent recovery does not meet the control limits and the laboratory flag will be removed.

The MS/MSD exhibited recoveries and RPD within the control limits.

3.2 Laboratory Duplicate Analysis

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for water matrices and 35% for soil matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one time the RL is applied for water matrices and two times the RL for soil matrices.

A laboratory duplicate was not included in the data package.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the overall precision of the field sampling procedures and analytical method. A control limit of 30% for water matrices and 50% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

A field duplicate was not included in the data package.

5. Laboratory Control Sample (LCS)

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The analytes associated with the LCS analysis must exhibit a percent recovery between the control limits of 80% and 120%.

The LCS analysis exhibited recoveries within the control limits.

6. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist for General Chemistry

Methods: EPA 9034 and Lloyd Kahn	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Tier II Validation					
Holding Times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method Blanks		X		X	
B. Equipment/Field Blanks	X				X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate (LCSD)	X				X
LCS/LCSD Precision (RPD)	X				X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate (MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)	X				X

Notes:

%R Percent recovery

RPD Relative percent difference

VALIDATION PERFORMED BY: Rachelle Borne

SIGNATURE:



DATE: May 21, 2021 Revised June 3, 2021

PEER REVIEW: Joseph C. Houser

DATE: May 24, 2021

Chain of Custody Corrected Sample Analysis Data Sheets



CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 1 of 3

ID#:

Contact & Company Name: Matt Webb/Arcadis	Telephone: 919-415-2284	Preservative Filtered (✓) E	Container Information: 9	PARAMETER ANALYSIS & METHOD
Address: 5160 Wake Park Blvd Ste 350	Fax:	# of Containers 1	Matrix Key: SE - Sediment SL - Sludge A - Air	Container Information: 7
City: Raleigh NC	Email Address: Matthew.Webb@arcadis.com	Project #: 2009105.00006	Matrix Key: SO - Soil W - Water T - Tissue	Container Information: 7
State: NC	Zip: 27607	Sampler's Printed Name: Grant A. Wilford	Matrix Key: NL - NAPL/Oil SW - Sample Wipe Other:	Container Information: 7
Project Name/Location (City, State): MHWAS - Brunswick, GA	Sampler's Signature: <i>[Signature]</i>	Collection Date: 2/27/21	Matrix Key: Other:	Container Information: 7

Sample ID	Collection Date	Time	Type (✓)	Comp	Grab	Matrix
SB-6-5(8-10)	2/27/21	0950	X			S
SB-6-5(15-17)	2/27/21	1000	X			S
SB-6-5(27-29)	2/27/21	1010	X			S
SB-6-5(33.5-35.5)	2/27/21	1023	X			S
SB-6-5(8-10)	2/27/21	1025	X			S
SB-6-5(15-17)	2/27/21	1030	X			S
SB-6-5(27-29)	2/27/21	1035	X			S
SB-6-5(33.5-35.5)	2/27/21	1040	X			S
SB-18-5(8-10)	2/27/21	1245	X			S
SB-18-5(21-23)	2/27/21	1250	X			S
SB-18-5(26-28)	2/27/21	1255	X			S
SB-18-5(8-10)	2/27/21	1410	X			S
SB-18-5(21-23)	2/27/21	1416	X			S
SB-18-5(26-28)	2/27/21	1435	X			S



Special Instructions/Comments:
Total Metals = Arsenic, Fe, Al, Mn, Cu, Ni, moisture
Please compare w/ Kathryn Faris about AVE prep @ 518-250-7309 if needed

Special QA/QC Instructions (✓):
 Special QA/QC Instructions (✓)

Lab Name: Eurofins - TestAmerica	Reinquired By: Printed Name: Grant A Wilford Signature: <i>[Signature]</i> Firm: ANA	Received By: Printed Name: FedEx Signature: <i>[Signature]</i> Firm/Courier: <i>[Signature]</i>	Reinquired By: Printed Name: Mia Signature: <i>[Signature]</i> Firm/Courier: <i>[Signature]</i>	Laboratory Received By: Printed Name: Matthew Sediz Signature: <i>[Signature]</i> Firm: ETA P&H
Cooler Custody Seal (✓) <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Sample Receipt: Condition/Cooler Temp: 3/20/21 / 1700	Date/Time: 3/2/21	Date/Time: 3/2/21	Date/Time: 3/2/21 1100





CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 2 of 3

ID#:

Contact & Company Name: Matt Wheeler Arcadis
 Address: 572 Dunwoody Park Blvd Ste 350
 City: Raleigh NC State: NC Zip: 27607
 Telephone: 919-415-2204
 Fax: /
 E-mail Address: Matthew.wheeler@arcadis.com
 Project Name/Location (City, State): Antirrhinus/Barnswick PA 30050105.0000
 Sampler's Printed Name: Grant A Willford
 Sampler's Signature: *[Signature]*

Preservative Filtered (✓) E
 # of Containers 1
 Container Information 9

PARAMETER ANALYSIS & METHOD

Sample ID	Collection Date	Time	Type (✓)	Comp	Grab	Matrix	REMARKS
SB-14-5(8-10)	0749		X			S	
SB-14-5(17-19)	0752		X			S	
SB-14-5(22-24)	0802		X			S	
SB-14-5(29-31)	0815		X			S	
SB-14-5(31-33)	0830		X			S	
SB-14-5(8-10)	0845		X			S	
SB-14-5(29-31)	0850	0853	X			S	
SB-14-5(31-33)	0910		X			S	
SB-14-5(32-5(5-10))	1110		X			S	
SB-32-5(5-10)	1115		X			S	
SB-32-5(22-24)	1120		X			S	
SB-32-5(28-30)	1122		X			S	
SB-32-5(22-24)	1125		X			S	
SB-32-5(28-30)	1140		X			S	

Keys
 Container Information Key:
 1. 40 ml Vial
 2. 1 L Amber
 3. 250 ml Plastic
 4. 500 ml Plastic
 5. Encore
 6. 2 oz. Glass
 7. 4 oz. Glass
 8. 8 oz. Glass
 9. Other: Acetate Liner
 10. Other: _____

Preservation Key:
 A. H₂SO₄
 B. HCl
 C. HNO₃
 D. NaOH
 E. None
 F. Other: _____
 G. Other: _____
 H. Other: _____

Matrix Key:
 SE - Sediment
 SO - Soil
 W - Water
 T - Tissue

SE - Sediment
 SL - Sludge
 A - Air
 NL - NAPL/Oil
 SW - Sample Wipe
 Other: _____

Special QA/QC Instructions (-):

Special Instructions/Comments: Total metals = Arsenic, Fe, Al, Mn, Cu, X moisture
Please correspond w/ Kathryn Farn's about AHS/SEM Prep @ 518-250-7389

Received By	Relinquished By
Printed Name: <u>FedEx</u> Signature: _____ Firm/Courier: _____ Date/Time: _____	Printed Name: _____ Signature: _____ Firm/Courier: _____ Date/Time: _____

Shipping Tracking #: _____

Condition/Cooler Temp: _____

Sample Receipt:
 Specify Turnaround Requirements
Standard TAT

Shipping Tracking #: _____

Condition/Cooler Temp: _____

Sample Receipt:
 Cooler packed with ice (✓) Intact Not Intact

Cooler Custody Seal (✓) _____

Lab Name: Eurofins - TestAmerica

Relinquished By: Grant A Willford
 Signature: *[Signature]*
 Firm: AUT
 Date/Time: 3/1/2021 1700

Received By: _____
 Signature: _____
 Firm/Courier: _____
 Date/Time: _____

Relinquished By: _____
 Signature: _____
 Firm/Courier: _____
 Date/Time: _____

Printed Name: _____
 Signature: _____
 Firm/Courier: _____
 Date/Time: _____

Printed Name: _____
 Signature: _____
 Firm/Courier: _____
 Date/Time: _____

20730826 Co/C AR Form 08.27.2015

Distribution: **WHITE** - Laboratory returns with results **YELLOW** - Lab copy **PINK** - Retained by Arcadis





CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 3 of 3

ID#:

Contact & Company Name: Matt Webb Arcadis	Telephone: 919-415-2284	Preservative: E	Filtered (✓): E
Address: 5410 Belmonte Park Blvd. Ste 350	Fax: /	# of Containers: 1	
City/State/Zip: Raleigh NC 27607	E-mail Address: Matthew.Weber@arcadis.com	Container Information: 9	
Project Name/Location (City, State): Plant Morris / Brunswick, GA	Project #: 20050105.00006	PARAMETER ANALYSIS & METHOD	
Sampler's Printed Name: Grant Willford	Sampler's Signature: <i>Grant Willford</i>	Matrix Key:	

Preservation Key:	Container Information Key:
A. H ₂ SO ₄	1. 40 ml Vial
B. HCl	2. 1 L Amber
C. HNO ₃	3. 250 ml Plastic
D. NaOH	4. 500 ml Plastic
E. None	5. Encore
F. Other:	6. 2 oz. Glass
G. Other:	7. 4 oz. Glass
H. Other:	8. 8 oz. Glass
	9. Other: <i>Acetate</i>
	10. Other: <i>Filter</i>

Sample ID	Collection Date	Time	Type (✓)		Matrix	REMARKS
			Comp	Grab		
SB-26-5(5-10)	2/28/11	1500	X		S	
SB-26-5(11-13)	2/28/11	1500	X		S	
SB-26-5(26-28)	2/28/11	1540	X		S	
SB-26-5(34-36)	2/28/11	1500	X		S	
SB-26-5(5-10)	2/28/11	1550	X		S	
SB-26-5(11-13)	2/28/11	1554	X		S	
SB-26-5(26-28)	2/28/11	1556	X		S	
SB-26-5(34-36)	2/28/11	1558	X		S	

Special Instructions/Comments: Total Metals = Arsenic, Fe, Al, Mn, W, Zn, Moisture
Please correspond w/ Kathryn Farris about ANALYSEM protocol 518-580-7389

Special QA/QC Instructions (✓):

Laboratory Information and Receipt		Received By		Relinquished By	
Lab Name: Eurofins - Test America	Cooler Custody Seal (✓): <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: Grant A. Willford	Printed Name: FedEx	Printed Name:	Printed Name:
<input checked="" type="checkbox"/> Cooler packed with ice (✓)	Sample Receipt:	Signature: <i>Grant Willford</i>	Signature:	Signature:	Signature:
Specify Turnaround Requirements: Standard TAT	Condition/Cooler Temp: _____	Firm: ANA	Firm/Courier:	Firm:	Firm:
Shipping Tracking #:		Date/Time: 3/1/2011 1700	Date/Time:	Date/Time:	Date/Time:

207-30826 CoC AR Form 08.27.2015

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(8-10)
 Date Collected: 02/27/21 09:50
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-1
 Matrix: Sediment
 Percent Solids: 78.4

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	1.8		0.32	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 12:25	1
Arsenic SEM	0.024		0.0043	0.0018	umol/g	☼	03/10/21 12:25	03/16/21 12:25	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	78.4		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.4	mg/Kg	☼	03/10/21 17:00	03/10/21 21:38	1
Acid Volatile Sulfides (AVS)	ND		0.60	0.20	umol/g	☼	03/10/21 17:00	03/10/21 21:38	1

Client Sample ID: SB-6-S(15-17)

Date Collected: 02/27/21 10:00
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-2
 Matrix: Sediment
 Percent Solids: 81.1

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.29	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 12:56	1
Arsenic SEM	0.0039	J	0.0041	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 12:56	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.9		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	81.1		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	6.1	mg/Kg	☼	03/10/21 17:00	03/11/21 00:14	1
Acid Volatile Sulfides (AVS)	ND		0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 00:14	1

Client Sample ID: SB-6-S(27-29)

Date Collected: 02/27/21 10:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-3
 Matrix: Sediment
 Percent Solids: 75.3

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.31	J	0.33	0.14	mg/Kg	☼	03/10/21 12:25	03/16/21 13:00	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(27-29)
Date Collected: 02/27/21 10:10
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-3
Matrix: Sediment
Percent Solids: 75.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0041	J	0.0044	0.0018	umol/g	☼	03/10/21 12:25	03/16/21 13:00	1
Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.7		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	75.3		0.1	0.1	%			03/11/21 09:43	1
General Chemistry - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		20	6.6	mg/Kg	☼	03/10/21 17:00	03/11/21 01:06	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.61	0.20	umol/g	☼	03/10/21 17:00	03/11/21 01:06	1

Client Sample ID: SB-6-S(33.5-35.5)
Date Collected: 02/27/21 10:23
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-4
Matrix: Sediment
Percent Solids: 79.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.27	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:05	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0036	J	0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:05	1
Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.2		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.8		0.1	0.1	%			03/11/21 09:43	1
General Chemistry - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.2	mg/Kg	☼	03/10/21 17:00	03/11/21 01:58	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 01:58	1

Client Sample ID: SB-6-S(8-10)
Date Collected: 02/27/21 10:25
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-5
Matrix: Sediment
Percent Solids: 80.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4000		3.7	3.6	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1
Arsenic	4.6		0.062	0.020	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1
Calcium	240		31	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1
Iron	1800		3.1	3.0	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(8-10)
 Date Collected: 02/27/21 10:25
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-5
 Matrix: Sediment
 Percent Solids: 80.5

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	16		0.31	0.27	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.5		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	80.5		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1600		1200	930	mg/Kg	☼		03/04/21 13:24	1

Client Sample ID: SB-6-S(15-17)
 Date Collected: 02/27/21 10:30
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-6
 Matrix: Sediment
 Percent Solids: 81.2

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	330		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Arsenic	0.52		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Calcium	390		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Iron	550		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Manganese	14		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.8		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	81.2		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1100	J	1200	920	mg/Kg	☼		03/04/21 13:40	1

Client Sample ID: SB-6-S(27-29)
 Date Collected: 02/27/21 10:35
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-7
 Matrix: Sediment
 Percent Solids: 83.4

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	650	F1 J	3.6	3.5	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Arsenic	0.99		0.059	0.019	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Calcium	2700		30	4.5	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Iron	1100	F1 J	3.0	2.8	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Manganese	18		0.30	0.26	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.6		0.1	0.1	%			03/12/21 19:06	1
Percent Solids	83.4		0.1	0.1	%			03/12/21 19:06	1
Total Organic Carbon - Duplicates	990	J	1200	890	mg/Kg	☼		03/11/21 13:23	1

Client Sample ID: SB-6-S(33.5-35.5)
 Date Collected: 02/27/21 10:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-8
 Matrix: Sediment
 Percent Solids: 77.6

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1200		3.9	3.7	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1
Arsenic	1.4		0.064	0.021	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(33.5-35.5)

Lab Sample ID: 180-117730-8

Date Collected: 02/27/21 10:40

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 77.6

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	4000		32	4.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1
Iron	1700		3.2	3.1	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1
Manganese	25		0.32	0.28	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	22.4		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	77.6		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1900		1300	960	mg/Kg	☼		03/04/21 15:04	1

Client Sample ID: SB-18-S(8-10)

Lab Sample ID: 180-117730-9

Date Collected: 02/27/21 12:45

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 79.6

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4900		3.7	3.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Arsenic	4.6		0.062	0.020	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Calcium	200		31	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Iron	1600		3.1	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Manganese	12		0.31	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.4		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	79.6		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	2100		1300	940	mg/Kg	☼		03/04/21 15:26	1

Client Sample ID: SB-18-S(21-23)

Lab Sample ID: 180-117730-10

Date Collected: 02/27/21 12:50

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 82.7

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1100		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Arsenic	1.2		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Calcium	1100		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Iron	2000		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Manganese	26		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.3		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	82.7		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1500		1200	900	mg/Kg	☼		03/04/21 15:43	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-18-S(26-28)
 Date Collected: 02/27/21 12:55
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-11
 Matrix: Sediment
 Percent Solids: 69.6

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7500		4.2	4.1	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Arsenic	5.5		0.071	0.023	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Calcium	4800		35	5.4	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Iron	10000		3.5	3.4	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Manganese	150		0.35	0.30	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	30.4		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	69.6		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	5600		1400	1100	mg/Kg	☼		03/04/21 16:00	1

Client Sample ID: SB-18-S(8-10)
 Date Collected: 02/27/21 14:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-12
 Matrix: Sediment
 Percent Solids: 78.4

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.73		0.32	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:09	1
Arsenic SEM	0.0097		0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:09	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	78.4		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.3	mg/Kg	☼	03/10/21 17:00	03/11/21 02:50	1
Acid Volatile Sulfides (AVS)	ND		0.59	0.20	umol/g	☼	03/10/21 17:00	03/11/21 02:50	1

Client Sample ID: SB-18-S(21-23)
 Date Collected: 02/27/21 14:26
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-13
 Matrix: Sediment
 Percent Solids: 82.4

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.23	J	0.30	0.12	mg/Kg	☼	03/10/21 12:25	03/16/21 13:14	1
Arsenic SEM	0.0030	J	0.0040	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:14	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.023		0.0010	NaN	NONE			03/17/21 13:25	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-18-S(21-23)

Date Collected: 02/27/21 14:26

Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-13

Matrix: Sediment

Percent Solids: 82.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	82.4		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	6.4	J	18	6.0	mg/Kg	✱	03/10/21 17:00	03/11/21 03:42	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.20	J	0.57	0.19	umol/g	✱	03/10/21 17:00	03/11/21 03:42	1

Client Sample ID: SB-18-S(26-28)

Date Collected: 02/27/21 14:35

Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-14

Matrix: Sediment

Percent Solids: 82.7

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.30		0.30	0.12	mg/Kg	✱	03/10/21 12:25	03/16/21 13:19	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0041		0.0040	0.0017	umol/g	✱	03/10/21 12:25	03/16/21 13:19	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.024		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.3		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	82.7		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	8.2	J	18	6.0	mg/Kg	✱	03/10/21 17:00	03/11/21 06:18	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	0.26	J	0.56	0.19	umol/g	✱	03/10/21 17:00	03/11/21 06:18	1

Client Sample ID: SB-14-S(8-10)

Date Collected: 02/28/21 07:48

Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-15

Matrix: Sediment

Percent Solids: 75.0

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3500		4.0	3.8	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Arsenic	1.0		0.066	0.021	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Calcium	230		33	5.0	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Iron	1300		3.3	3.2	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Manganese	9.4		0.33	0.28	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25.0		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	75.0		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1900		1300	990	mg/Kg	✱		03/04/21 16:17	1

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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(29-31)
 Date Collected: 02/28/21 08:15
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-18
 Matrix: Sediment
 Percent Solids: 72.6

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	1.5		0.34	0.14	mg/Kg	☼	03/10/21 12:25	03/16/21 13:23	1
Arsenic SEM	0.019		0.0046	0.0019	umol/g	☼	03/10/21 12:25	03/16/21 13:23	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.086		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	27.4		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	72.6		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	11	J	20	6.8	mg/Kg	☼	03/10/21 17:00	03/11/21 07:11	1
Acid Volatile Sulfides (AVS)	0.34	J	0.64	0.21	umol/g	☼	03/10/21 17:00	03/11/21 07:11	1

Client Sample ID: SB-14-S(31-33)

Date Collected: 02/28/21 08:30
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-19

Matrix: Sediment
 Percent Solids: 84.3

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.62		0.30	0.12	mg/Kg	☼	03/10/21 12:25	03/16/21 13:37	1
Arsenic SEM	0.0083		0.0040	0.0016	umol/g	☼	03/10/21 12:25	03/16/21 13:37	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.049		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.7		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	84.3		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	8.1	J	18	5.9	mg/Kg	☼	03/10/21 17:00	03/11/21 08:03	1
Acid Volatile Sulfides (AVS)	0.25	J	0.55	0.18	umol/g	☼	03/10/21 17:00	03/11/21 08:03	1

Client Sample ID: SB-14-S(8-10)

Date Collected: 02/28/21 08:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-20

Matrix: Sediment
 Percent Solids: 79.9

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.26	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:41	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(8-10)
 Date Collected: 02/28/21 08:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-20
 Matrix: Sediment
 Percent Solids: 79.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0034	J	0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:41	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.023		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.1		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.9		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	7.1	J	19	6.2	mg/Kg	☼	03/10/21 17:00	03/11/21 08:55	1
Acid Volatile Sulfides (AVS)	0.22	J	0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 08:55	1

Client Sample ID: SB-14-S(29-31)
 Date Collected: 02/28/21 08:55
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-21
 Matrix: Sediment
 Percent Solids: 75.9

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4300		3.9	3.8	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Arsenic	3.8		0.066	0.021	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Calcium	11000		33	5.0	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Iron	6900		3.3	3.1	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Manganese	96		0.33	0.28	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.1		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	75.9		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	2500		1300	980	mg/Kg	☼		03/04/21 16:33	1

Client Sample ID: SB-14-S(31-33)
 Date Collected: 02/28/21 09:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-22
 Matrix: Sediment
 Percent Solids: 80.9

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Arsenic	3.5		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Calcium	73000		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Iron	4600		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Manganese	63		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.1		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	80.9		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1600		1200	920	mg/Kg	☼		03/04/21 17:07	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-23
 Matrix: Sediment
 Percent Solids: 82.1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4600		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Arsenic	1.8		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Calcium	250		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Iron	1400		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Manganese	8.8		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.9		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	82.1		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1800		1200	910	mg/Kg	☼		03/04/21 17:29	1

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:15
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-24
 Matrix: Sediment
 Percent Solids: 78.2

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.25	J	0.32	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:46	1
Arsenic SEM	0.0033	J	0.0043	0.0018	umol/g	☼	03/10/21 12:25	03/16/21 13:46	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.022		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.8		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	78.2		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	7.2	J	19	6.4	mg/Kg	☼	03/10/21 17:00	03/11/21 09:47	1
Acid Volatile Sulfides (AVS)	0.23	J	0.60	0.20	umol/g	☼	03/10/21 17:00	03/11/21 09:47	1

Client Sample ID: SB-32-S(22-24)
 Date Collected: 02/28/21 11:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-25
 Matrix: Sediment
 Percent Solids: 84.2

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	630		3.5	3.4	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Arsenic	1.4		0.059	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Calcium	7700		29	4.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Iron	1500		2.9	2.8	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Manganese	19		0.29	0.25	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(22-24)
 Date Collected: 02/28/21 11:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-25
 Matrix: Sediment
 Percent Solids: 84.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.8		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	84.2		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1200		1200	890	mg/Kg	✱		03/04/21 17:46	1

Client Sample ID: SB-32-S(28-30)
 Date Collected: 02/28/21 11:22
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-26
 Matrix: Sediment
 Percent Solids: 81.5

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		3.6	3.5	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Arsenic	2.5		0.060	0.019	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Calcium	17000		30	4.6	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Iron	3500		3.0	2.9	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Manganese	46		0.30	0.26	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.5		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	81.5		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1500		1200	920	mg/Kg	✱		03/04/21 18:08	1

Client Sample ID: SB-32-S(22-24)
 Date Collected: 02/28/21 11:25
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-27
 Matrix: Sediment
 Percent Solids: 81.7

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.47		0.31	0.13	mg/Kg	✱	03/10/21 12:25	03/16/21 13:51	1
Arsenic SEM	0.0062		0.0041	0.0017	umol/g	✱	03/10/21 12:25	03/16/21 13:51	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.3		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	81.7		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	6.1	mg/Kg	✱	03/10/21 17:00	03/11/21 10:39	1
Acid Volatile Sulfides (AVS)	ND		0.57	0.19	umol/g	✱	03/10/21 17:00	03/11/21 10:39	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(28-30)
 Date Collected: 02/28/21 11:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-28
 Matrix: Sediment
 Percent Solids: 80.0

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.73		0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:55	1
Arsenic SEM	0.0098		0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.0		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	80.0		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.2	mg/Kg	☼	03/10/21 17:00	03/11/21 11:31	1
Acid Volatile Sulfides (AVS)	ND		0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 11:31	1

Client Sample ID: SB-26-S(5-10)

Date Collected: 02/28/21 15:00
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-29

Matrix: Sediment
 Percent Solids: 79.1

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.13	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 14:00	1
Arsenic SEM	0.0017	J	0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 14:00	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.9		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.1		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.3	mg/Kg	☼	03/10/21 17:00	03/11/21 12:23	1
Acid Volatile Sulfides (AVS)	ND		0.59	0.20	umol/g	☼	03/10/21 17:00	03/11/21 12:23	1

Client Sample ID: SB-26-S(11-13)

Date Collected: 02/28/21 15:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-30

Matrix: Sediment
 Percent Solids: 50.5

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.65		0.49	0.20	mg/Kg	☼	03/10/21 12:25	03/16/21 14:04	1

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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(11-13)
 Date Collected: 02/28/21 15:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-30
 Matrix: Sediment
 Percent Solids: 50.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0087		0.0066	0.0027	umol/g	☼	03/10/21 12:25	03/16/21 14:04	1
Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	49.5		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	50.5		0.1	0.1	%			03/11/21 09:43	1
General Chemistry - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		30	9.9	mg/Kg	☼	03/10/21 17:00	03/11/21 13:15	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.92	0.31	umol/g	☼	03/10/21 17:00	03/11/21 13:15	1

Client Sample ID: SB-26-S(26-28)
 Date Collected: 02/28/21 15:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-31
 Matrix: Sediment
 Percent Solids: 79.4

Method: 6010D - Metals (ICP) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 14:09	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 14:09	1
Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.4		0.1	0.1	%			03/11/21 09:43	1
General Chemistry - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.3	mg/Kg	☼	03/10/21 17:00	03/11/21 14:07	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.59	0.20	umol/g	☼	03/10/21 17:00	03/11/21 14:07	1

Client Sample ID: SB-26-S(34-36)
 Date Collected: 02/28/21 15:50
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-32
 Matrix: Sediment
 Percent Solids: 81.1

Method: 6010D - Metals (ICP) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.16	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 14:14	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0022	J	0.0041	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 14:14	1

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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(34-36)

Date Collected: 02/28/21 15:50

Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-32

Matrix: Sediment

Percent Solids: 81.1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.016		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.9		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	81.1		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	6.5	J	18	6.1	mg/Kg	☼	03/10/21 17:00	03/11/21 16:43	1
Acid Volatile Sulfides (AVS)	0.20	J	0.57	0.19	umol/g	☼	03/10/21 17:00	03/11/21 16:43	1

Client Sample ID: SB-26-S(5-10)

Date Collected: 02/28/21 15:52

Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-33

Matrix: Sediment

Percent Solids: 82.1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4100		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Arsenic	1.9		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Calcium	290		30	4.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Iron	1900		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Manganese	17		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.9		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	82.1		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1700		1200	910	mg/Kg	☼		03/04/21 18:31	1

Client Sample ID: SB-26-S(11-13)

Date Collected: 02/28/21 15:54

Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-34

Matrix: Sediment

Percent Solids: 50.8

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000		5.9	5.7	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Arsenic	8.4		0.098	0.031	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Calcium	1800		49	7.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Iron	16000		4.9	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Manganese	110		0.49	0.42	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	49.2		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	50.8		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	35000		2000	1500	mg/Kg	☼		03/04/21 18:59	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(26-28)

Lab Sample ID: 180-117730-35

Date Collected: 02/28/21 15:56

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 77.1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3700		3.8	3.7	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Arsenic	3.1		0.064	0.020	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Calcium	280		32	4.8	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Iron	5400		3.2	3.0	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Manganese	63		0.32	0.27	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	22.9		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	77.1		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	3700		1300	970	mg/Kg	☼		03/04/21 19:21	1

Client Sample ID: SB-26-S(34-36)

Lab Sample ID: 180-117730-36

Date Collected: 02/28/21 15:58

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 75.3

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2100		3.9	3.8	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Arsenic	2.0		0.065	0.021	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Calcium	1400		33	5.0	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Iron	2900		3.3	3.1	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Manganese	31		0.33	0.28	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.7		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	75.3		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1800		1300	990	mg/Kg	☼		03/04/21 19:43	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Client Sample ID: SB-14-S(17-19)

Lab Sample ID: 180-117730-16

Date Collected: 02/28/21 07:52

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 73.3

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	1.4		0.32	0.13	mg/Kg	☼	03/09/21 16:00	03/11/21 07:32	1
Arsenic SEM	0.019		0.0043	0.0018	umol/g	☼	03/09/21 16:00	03/11/21 07:32	1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2600		4.0	3.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Arsenic	4.6		0.067	0.022	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Calcium	1900		34	5.1	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Iron	5200		3.4	3.2	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Manganese	55		0.34	0.29	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.099		0.0010	NaN	NONE			03/15/21 08:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	26.7		0.1	0.1	%			03/11/21 20:16	1
Percent Solids	73.3		0.1	0.1	%			03/11/21 20:16	1
Total Organic Carbon - Duplicates	2300		1400	1000	mg/Kg	☼		03/11/21 14:19	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	9.1	J	19	6.5	mg/Kg	☼	03/09/21 16:00	03/09/21 18:17	1
Acid Volatile Sulfides (AVS)	0.28	J	0.61	0.20	umol/g	☼	03/09/21 16:00	03/09/21 18:17	1

Client Sample ID: SB-14-S(22-24)

Lab Sample ID: 180-117730-17

Date Collected: 02/28/21 08:02

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 80.6

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.96		0.27	0.11	mg/Kg	☼	03/09/21 16:00	03/11/21 07:37	1
Arsenic SEM	0.013		0.0037	0.0015	umol/g	☼	03/09/21 16:00	03/11/21 07:37	1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		3.7	3.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Arsenic	2.4		0.062	0.020	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Calcium	2400		31	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Iron	3600		3.1	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Manganese	30		0.31	0.27	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/15/21 08:13	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Client Sample ID: SB-14-S(22-24)

Lab Sample ID: 180-117730-17

Date Collected: 02/28/21 08:02

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 80.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.4		0.1	0.1	%			03/11/21 20:16	1
Percent Solids	80.6		0.1	0.1	%			03/11/21 20:16	1
Total Organic Carbon - Duplicates	2000		1200	930	mg/Kg	✱		03/11/21 14:36	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		16	5.5	mg/Kg	✱	03/09/21 16:00	03/09/21 18:26	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.51	0.17	umol/g	✱	03/09/21 16:00	03/09/21 18:26	1

WATER ANALYTICAL DATA



March 09, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS 30050105.00006
Pace Project No.: 92524150

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 25, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

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 30050105.00006
Pace Project No.: 92524150

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524150001	VAP-31-W (31-33)	Water	02/24/21 09:20	02/25/21 11:00
92524150002	VAP-06-W (15-17)	Water	02/24/21 11:43	02/25/21 11:00
92524150003	VAP-06-W (8-10)	Water	02/24/21 12:14	02/25/21 11:00
92524150004	VAP-06-W (27-29)	Water	02/24/21 13:03	02/25/21 11:00

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524150001	VAP-31-W (31-33)	EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
92524150002	VAP-06-W (15-17)	EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
92524150003	VAP-06-W (8-10)	SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
92524150004	VAP-06-W (27-29)	EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524150001	VAP-31-W (31-33)					
EPA 6010D	Calcium	282	mg/L	1.0	02/27/21 21:51	
EPA 6010D	Magnesium	618	mg/L	1.0	02/27/21 21:51	
EPA 6010D	Manganese	0.32	mg/L	0.050	02/27/21 21:51	
EPA 6010D	Potassium	184	mg/L	50.0	02/27/21 21:51	
EPA 6010D	Sodium	5380	mg/L	500	03/01/21 19:02	
EPA 6010D	Calcium, Dissolved	238	mg/L	1.0	03/03/21 02:52	
EPA 6010D	Magnesium, Dissolved	548	mg/L	1.0	03/03/21 02:52	
EPA 6010D	Manganese, Dissolved	0.28	mg/L	0.050	03/03/21 02:52	
EPA 6010D	Potassium, Dissolved	163	mg/L	50.0	03/03/21 02:52	
EPA 6010D	Sodium, Dissolved	4510	mg/L	500	03/03/21 01:53	
EPA 6020B	Arsenic	0.038	mg/L	0.010	02/26/21 11:15	D3
EPA 6020B	Boron	2.3J	mg/L	2.5	02/26/21 11:15	D3
EPA 6020B	Arsenic, Dissolved	0.020	mg/L	0.010	02/25/21 21:01	D3
EPA 6020B	Boron, Dissolved	1.6J	mg/L	2.5	02/25/21 21:01	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	420	mg/L	5.0	02/26/21 19:07	
SM 2320B-2011	Alkalinity, Total as CaCO3	420	mg/L	5.0	02/26/21 19:07	
SM 2540C-2011	Total Dissolved Solids	18200	mg/L	2500	03/02/21 19:20	
SM 4500-S2D-2011	Sulfide	33.2	mg/L	10.0	02/26/21 06:36	
EPA 300.0 Rev 2.1 1993	Chloride	8180	mg/L	100	02/25/21 18:12	
EPA 300.0 Rev 2.1 1993	Sulfate	977	mg/L	100	02/25/21 18:12	
SM 4500-P E-2011	Orthophosphate as P	0.92	mg/L	0.25	02/26/21 03:49	
EPA 9060A	Total Organic Carbon	7.8	mg/L	1.0	03/03/21 23:31	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/03/21 23:31	
EPA 9060A	Total Organic Carbon	7.8	mg/L	1.0	03/03/21 23:31	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/03/21 23:31	
EPA 9060A	Mean Total Organic Carbon	7.8	mg/L	1.0	03/03/21 23:31	
92524150002	VAP-06-W (15-17)					
EPA 6010D	Calcium	191	mg/L	1.0	02/27/21 21:54	
EPA 6010D	Iron	1.0	mg/L	0.50	02/27/21 21:54	
EPA 6010D	Magnesium	496	mg/L	1.0	02/27/21 21:54	
EPA 6010D	Manganese	0.31	mg/L	0.050	02/27/21 21:54	
EPA 6010D	Potassium	157	mg/L	50.0	02/27/21 21:54	
EPA 6010D	Sodium	4450	mg/L	500	03/01/21 19:05	
EPA 6010D	Calcium, Dissolved	177	mg/L	1.0	03/03/21 02:55	
EPA 6010D	Iron, Dissolved	0.85	mg/L	0.50	03/03/21 02:55	
EPA 6010D	Magnesium, Dissolved	477	mg/L	1.0	03/03/21 02:55	
EPA 6010D	Manganese, Dissolved	0.29	mg/L	0.050	03/03/21 02:55	
EPA 6010D	Potassium, Dissolved	152	mg/L	50.0	03/03/21 02:55	
EPA 6010D	Sodium, Dissolved	4010	mg/L	500	03/03/21 01:56	
EPA 6020B	Boron	2.0J	mg/L	2.5	02/26/21 11:19	D3
EPA 6020B	Boron, Dissolved	1.8J	mg/L	2.5	02/25/21 21:05	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	237	mg/L	5.0	03/08/21 17:23	
SM 2320B-2011	Alkalinity, Total as CaCO3	237	mg/L	5.0	03/08/21 17:23	
SM 2540C-2011	Total Dissolved Solids	17300	mg/L	2500	03/02/21 19:20	
SM 4500-S2D-2011	Sulfide	15.9	mg/L	10.0	02/26/21 06:37	
EPA 300.0 Rev 2.1 1993	Chloride	7080	mg/L	100	02/25/21 19:09	
EPA 300.0 Rev 2.1 1993	Sulfate	900	mg/L	100	02/25/21 19:09	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524150002	VAP-06-W (15-17)					
SM 4500-P E-2011	Orthophosphate as P	0.75	mg/L	0.25	02/26/21 03:49	
EPA 9060A	Total Organic Carbon	8.6	mg/L	1.0	03/03/21 23:49	
EPA 9060A	Total Organic Carbon	8.6	mg/L	1.0	03/03/21 23:49	
EPA 9060A	Total Organic Carbon	8.8	mg/L	1.0	03/03/21 23:49	
EPA 9060A	Total Organic Carbon	8.6	mg/L	1.0	03/03/21 23:49	
EPA 9060A	Mean Total Organic Carbon	8.7	mg/L	1.0	03/03/21 23:49	
92524150003	VAP-06-W (8-10)					
EPA 6010D	Calcium	218	mg/L	1.0	02/27/21 21:57	
EPA 6010D	Iron	3.7	mg/L	0.50	02/27/21 21:57	
EPA 6010D	Magnesium	611	mg/L	1.0	02/27/21 21:57	
EPA 6010D	Manganese	0.24	mg/L	0.050	02/27/21 21:57	
EPA 6010D	Potassium	167	mg/L	50.0	02/27/21 21:57	
EPA 6010D	Sodium	5050	mg/L	500	03/01/21 19:22	
EPA 6010D	Calcium, Dissolved	203	mg/L	1.0	03/03/21 02:59	
EPA 6010D	Iron, Dissolved	2.7	mg/L	0.50	03/03/21 02:59	
EPA 6010D	Magnesium, Dissolved	605	mg/L	1.0	03/03/21 02:59	
EPA 6010D	Manganese, Dissolved	0.22	mg/L	0.050	03/03/21 02:59	
EPA 6010D	Potassium, Dissolved	162	mg/L	50.0	03/03/21 02:59	
EPA 6010D	Sodium, Dissolved	4270	mg/L	500	03/03/21 02:06	
EPA 6020B	Boron	1.8J	mg/L	2.5	02/26/21 11:24	D3
EPA 6020B	Boron, Dissolved	1.7J	mg/L	2.5	02/25/21 21:26	D3
SM 2320B-2011	Alkalinity, Bicarbonate (CaCO ₃)	111	mg/L	5.0	03/08/21 17:32	
SM 2320B-2011	Alkalinity, Total as CaCO ₃	111	mg/L	5.0	03/08/21 17:32	
SM 2540C-2011	Total Dissolved Solids	17500	mg/L	2500	03/02/21 19:20	
EPA 300.0 Rev 2.1 1993	Chloride	8090	mg/L	100	02/25/21 19:38	
EPA 300.0 Rev 2.1 1993	Sulfate	1060	mg/L	100	02/25/21 19:38	
SM 4500-P E-2011	Orthophosphate as P	0.21	mg/L	0.050	02/26/21 03:50	
EPA 9060A	Total Organic Carbon	5.7	mg/L	1.0	03/04/21 00:07	
EPA 9060A	Total Organic Carbon	5.7	mg/L	1.0	03/04/21 00:07	
EPA 9060A	Total Organic Carbon	5.7	mg/L	1.0	03/04/21 00:07	
EPA 9060A	Total Organic Carbon	5.9	mg/L	1.0	03/04/21 00:07	
EPA 9060A	Mean Total Organic Carbon	5.7	mg/L	1.0	03/04/21 00:07	
92524150004	VAP-06-W (27-29)					
EPA 6010D	Calcium	407	mg/L	1.0	02/27/21 22:01	
EPA 6010D	Iron	22.8	mg/L	0.50	02/27/21 22:01	
EPA 6010D	Magnesium	660	mg/L	1.0	02/27/21 22:01	
EPA 6010D	Manganese	1.9	mg/L	0.050	02/27/21 22:01	
EPA 6010D	Potassium	173	mg/L	50.0	02/27/21 22:01	
EPA 6010D	Sodium	5550	mg/L	500	03/01/21 19:25	
EPA 6010D	Calcium, Dissolved	351	mg/L	1.0	03/03/21 03:02	
EPA 6010D	Magnesium, Dissolved	597	mg/L	1.0	03/03/21 03:02	
EPA 6010D	Manganese, Dissolved	1.5	mg/L	0.050	03/03/21 03:02	
EPA 6010D	Potassium, Dissolved	158	mg/L	50.0	03/03/21 03:02	
EPA 6010D	Sodium, Dissolved	4770	mg/L	500	03/03/21 02:09	
EPA 6020B	Boron	2.4J	mg/L	2.5	02/26/21 11:36	D3
EPA 6020B	Boron, Dissolved	1.8J	mg/L	2.5	02/25/21 21:30	D3

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524150004	VAP-06-W (27-29)					
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	643	mg/L	5.0	03/08/21 17:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	643	mg/L	5.0	03/08/21 17:41	
SM 2540C-2011	Total Dissolved Solids	20300	mg/L	2500	02/25/21 18:51	
SM 4500-S2D-2011	Sulfide	58.3	mg/L	10.0	02/26/21 06:38	
EPA 300.0 Rev 2.1 1993	Chloride	8950	mg/L	100	02/25/21 20:07	
EPA 300.0 Rev 2.1 1993	Sulfate	850	mg/L	100	02/25/21 20:07	
SM 4500-P E-2011	Orthophosphate as P	0.23	mg/L	0.050	02/26/21 03:50	
EPA 9060A	Total Organic Carbon	7.1	mg/L	1.0	03/04/21 01:04	
EPA 9060A	Total Organic Carbon	7.2	mg/L	1.0	03/04/21 01:04	
EPA 9060A	Total Organic Carbon	7.3	mg/L	1.0	03/04/21 01:04	
EPA 9060A	Total Organic Carbon	7.3	mg/L	1.0	03/04/21 01:04	
EPA 9060A	Mean Total Organic Carbon	7.2	mg/L	1.0	03/04/21 01:04	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-31-W (31-33) Lab ID: 92524150001 Collected: 02/24/21 09:20 Received: 02/25/21 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	282	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:51	7440-70-2	
Iron	ND	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:51	7439-89-6	
Magnesium	618	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:51	7439-95-4	
Manganese	0.32	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:51	7439-96-5	
Potassium	184	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:51	7440-09-7	
Sodium	5380	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:02	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	238	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:52	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:52	7439-89-6	
Magnesium, Dissolved	548	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:52	7439-95-4	
Manganese, Dissolved	0.28	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:52	7439-96-5	
Potassium, Dissolved	163	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:52	7440-09-7	
Sodium, Dissolved	4510	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 01:53	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.038	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:15	7440-38-2	D3
Boron	2.3J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:15	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.020	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:01	7440-38-2	D3
Boron, Dissolved	1.6J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:01	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	420	mg/L	5.0	5.0	1		02/26/21 19:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/26/21 19:07		
Alkalinity, Total as CaCO3	420	mg/L	5.0	5.0	1		02/26/21 19:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18200	mg/L	2500	2500	1		03/02/21 19:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	33.2	mg/L	10.0	5.0	100		02/26/21 06:36	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	02/26/21 05:00	03/03/21 01:31		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-31-W (31-33) **Lab ID: 92524150001** Collected: 02/24/21 09:20 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8180	mg/L	100	60.0	100		02/25/21 18:12	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 18:12	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 18:12	14797-65-0	D3
Sulfate	977	mg/L	100	50.0	100		02/25/21 18:12	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.92	mg/L	0.25	0.059	5		02/26/21 03:49		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	
Mean Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/03/21 23:31	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-06-W (15-17) Lab ID: 92524150002 Collected: 02/24/21 11:43 Received: 02/25/21 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	191	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:54	7440-70-2	
Iron	1.0	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:54	7439-89-6	
Magnesium	496	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:54	7439-95-4	
Manganese	0.31	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:54	7439-96-5	
Potassium	157	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:54	7440-09-7	
Sodium	4450	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:05	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	177	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:55	7440-70-2	
Iron, Dissolved	0.85	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:55	7439-89-6	
Magnesium, Dissolved	477	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:55	7439-95-4	
Manganese, Dissolved	0.29	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:55	7439-96-5	
Potassium, Dissolved	152	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:55	7440-09-7	
Sodium, Dissolved	4010	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 01:56	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:19	7440-38-2	D3
Boron	2.0J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:19	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:05	7440-38-2	D3
Boron, Dissolved	1.8J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:05	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	237	mg/L	5.0	5.0	1		03/08/21 17:23		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:23		
Alkalinity, Total as CaCO3	237	mg/L	5.0	5.0	1		03/08/21 17:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17300	mg/L	2500	2500	1		03/02/21 19:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	15.9	mg/L	10.0	5.0	100		02/26/21 06:37	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	02/26/21 05:00	03/03/21 01:35		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-06-W (15-17) **Lab ID: 92524150002** Collected: 02/24/21 11:43 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7080	mg/L	100	60.0	100		02/25/21 19:09	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 19:09	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 19:09	14797-65-0	D3
Sulfate	900	mg/L	100	50.0	100		02/25/21 19:09	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.75	mg/L	0.25	0.059	5		02/26/21 03:49		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	8.6	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Total Organic Carbon	8.6	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Total Organic Carbon	8.8	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Total Organic Carbon	8.6	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	
Mean Total Organic Carbon	8.7	mg/L	1.0	0.50	1		03/03/21 23:49	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-06-W (8-10)		Lab ID: 92524150003		Collected: 02/24/21 12:14		Received: 02/25/21 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	218	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:57	7440-70-2	
Iron	3.7	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:57	7439-89-6	
Magnesium	611	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:57	7439-95-4	
Manganese	0.24	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:57	7439-96-5	
Potassium	167	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:57	7440-09-7	
Sodium	5050	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:22	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	203	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:59	7440-70-2	
Iron, Dissolved	2.7	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:59	7439-89-6	
Magnesium, Dissolved	605	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:59	7439-95-4	
Manganese, Dissolved	0.22	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:59	7439-96-5	
Potassium, Dissolved	162	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:59	7440-09-7	
Sodium, Dissolved	4270	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:06	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:24	7440-38-2	D3
Boron	1.8J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:24	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:26	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:26	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	111	mg/L	5.0	5.0	1		03/08/21 17:32		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:32		
Alkalinity, Total as CaCO3	111	mg/L	5.0	5.0	1		03/08/21 17:32		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17500	mg/L	2500	2500	1		03/02/21 19:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		02/26/21 06:37	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	02/26/21 05:00	03/03/21 01:36		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-06-W (8-10) **Lab ID: 92524150003** Collected: 02/24/21 12:14 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8090	mg/L	100	60.0	100		02/25/21 19:38	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 19:38	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 19:38	14797-65-0	D3
Sulfate	1060	mg/L	100	50.0	100		02/25/21 19:38	14808-79-8	
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		02/26/21 03:50		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Total Organic Carbon	5.9	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	
Mean Total Organic Carbon	5.7	mg/L	1.0	0.50	1		03/04/21 00:07	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

Sample: VAP-06-W (27-29) Lab ID: 92524150004 Collected: 02/24/21 13:03 Received: 02/25/21 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	407	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:01	7440-70-2	
Iron	22.8	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:01	7439-89-6	
Magnesium	660	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:01	7439-95-4	
Manganese	1.9	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:01	7439-96-5	
Potassium	173	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:01	7440-09-7	
Sodium	5550	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:25	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	351	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:02	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:02	7439-89-6	
Magnesium, Dissolved	597	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:02	7439-95-4	
Manganese, Dissolved	1.5	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:02	7439-96-5	
Potassium, Dissolved	158	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:02	7440-09-7	
Sodium, Dissolved	4770	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:09	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:36	7440-38-2	D3
Boron	2.4J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:36	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:30	7440-38-2	D3
Boron, Dissolved	1.8J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:30	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	643	mg/L	5.0	5.0	1		03/08/21 17:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:41		
Alkalinity, Total as CaCO3	643	mg/L	5.0	5.0	1		03/08/21 17:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20300	mg/L	2500	2500	1		02/25/21 18:51		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	58.3	mg/L	10.0	5.0	100		02/26/21 06:38	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	02/26/21 05:00	03/03/21 01:40		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Sample: VAP-06-W (27-29) **Lab ID: 92524150004** Collected: 02/24/21 13:03 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8950	mg/L	100	60.0	100		02/25/21 20:07	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 20:07	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 20:07	14797-65-0	D3
Sulfate	850	mg/L	100	50.0	100		02/25/21 20:07	14808-79-8	
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		02/26/21 03:50		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.1	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	
Mean Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/04/21 01:04	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

QC Batch: 602778 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3176256 Matrix: Water

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/01/21 18:43	
Iron	mg/L	ND	0.050	0.042	03/01/21 18:43	
Magnesium	mg/L	ND	0.10	0.068	03/01/21 18:43	
Manganese	mg/L	ND	0.0050	0.0034	03/01/21 18:43	
Potassium	mg/L	ND	5.0	3.0	03/01/21 18:43	
Sodium	mg/L	ND	5.0	0.61	03/01/21 18:43	

LABORATORY CONTROL SAMPLE: 3176257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.2	105	80-120	
Iron	mg/L	5	5.2	104	80-120	
Magnesium	mg/L	5	5.4	107	80-120	
Manganese	mg/L	0.5	0.51	103	80-120	
Potassium	mg/L	5	5.2	103	80-120	
Sodium	mg/L	5	5.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176258 3176259

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524147001 Result	Spike Conc.	Spike Conc.	Conc.								
Calcium	mg/L	462	5	5	5	456	453	-132	-186	75-125	1	20	M6
Iron	mg/L	6.4	5	5	5	11.2	11.3	98	98	75-125	0	20	
Magnesium	mg/L	689	5	5	5	660	676	-580	-254	75-125	2	20	M6
Manganese	mg/L	1.6	0.5	0.5	0.5	2.0	2.0	82	89	75-125	2	20	
Potassium	mg/L	168	5	5	5	169	168	28	10	75-125	1	20	M6
Sodium	mg/L	5690	5	5	5	5580	5600	-2200	-1720	75-125	0	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

QC Batch:	603185	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET Filtered Diss.
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3178071 Matrix: Water

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/03/21 01:33	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/03/21 01:33	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/03/21 01:33	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/03/21 01:33	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/03/21 01:33	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/03/21 01:33	

LABORATORY CONTROL SAMPLE: 3178072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.4	88	80-120	
Iron, Dissolved	mg/L	5	4.4	89	80-120	
Magnesium, Dissolved	mg/L	5	4.6	93	80-120	
Manganese, Dissolved	mg/L	0.5	0.43	87	80-120	
Potassium, Dissolved	mg/L	5	4.5J	89	80-120	
Sodium, Dissolved	mg/L	5	4.5J	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178073 3178074

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92524147001 Result	Spike Conc.	Spike Conc.	Result							Result
Calcium, Dissolved	mg/L	408	5	5	392	380	-314	-560	75-125	3	20	M6
Iron, Dissolved	mg/L	ND	5	5	4.5	4.9	84	93	75-125	10	20	
Magnesium, Dissolved	mg/L	636	5	5	606	581	-598	-1100	75-125	4	20	M6
Manganese, Dissolved	mg/L	1.4	0.5	0.5	1.7	1.7	70	57	75-125	4	20	M6
Potassium, Dissolved	mg/L	154	5	5	154	149	-4	-86	75-125	3	20	M6
Sodium, Dissolved	mg/L	4990	5	5	4880	4940	-2160	-960	75-125	1	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

QC Batch: 602702 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3175906 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/26/21 10:46	
Boron	mg/L	ND	0.025	0.0062	02/26/21 10:46	

LABORATORY CONTROL SAMPLE: 3175907

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	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175908 3175909

Parameter	Units	92524147001		3175908		3175909		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Arsenic	mg/L	ND	0.01	0.01	0.014	0.011	115	84	75-125	24	20 R1
Boron	mg/L	2.4J	0.05	0.05	2.3J	2.4J	-263	-1	75-125		20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 602658 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3175488 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000087	02/25/21 20:32	
Boron, Dissolved	mg/L	ND	0.025	0.0062	02/25/21 20:32	

LABORATORY CONTROL SAMPLE: 3175489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.010	104	80-120	
Boron, Dissolved	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175490 3175491

Parameter	Units	92524147001		3175491		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic, Dissolved	mg/L	ND	0.01	0.01	0.0094J	0.011	77	94	75-125	20	
Boron, Dissolved	mg/L	2.2J	0.05	0.05	1.8J	2.1J	-786	-285	75-125	20 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 602849 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524150001

METHOD BLANK: 3176456 Matrix: Water
 Associated Lab Samples: 92524150001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	02/26/21 18:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	02/26/21 18:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	02/26/21 18:20	

LABORATORY CONTROL SAMPLE: 3176457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176458 3176459

Parameter	Units	92524147001		3176458		3176459		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Alkalinity, Total as CaCO3	mg/L	700	50	50	734	758	68	116	80-120	3	25 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176460 3176461

Parameter	Units	92522663002		3176460		3176461		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Alkalinity, Total as CaCO3	mg/L	23.0	50	50	72.0	72.1	98	98	80-120	0	25

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

QC Batch: 604855 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524150002, 92524150003, 92524150004

METHOD BLANK: 3186615 Matrix: Water

Associated Lab Samples: 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/08/21 16:33	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/08/21 16:33	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/08/21 16:33	

LABORATORY CONTROL SAMPLE: 3186616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186617 3186618

Parameter	Units	92523800014		3186617		3186618		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Alkalinity, Total as CaCO3	mg/L	43.6	50	50	95.4	96.0	104	105	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186619 3186620

Parameter	Units	92524091001		3186619		3186620		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Alkalinity, Total as CaCO3	mg/L	16.3	50	50	70.8	70.9	109	109	80-120	0	25

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

QC Batch: 602730

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: 92524150004

METHOD BLANK: 3176027

Matrix: Water

Associated Lab Samples: 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/25/21 18:51	

LABORATORY CONTROL SAMPLE: 3176028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	262	105	90-110	

SAMPLE DUPLICATE: 3176029

Parameter	Units	92524147001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	20600	20500	0	25	

SAMPLE DUPLICATE: 3176030

Parameter	Units	92523440012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	98.0	91.0	7	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 603683 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: 92524150001, 92524150002, 92524150003

METHOD BLANK: 3180457 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/02/21 19:18	

LABORATORY CONTROL SAMPLE: 3180458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	252	101	90-110	

SAMPLE DUPLICATE: 3180459

Parameter	Units	92524091017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	116	103	12	25	

SAMPLE DUPLICATE: 3180460

Parameter	Units	92524097007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	924	976	5	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 602771 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: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3176220 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/26/21 06:34	

LABORATORY CONTROL SAMPLE: 3176221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.47	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176222 3176223

Parameter	Units	92523670003		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	94	94	80-120	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176224 3176225

Parameter	Units	92523670004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfide	mg/L	0.073J	0.5	0.5	0.58	0.58	101	101	80-120	0	10		

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 602789 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: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3176288 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/03/21 01:10	

LABORATORY CONTROL SAMPLE: 3176290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	205	104	84.6-115	

SAMPLE DUPLICATE: 3176291

Parameter	Units	92523947003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	97.3	84.6	14	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 602684 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3175722 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/25/21 16:02	
Nitrate as N	mg/L	ND	0.10	0.060	02/25/21 16:02	
Nitrite as N	mg/L	ND	0.10	0.050	02/25/21 16:02	
Sulfate	mg/L	ND	1.0	0.50	02/25/21 16:02	

LABORATORY CONTROL SAMPLE: 3175723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175724 3175725

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524147001 Result	Spike Conc.	Spike Conc.	Conc.								
Chloride	mg/L	9250	50	50	9270	9180	44	-124	90-110	1	10	M6	
Nitrate as N	mg/L	ND	2.5	2.5	ND	ND	56	52	90-110		10	D3,M6	
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	40	40	90-110		10	D3,M6	
Sulfate	mg/L	853	50	50	902	890	99	76	90-110	1	10	M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524150

QC Batch: 602772 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: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3176226 Matrix: Water
 Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/26/21 03:28	

LABORATORY CONTROL SAMPLE: 3176227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.24	96	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176228 3176229

Parameter	Units	3176228		3176229		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524178001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Orthophosphate as P	mg/L	0.92	1.2	1.2	1.8	1.8	67	67	90-110	0	10 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176230 3176231

Parameter	Units	3176230		3176231		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524193001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Orthophosphate as P	mg/L	0.057	0.25	0.25	0.23	0.23	68	69	90-110	1	10 M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

QC Batch:	603999	Analysis Method:	EPA 9060A
QC Batch Method:	EPA 9060A	Analysis Description:	9060 TOC, AVL
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

METHOD BLANK: 3181952 Matrix: Water

Associated Lab Samples: 92524150001, 92524150002, 92524150003, 92524150004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	

LABORATORY CONTROL SAMPLE: 3181953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.4	98	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.7	99	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	
Total Organic Carbon	mg/L	25	24.6	98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3181954 3181955

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524081005 Result	Spike Conc.	Spike Conc.	Result						
Mean Total Organic Carbon	mg/L	32.6	25	25	55.7	56.0	92	94	75-125	1	25
Total Organic Carbon	mg/L	32.6	25	25	55.6	55.9	92	93	75-125	1	25
Total Organic Carbon	mg/L	32.8	25	25	56.0	56.5	93	95	75-125	1	25
Total Organic Carbon	mg/L	32.0	25	25	54.6	55.4	90	93	75-125	1	25
Total Organic Carbon	mg/L	32.9	25	25	56.3	56.4	94	94	75-125	0	25

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

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QUALIFIERS

Project: MCMANUS 30050105.00006
Pace Project No.: 92524150

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.
D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006

Pace Project No.: 92524150

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524150001	VAP-31-W (31-33)	EPA 3010A	602778	EPA 6010D	602799
92524150002	VAP-06-W (15-17)	EPA 3010A	602778	EPA 6010D	602799
92524150003	VAP-06-W (8-10)	EPA 3010A	602778	EPA 6010D	602799
92524150004	VAP-06-W (27-29)	EPA 3010A	602778	EPA 6010D	602799
92524150001	VAP-31-W (31-33)	EPA 3010A	603185	EPA 6010D	603191
92524150002	VAP-06-W (15-17)	EPA 3010A	603185	EPA 6010D	603191
92524150003	VAP-06-W (8-10)	EPA 3010A	603185	EPA 6010D	603191
92524150004	VAP-06-W (27-29)	EPA 3010A	603185	EPA 6010D	603191
92524150001	VAP-31-W (31-33)	EPA 3010A	602702	EPA 6020B	602750
92524150002	VAP-06-W (15-17)	EPA 3010A	602702	EPA 6020B	602750
92524150003	VAP-06-W (8-10)	EPA 3010A	602702	EPA 6020B	602750
92524150004	VAP-06-W (27-29)	EPA 3010A	602702	EPA 6020B	602750
92524150001	VAP-31-W (31-33)	EPA 3010A	602658	EPA 6020B	602711
92524150002	VAP-06-W (15-17)	EPA 3010A	602658	EPA 6020B	602711
92524150003	VAP-06-W (8-10)	EPA 3010A	602658	EPA 6020B	602711
92524150004	VAP-06-W (27-29)	EPA 3010A	602658	EPA 6020B	602711
92524150001	VAP-31-W (31-33)	SM 2320B-2011	602849		
92524150002	VAP-06-W (15-17)	SM 2320B-2011	604855		
92524150003	VAP-06-W (8-10)	SM 2320B-2011	604855		
92524150004	VAP-06-W (27-29)	SM 2320B-2011	604855		
92524150001	VAP-31-W (31-33)	SM 2540C-2011	603683		
92524150002	VAP-06-W (15-17)	SM 2540C-2011	603683		
92524150003	VAP-06-W (8-10)	SM 2540C-2011	603683		
92524150004	VAP-06-W (27-29)	SM 2540C-2011	602730		
92524150001	VAP-31-W (31-33)	SM 4500-S2D-2011	602771		
92524150002	VAP-06-W (15-17)	SM 4500-S2D-2011	602771		
92524150003	VAP-06-W (8-10)	SM 4500-S2D-2011	602771		
92524150004	VAP-06-W (27-29)	SM 4500-S2D-2011	602771		
92524150001	VAP-31-W (31-33)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524150002	VAP-06-W (15-17)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524150003	VAP-06-W (8-10)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524150004	VAP-06-W (27-29)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524150001	VAP-31-W (31-33)	EPA 300.0 Rev 2.1 1993	602684		
92524150002	VAP-06-W (15-17)	EPA 300.0 Rev 2.1 1993	602684		
92524150003	VAP-06-W (8-10)	EPA 300.0 Rev 2.1 1993	602684		
92524150004	VAP-06-W (27-29)	EPA 300.0 Rev 2.1 1993	602684		
92524150001	VAP-31-W (31-33)	SM 4500-P E-2011	602772		
92524150002	VAP-06-W (15-17)	SM 4500-P E-2011	602772		
92524150003	VAP-06-W (8-10)	SM 4500-P E-2011	602772		
92524150004	VAP-06-W (27-29)	SM 4500-P E-2011	602772		
92524150001	VAP-31-W (31-33)	EPA 9060A	603999		
92524150002	VAP-06-W (15-17)	EPA 9060A	603999		
92524150003	VAP-06-W (8-10)	EPA 9060A	603999		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006
Pace Project No.: 92524150


Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524150004	VAP-06-W (27-29)	EPA 9060A	603999		

REPORT OF LABORATORY ANALYSIS

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

Sample Condition Upon Receipt
 Client Name: ARCADIA Project: _____
 Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____
 Custody Seal Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other _____
 Thermometer: In Use ID: 951071 Type of Use: First Use None
 Cooler Temp: 1.8 Connection Factor: Add/Subtract (°C) 0
 Cooler Temp Corrected (°C): 1.8

WO# : 92524150

 92524150
 examining Contents: CO2/19R

Biological Tissue System? Yes No N/A
 Temp should be above freezing to 6°C
 Samples out of temp criteria. Sample on ice, cooling process completed.
 Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check resp)?
 Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

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

COMMENTS/SAMPLE DISCREPANCY _____ Field Data Required? Yes No

Lot ID of split containers: _____

CLIENT NOTIFICATION/RESOLUTION _____

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____
 Project Manager SRP Review: _____ Date: _____

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

Exceptions: VOA, Coliform, TDC, Oil and Grease, DAQ/6005 (water) DOC, UMG

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

Project #

WO#: 92524150

PN: KLH1

Due Date: 02/26/21

CLIENT: GS-GS Power

Method	1	2	3	4	5	6	7	8	9	10	11	12
8940-125 ml, Plastic, Unpreserved (N/A) (C1)												
8940-250 ml, Plastic, Unpreserved (N/A)	2	2	2	2								
8940-500 ml, Plastic, Unpreserved (N/A)	1	1	1	1								
8940-1 liter Plastic Unpreserved (N/A)	1	1	1	1								
8940-200 ml, Plastic HDPE (gal + 2) (C1)	2	2	2	2								
8940-400 ml, Plastic HDPE (gal + 2) (C1)	1	1	1	1								
8940-800 ml, Plastic 20 Liter 8 liter (C1) (N/A)												
8940-125 ml, Plastic, NaOCl (gal + 2) (C1)												
9280-125 ml, Plastic, NaOCl (gal + 2) (C1)												
9280-250 ml, Plastic, NaOCl (gal + 2) (C1)												
9280-500 ml, Plastic, NaOCl (gal + 2) (C1)												
9280-1 liter Amber Unpreserved (N/A) (C1)												
9280-1 liter Amber HD (gal + 2)												
9280-200 ml Amber Unpreserved (N/A) (C1)												
9280-400 ml Amber HDPE (gal + 2)												
9280-800 ml Amber HDPE (gal + 2)												
9280-2000 ml Amber HDPE (20 liter) (C1)												
9280-400 ml VOA HD (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-125 ml VOA (1/2) (N/A)												
9280-250 ml VOA HDPE (N/A)												
9280-500 ml VOA HDPE (N/A)												
9280-125 ml VOA HDPE (N/A)												
9280-250 ml VOA HDPE (N/A)												
9280-500 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												
9280-200 ml VOA HDPE (N/A)												
9280-400 ml VOA HDPE (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												
9280-200 ml VOA HDPE (N/A)												
9280-400 ml VOA HDPE (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												
9280-200 ml VOA HDPE (N/A)												
9280-400 ml VOA HDPE (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												
9280-200 ml VOA HDPE (N/A)												
9280-400 ml VOA HDPE (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												
9280-200 ml VOA HDPE (N/A)												
9280-400 ml VOA HDPE (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												
9280-200 ml VOA HDPE (N/A)												
9280-400 ml VOA HDPE (N/A)												
9280-800 ml VOA HDPE (N/A)												
9280-1 liter VOA HDPE (N/A)												

pH Adjustment Log for Preserved Samples

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

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

ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page of

Lab Work Order # 91520150

Sample ID: 919-415-2284
 Location: 919-415-2284
 Date:

Client: RAVIERA, N.C. 27607 Matthews, Wake Co. NC
 Address: M. Matthews AVE. T-8400
 Phone: 380-570-1005

PARAMETER ANALYSIS & METHOD	Request		Response	
	Y	N	Y	N
Total metals				
Dissolved metals				
Alkalinity				
CL, SO ₄ , NO ₃ KIT				
BETHOPHOL				
SULFIDE				
AMNH + 2, AMNH				
TOL				
BOD				
TDS				

Sample ID	Collection Date	Time	Type (1)	Matrix	PARAMETER ANALYSIS & METHOD												
					Total metals	Dissolved metals	Alkalinity	CL, SO ₄ , NO ₃ KIT	BETHOPHOL	SULFIDE	AMNH + 2, AMNH	TOL	BOD	TDS			
VAP-31-w (31-53)	2/24/14	9:10	X	W													
VAP-06-w (06-10)	2/25/14	11:43	X	W													
VAP-06-w (06-10)	2/25/14	12:14	X	W													
VAP-06-w (06-10)	2/25/14	13:03	X	W													

Remarks:

Lab Work Order # 91520150

Special Instructions: Metals: As, Fe, Mn, and Cu, May 18
Dissolved metals: As, Fe, Mn, and Cu, May 18
Total Dissolved As as 1st day

Client Name: ARCADIS

Project Name:

Site Name:

Requester Name:

Requester Title:

Requester Phone:

Requester Email:

Requester Address:

Requester City/State/Zip:

Requester Fax:

Requester Notes:

Requester Signature:

Requester Date:

Requester Title:

Requester Company:

Requester Address:

Requester City/State/Zip:

Requester Fax:

Requester Notes:

Requester Signature:

Requester Date:

Requester Title:

Requester Company:



March 03, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS 30050105.00006
Pace Project No.: 92524147

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 25, 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

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

Sincerely,

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

Enclosures

cc: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

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: MCMANUS 30050105.00006
Pace Project No.: 92524147

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524147001	VAP-6-W (33.5-35.5)	Water	02/24/21 13:50	02/25/21 11:00

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524147001	VAP-6-W (33.5-35.5)	EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
EPA 9060A	JLH	5		

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524147001	VAP-6-W (33.5-35.5)					
EPA 6010D	Calcium	462	mg/L	1.0	02/27/21 21:37	M6
EPA 6010D	Iron	6.4	mg/L	0.50	02/27/21 21:37	
EPA 6010D	Magnesium	689	mg/L	1.0	02/27/21 21:37	M6
EPA 6010D	Manganese	1.6	mg/L	0.050	02/27/21 21:37	
EPA 6010D	Potassium	168	mg/L	50.0	02/27/21 21:37	M6
EPA 6010D	Sodium	5690	mg/L	500	03/01/21 18:49	M6
EPA 6010D	Calcium, Dissolved	408	mg/L	1.0	03/03/21 02:26	M6
EPA 6010D	Magnesium, Dissolved	636	mg/L	1.0	03/03/21 02:26	M6
EPA 6010D	Manganese, Dissolved	1.4	mg/L	0.050	03/03/21 02:26	M6
EPA 6010D	Potassium, Dissolved	154	mg/L	50.0	03/03/21 02:26	M6
EPA 6010D	Sodium, Dissolved	4990	mg/L	500	03/03/21 01:40	M6
EPA 6020B	Boron	2.4J	mg/L	2.5	02/26/21 10:55	D3,M6
EPA 6020B	Boron, Dissolved	2.2J	mg/L	2.5	02/25/21 20:40	D3,M6
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	700	mg/L	5.0	02/26/21 18:29	
SM 2320B-2011	Alkalinity, Total as CaCO3	700	mg/L	5.0	02/26/21 18:29	M1
SM 2540C-2011	Total Dissolved Solids	20600	mg/L	2500	02/25/21 18:51	
SM 4500-S2D-2011	Sulfide	59.1	mg/L	10.0	02/26/21 06:36	
EPA 300.0 Rev 2.1 1993	Chloride	9250	mg/L	100	02/25/21 20:35	M6
EPA 300.0 Rev 2.1 1993	Sulfate	853	mg/L	100	02/25/21 20:35	M6
SM 4500-P E-2011	Orthophosphate as P	0.24	mg/L	0.050	02/26/21 03:50	
EPA 9060A	Total Organic Carbon	7.9	mg/L	1.0	03/02/21 09:48	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	03/02/21 09:48	
EPA 9060A	Total Organic Carbon	7.9	mg/L	1.0	03/02/21 09:48	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/02/21 09:48	
EPA 9060A	Mean Total Organic Carbon	7.8	mg/L	1.0	03/02/21 09:48	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524147

Sample: VAP-6-W (33.5-35.5) Lab ID: 92524147001 Collected: 02/24/21 13:50 Received: 02/25/21 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	462	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 21:37	7440-70-2	M6
Iron	6.4	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 21:37	7439-89-6	
Magnesium	689	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 21:37	7439-95-4	M6
Manganese	1.6	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 21:37	7439-96-5	
Potassium	168	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 21:37	7440-09-7	M6
Sodium	5690	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 18:49	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	408	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 02:26	7440-70-2	M6
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 02:26	7439-89-6	
Magnesium, Dissolved	636	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 02:26	7439-95-4	M6
Manganese, Dissolved	1.4	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 02:26	7439-96-5	M6
Potassium, Dissolved	154	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 02:26	7440-09-7	M6
Sodium, Dissolved	4990	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 01:40	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 10:55	7440-38-2	D3,R1
Boron	2.4J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 10:55	7440-42-8	D3,M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 20:40	7440-38-2	D3
Boron, Dissolved	2.2J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 20:40	7440-42-8	D3,M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	700	mg/L	5.0	5.0	1		02/26/21 18:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/26/21 18:29		
Alkalinity, Total as CaCO3	700	mg/L	5.0	5.0	1		02/26/21 18:29		M1
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20600	mg/L	2500	2500	1		02/25/21 18:51		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	59.1	mg/L	10.0	5.0	100		02/26/21 06:36	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	02/26/21 05:00	03/03/21 01:28		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

Sample: VAP-6-W (33.5-35.5) **Lab ID: 92524147001** Collected: 02/24/21 13:50 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	9250	mg/L	100	60.0	100		02/25/21 20:35	16887-00-6	M6
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 20:35	14797-55-8	D3,M6
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 20:35	14797-65-0	D3,M6
Sulfate	853	mg/L	100	50.0	100		02/25/21 20:35	14808-79-8	M6
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.24	mg/L	0.050	0.012	1		02/26/21 03:50		
Total Organic Carbon,Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	
Mean Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/02/21 09:48	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch: 602778

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3176256

Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/01/21 18:43	
Iron	mg/L	ND	0.050	0.042	03/01/21 18:43	
Magnesium	mg/L	ND	0.10	0.068	03/01/21 18:43	
Manganese	mg/L	ND	0.0050	0.0034	03/01/21 18:43	
Potassium	mg/L	ND	5.0	3.0	03/01/21 18:43	
Sodium	mg/L	ND	5.0	0.61	03/01/21 18:43	

LABORATORY CONTROL SAMPLE: 3176257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.2	105	80-120	
Iron	mg/L	5	5.2	104	80-120	
Magnesium	mg/L	5	5.4	107	80-120	
Manganese	mg/L	0.5	0.51	103	80-120	
Potassium	mg/L	5	5.2	103	80-120	
Sodium	mg/L	5	5.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176258 3176259

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike Conc.	Result	Spike Conc.	Result							
Calcium	mg/L	462	462	5	5	456	453	-132	-186	75-125	1	20 M6
Iron	mg/L	6.4	6.4	5	5	11.2	11.3	98	98	75-125	0	20
Magnesium	mg/L	689	689	5	5	660	676	-580	-254	75-125	2	20 M6
Manganese	mg/L	1.6	1.6	0.5	0.5	2.0	2.0	82	89	75-125	2	20
Potassium	mg/L	168	168	5	5	169	168	28	10	75-125	1	20 M6
Sodium	mg/L	5690	5690	5	5	5580	5600	-2200	-1720	75-125	0	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch: 603185	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010 MET Filtered Diss.
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3178071 Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/03/21 01:33	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/03/21 01:33	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/03/21 01:33	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/03/21 01:33	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/03/21 01:33	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/03/21 01:33	

LABORATORY CONTROL SAMPLE: 3178072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.4	88	80-120	
Iron, Dissolved	mg/L	5	4.4	89	80-120	
Magnesium, Dissolved	mg/L	5	4.6	93	80-120	
Manganese, Dissolved	mg/L	0.5	0.43	87	80-120	
Potassium, Dissolved	mg/L	5	4.5J	89	80-120	
Sodium, Dissolved	mg/L	5	4.5J	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178073 3178074

Parameter	Units	3178073		3178074		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Calcium, Dissolved	mg/L	408	5	5	392	380	-314	-560	75-125	3	20	M6
Iron, Dissolved	mg/L	ND	5	5	4.5	4.9	84	93	75-125	10	20	
Magnesium, Dissolved	mg/L	636	5	5	606	581	-598	-1100	75-125	4	20	M6
Manganese, Dissolved	mg/L	1.4	0.5	0.5	1.7	1.7	70	57	75-125	4	20	M6
Potassium, Dissolved	mg/L	154	5	5	154	149	-4	-86	75-125	3	20	M6
Sodium, Dissolved	mg/L	4990	5	5	4880	4940	-2160	-960	75-125	1	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524147

QC Batch: 602702	Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A	Analysis Description: 6020 MET
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3175906 Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/26/21 10:46	
Boron	mg/L	ND	0.025	0.0062	02/26/21 10:46	

LABORATORY CONTROL SAMPLE: 3175907

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	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175908 3175909

Parameter	Units	92524147001		3175909		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	ND	0.01	0.014	0.011	115	84	75-125	24	20	R1
Boron	mg/L	2.4J	0.05	2.3J	2.4J	-263	-1	75-125		20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch: 602658

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET Dissolved

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3175488

Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000087	02/25/21 20:32	
Boron, Dissolved	mg/L	ND	0.025	0.0062	02/25/21 20:32	

LABORATORY CONTROL SAMPLE: 3175489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.010	104	80-120	
Boron, Dissolved	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175490 3175491

Parameter	Units	92524147001		3175491		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic, Dissolved	mg/L	ND	0.01	0.01	0.0094J	0.011	77	94	75-125	20	
Boron, Dissolved	mg/L	2.2J	0.05	0.05	1.8J	2.1J	-786	-285	75-125	20 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch: 602849

Analysis Method: SM 2320B-2011

QC Batch Method: SM 2320B-2011

Analysis Description: 2320B Alkalinity

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3176456

Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	02/26/21 18:20	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	02/26/21 18:20	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	02/26/21 18:20	

LABORATORY CONTROL SAMPLE: 3176457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176458 3176459

Parameter	Units	92524147001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	700	50	50	734	758	68	116	80-120	3	25	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176460 3176461

Parameter	Units	92522663002		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	23.0	50	50	72.0	72.1	98	98	80-120	0	25		

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524147

QC Batch: 602730 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: 92524147001

METHOD BLANK: 3176027 Matrix: Water
 Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/25/21 18:51	

LABORATORY CONTROL SAMPLE: 3176028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	262	105	90-110	

SAMPLE DUPLICATE: 3176029

Parameter	Units	92524147001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	20600	20500	0	25	

SAMPLE DUPLICATE: 3176030

Parameter	Units	92523440012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	98.0	91.0	7	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch: 602771	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: 92524147001

METHOD BLANK: 3176220 Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/26/21 06:34	

LABORATORY CONTROL SAMPLE: 3176221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.47	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176222 3176223

Parameter	Units	92523670003 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	94	94	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176224 3176225

Parameter	Units	92523670004 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Sulfide	mg/L	0.073J	0.5	0.5	0.58	0.58	101	101	80-120	0	10	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch:	602789	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: 92524147001

METHOD BLANK: 3176288 Matrix: Water
 Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/03/21 01:10	

LABORATORY CONTROL SAMPLE: 3176290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	205	104	84.6-115	

SAMPLE DUPLICATE: 3176291

Parameter	Units	92523947003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	97.3	84.6	14	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch:	602684	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3175722 Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/25/21 16:02	
Nitrate as N	mg/L	ND	0.10	0.060	02/25/21 16:02	
Nitrite as N	mg/L	ND	0.10	0.050	02/25/21 16:02	
Sulfate	mg/L	ND	1.0	0.50	02/25/21 16:02	

LABORATORY CONTROL SAMPLE: 3175723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175724 3175725

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524147001 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	9250	50	50	9270	9180	44	-124	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	ND	ND	56	52	90-110		10 D3,M6
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	40	40	90-110		10 D3,M6
Sulfate	mg/L	853	50	50	902	890	99	76	90-110	1	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524147

QC Batch: 602772 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: 92524147001

METHOD BLANK: 3176226 Matrix: Water
 Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/26/21 03:28	

LABORATORY CONTROL SAMPLE: 3176227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.24	96	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176228 3176229

Parameter	Units	3176228		3176229		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Orthophosphate as P	mg/L	0.92	1.2	1.8	1.8	67	67	90-110	0	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176230 3176231

Parameter	Units	3176230		3176231		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Orthophosphate as P	mg/L	0.057	0.25	0.23	0.23	68	69	90-110	1	10	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

QC Batch: 603153

Analysis Method: EPA 9060A

QC Batch Method: EPA 9060A

Analysis Description: 9060 TOC, AVL

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524147001

METHOD BLANK: 3177969

Matrix: Water

Associated Lab Samples: 92524147001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	

LABORATORY CONTROL SAMPLE: 3177970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.9	100	75-125	
Total Organic Carbon	mg/L	25	23.2	93	75-125	
Total Organic Carbon	mg/L	25	24.4	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177971 3177972

Parameter	Units	92523998001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	264	25	25	285	280	81	60	75-125	2	25	M6
Total Organic Carbon	mg/L		25	25	283	278	90	71	75-125	2	25	M6
Total Organic Carbon	mg/L		25	25	289	282	71	44	75-125	2	25	M6
Total Organic Carbon	mg/L		25	25	280	276	87	74	75-125	1	25	M6
Total Organic Carbon	mg/L		25	25	287	282	76	52	75-125	2	25	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177973 3177974

Parameter	Units	92523918001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/L	9.3	25	25	34.9	34.8	102	102	75-125	0	25	
Total Organic Carbon	mg/L	9.1	25	25	34.7	34.8	102	103	75-125	0	25	
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.8	102	102	75-125	0	25	
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.5	102	101	75-125	1	25	
Total Organic Carbon	mg/L	9.4	25	25	34.9	35.0	102	103	75-125	0	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

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.

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

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

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

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006

Pace Project No.: 92524147

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524147001	VAP-6-W (33.5-35.5)	EPA 3010A	602778	EPA 6010D	602799
92524147001	VAP-6-W (33.5-35.5)	EPA 3010A	603185	EPA 6010D	603191
92524147001	VAP-6-W (33.5-35.5)	EPA 3010A	602702	EPA 6020B	602750
92524147001	VAP-6-W (33.5-35.5)	EPA 3010A	602658	EPA 6020B	602711
92524147001	VAP-6-W (33.5-35.5)	SM 2320B-2011	602849		
92524147001	VAP-6-W (33.5-35.5)	SM 2540C-2011	602730		
92524147001	VAP-6-W (33.5-35.5)	SM 4500-S2D-2011	602771		
92524147001	VAP-6-W (33.5-35.5)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524147001	VAP-6-W (33.5-35.5)	EPA 300.0 Rev 2.1 1993	602684		
92524147001	VAP-6-W (33.5-35.5)	SM 4500-P E-2011	602772		
92524147001	VAP-6-W (33.5-35.5)	EPA 9060A	603153		

REPORT OF LABORATORY ANALYSIS

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

Document Revised: October 28, 2020
Page 1 of 3
Issuing Authority:
Pace Carolina Quality Office

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

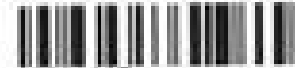
Sample Condition Upon Receipt

Client Name:

ARCADIS

Project #:

WO#: 92524147



92524147

Courier: Commercial Fed Ex UPS USPS Other Client

Custody Seal Present? Yes No Seals Intact? Yes No

any labels never handling containers 2/23/21 / JRC

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Present? Yes No Data

Thermometer: In Use ID: 93T071 Type of lot: New Use Rec

Cooler Temp: 5.0 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): 5.0

USDA Regulated Soil (s/s, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

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

				Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Short Hold Time Analysis (H2) In/Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Sufficient volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	6.
-Free Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Classified analysis: Samples Field Filtered?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Matrix:	<u>NT</u>			
Headspace in VOA Vials (>5 - 6mm)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Tip Blank Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	11.
Tip Blank Custody Seal Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____

Date: _____

Project Manager SRP Review: _____

Date: _____



Document Name:
Sample Condition Upon Receipt (SCUR)
 Document No.:
F-CAR-01-003 Rev 07

Document Revised: October 28, 2020
 Page 2 of 3
 Issuing Authority:
Pace Carolina Quality Office

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

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRD/BDG (water), DOC, LMH

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

Project

WO# : 92524147

PR: KLM1

Due Date: 02/26/21

CLIENT: GR-GR Power

Serial	BP60-125 ml Plastic Unpreserved (N/A) (D-)	BP60-250 ml Plastic Unpreserved (N/A)	BP100-500 ml Plastic Unpreserved (N/A)	BP100-1 liter Plastic Unpreserved (N/A)	BP40-125 ml Plastic HDPE (pH < 2) (D-)	BP60-250 ml plastic HDPE (pH < 2)	BP40-125 ml Plastic 24-40000 & 40000 (PH)	BP40-250 ml Plastic HDPE (pH < 2) (D-)	WATER-UNPRESERVED Glass jar Unpreserved	AD100-1 liter Amber Unpreserved (N/A) (D-)	AD200-1 liter Amber HD (pH < 2)	AD500-250 ml Amber Unpreserved (N/A) (D-)	AD100-1 liter Amber HD (pH < 2)	AD200-250 ml Amber HD (pH < 2)	AD100-250 ml Amber HD (pH < 2)	AD100-250 ml Amber HD (pH < 2)	200ml-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)	VOA-40 ml VOA HD (N/A)		
1	/																																					
2		2																																				
3	/																																					
4	/																																					
5	/																																					
6	/																																					
7	/																																					
8	/																																					
9	/																																					
10	/																																					
11	/																																					
12	/																																					

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 200666 Certification Office (110001) at the Out-of-hold, returned preservative, out of temp, incorrect containers.



FOR: []

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page ___ of ___

LAB WORK ORDER # []
[]

Analytical Method: Standard Site ID: 919-415-2284
 Sample ID: VFU-10-1035-356 Description: 30050185.00006
 Location: North with & ...
 Date: 10/23/03 Method: ...

Sample ID	Description	Type	PARAMETER ANALYSIS & METHOD																		
			CC	C	R	F	E	K	G	E	E	E									
VFU-10-1035-356	30050185.00006	X																			

Special Instructions/Comments: RESULTS: AI, Fe, Mn, Mg, Ca, Mo, K, B
Disturbed Matrix gas-filled filters
DATA: Auto Distillation. All gas tube analyzed on 10/23/03 by TAT
 Special (Auto) Instructions

Lab Name: PACS Collector/Quoting Date: []
 Order Number: ... Date: ...
 Analyst: ... Date: ...

Distribution: Grant Allowed Requested By: ...
FOEX
 Date: 10/23/03 Date: ...

Distribution: ... Date: ...
 Distribution: ... Date: ...

Distribution: ... Date: ...
 Distribution: ... Date: ...

REMARKS

Analytical Method: Standard
 Site ID: 919-415-2284
 Sample ID: VFU-10-1035-356
 Description: 30050185.00006
 Location: North with & ...
 Date: 10/23/03
 Method: ...



March 10, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS 30050105.00006
Pace Project No.: 92524152

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 25, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

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 30050105.00006

Pace Project No.: 92524152

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524152001	VAP-31-W (5-10)	Water	02/23/21 15:00	02/25/21 11:00
92524152002	VAP-31-W (18-20)	Water	02/24/21 07:45	02/25/21 11:00
92524152003	VAP-31-W (22-24)	Water	02/24/21 08:08	02/25/21 11:00
92524152004	VAP-31-W (29-31)	Water	02/24/21 08:50	02/25/21 11:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524152001	VAP-31-W (5-10)	EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	DMN	1
		EPA 9060A	JLH	5
92524152002	VAP-31-W (18-20)	EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
92524152003	VAP-31-W (22-24)	EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
92524152004	VAP-31-W (29-31)	EPA 6010D	DS, KQ	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524152001	VAP-31-W (5-10)					
EPA 6010D	Calcium	173	mg/L	1.0	02/27/21 22:04	
EPA 6010D	Iron	2.5	mg/L	0.50	02/27/21 22:04	
EPA 6010D	Magnesium	490	mg/L	1.0	02/27/21 22:04	
EPA 6010D	Manganese	0.082	mg/L	0.050	02/27/21 22:04	
EPA 6010D	Potassium	134	mg/L	50.0	02/27/21 22:04	
EPA 6010D	Sodium	3900	mg/L	500	03/01/21 19:28	
EPA 6010D	Calcium, Dissolved	152	mg/L	1.0	03/03/21 03:06	
EPA 6010D	Iron, Dissolved	2.0	mg/L	0.50	03/03/21 03:06	
EPA 6010D	Magnesium, Dissolved	458	mg/L	1.0	03/03/21 03:06	
EPA 6010D	Manganese, Dissolved	0.076	mg/L	0.050	03/03/21 03:06	
EPA 6010D	Potassium, Dissolved	125	mg/L	50.0	03/03/21 03:06	
EPA 6010D	Sodium, Dissolved	3360	mg/L	500	03/03/21 02:13	
EPA 6020B	Boron	1.6J	mg/L	2.5	02/26/21 11:40	D3
EPA 6020B	Boron, Dissolved	1.5J	mg/L	2.5	02/25/21 21:34	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	123	mg/L	5.0	03/05/21 20:07	
SM 2320B-2011	Alkalinity, Total as CaCO3	123	mg/L	5.0	03/05/21 20:07	
SM 2540C-2011	Total Dissolved Solids	15200	mg/L	2500	02/25/21 18:51	
SM 4500-S2D-2011	Sulfide	0.38	mg/L	0.10	02/26/21 06:38	
EPA 300.0 Rev 2.1 1993	Chloride	6140	mg/L	100	02/25/21 14:44	
EPA 300.0 Rev 2.1 1993	Sulfate	767	mg/L	100	02/25/21 14:44	
SM 4500-P E-2011	Orthophosphate as P	0.22	mg/L	0.050	02/25/21 14:53	
EPA 9060A	Total Organic Carbon	6.0	mg/L	1.0	03/04/21 01:22	
EPA 9060A	Total Organic Carbon	5.8	mg/L	1.0	03/04/21 01:22	
EPA 9060A	Total Organic Carbon	5.8	mg/L	1.0	03/04/21 01:22	
EPA 9060A	Total Organic Carbon	5.8	mg/L	1.0	03/04/21 01:22	
EPA 9060A	Mean Total Organic Carbon	5.9	mg/L	1.0	03/04/21 01:22	
92524152002	VAP-31-W (18-20)					
EPA 6010D	Calcium	335	mg/L	1.0	02/27/21 22:14	
EPA 6010D	Iron	1.2	mg/L	0.50	02/27/21 22:14	
EPA 6010D	Magnesium	606	mg/L	1.0	02/27/21 22:14	
EPA 6010D	Manganese	0.31	mg/L	0.050	02/27/21 22:14	
EPA 6010D	Potassium	109	mg/L	50.0	02/27/21 22:14	
EPA 6010D	Sodium	3680	mg/L	500	03/01/21 19:31	
EPA 6010D	Calcium, Dissolved	294	mg/L	1.0	03/03/21 03:09	
EPA 6010D	Magnesium, Dissolved	552	mg/L	1.0	03/03/21 03:09	
EPA 6010D	Manganese, Dissolved	0.27	mg/L	0.050	03/03/21 03:09	
EPA 6010D	Potassium, Dissolved	101	mg/L	50.0	03/03/21 03:09	
EPA 6010D	Sodium, Dissolved	3180	mg/L	500	03/03/21 02:16	
EPA 6020B	Arsenic	0.63	mg/L	0.010	02/26/21 11:44	D3
EPA 6020B	Boron	1.1J	mg/L	2.5	02/26/21 11:44	D3
EPA 6020B	Arsenic, Dissolved	0.39	mg/L	0.010	02/25/21 21:38	D3
EPA 6020B	Boron, Dissolved	0.98J	mg/L	2.5	02/25/21 21:38	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	879	mg/L	5.0	03/08/21 17:52	
SM 2320B-2011	Alkalinity, Total as CaCO3	879	mg/L	5.0	03/08/21 17:52	
SM 2540C-2011	Total Dissolved Solids	15300	mg/L	2500	02/25/21 18:52	
SM 4500-S2D-2011	Sulfide	89.3	mg/L	10.0	02/26/21 06:38	
EPA 300.0 Rev 2.1 1993	Chloride	6480	mg/L	100	02/25/21 16:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524152002	VAP-31-W (18-20)					
EPA 300.0 Rev 2.1 1993	Sulfate	256	mg/L	100	02/25/21 16:45	
SM 4500-P E-2011	Orthophosphate as P	1.1	mg/L	0.25	02/26/21 03:47	
EPA 9060A	Total Organic Carbon	10.3	mg/L	1.0	03/04/21 01:40	
EPA 9060A	Total Organic Carbon	10.4	mg/L	1.0	03/04/21 01:40	
EPA 9060A	Total Organic Carbon	10.4	mg/L	1.0	03/04/21 01:40	
EPA 9060A	Total Organic Carbon	10.5	mg/L	1.0	03/04/21 01:40	
EPA 9060A	Mean Total Organic Carbon	10.4	mg/L	1.0	03/04/21 01:40	
92524152003	VAP-31-W (22-24)					
EPA 6010D	Calcium	260	mg/L	1.0	02/27/21 22:17	
EPA 6010D	Iron	2.7	mg/L	0.50	02/27/21 22:17	
EPA 6010D	Magnesium	634	mg/L	1.0	02/27/21 22:17	
EPA 6010D	Manganese	0.38	mg/L	0.050	02/27/21 22:17	
EPA 6010D	Potassium	170	mg/L	50.0	02/27/21 22:17	
EPA 6010D	Sodium	5220	mg/L	500	03/01/21 19:35	
EPA 6010D	Calcium, Dissolved	203	mg/L	1.0	03/03/21 03:12	
EPA 6010D	Iron, Dissolved	0.88	mg/L	0.50	03/03/21 03:12	
EPA 6010D	Magnesium, Dissolved	529	mg/L	1.0	03/03/21 03:12	
EPA 6010D	Manganese, Dissolved	0.36	mg/L	0.050	03/03/21 03:12	
EPA 6010D	Potassium, Dissolved	146	mg/L	50.0	03/03/21 03:12	
EPA 6010D	Sodium, Dissolved	4200	mg/L	500	03/03/21 02:19	
EPA 6020B	Arsenic	0.31	mg/L	0.010	02/26/21 11:48	D3
EPA 6020B	Boron	1.9J	mg/L	2.5	02/26/21 11:48	D3
EPA 6020B	Arsenic, Dissolved	0.079	mg/L	0.010	02/25/21 21:42	D3
EPA 6020B	Boron, Dissolved	1.4J	mg/L	2.5	02/25/21 21:42	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	741	mg/L	5.0	03/08/21 18:12	
SM 2320B-2011	Alkalinity, Total as CaCO3	741	mg/L	5.0	03/08/21 18:12	
SM 2540C-2011	Total Dissolved Solids	18500	mg/L	2500	02/25/21 18:52	
SM 4500-S2D-2011	Sulfide	71.1	mg/L	10.0	02/26/21 06:39	
EPA 300.0 Rev 2.1 1993	Chloride	8350	mg/L	100	02/25/21 17:14	
EPA 300.0 Rev 2.1 1993	Sulfate	636	mg/L	100	02/25/21 17:14	
SM 4500-P E-2011	Orthophosphate as P	1.2	mg/L	0.25	02/26/21 03:48	
EPA 9060A	Total Organic Carbon	110	mg/L	25.0	03/04/21 01:58	
EPA 9060A	Total Organic Carbon	104	mg/L	25.0	03/04/21 01:58	
EPA 9060A	Total Organic Carbon	104	mg/L	25.0	03/04/21 01:58	
EPA 9060A	Total Organic Carbon	106	mg/L	25.0	03/04/21 01:58	
EPA 9060A	Mean Total Organic Carbon	106	mg/L	25.0	03/04/21 01:58	
92524152004	VAP-31-W (29-31)					
EPA 6010D	Calcium	263	mg/L	1.0	02/27/21 22:21	
EPA 6010D	Iron	1.2	mg/L	0.50	02/27/21 22:21	
EPA 6010D	Magnesium	597	mg/L	1.0	02/27/21 22:21	
EPA 6010D	Manganese	0.37	mg/L	0.050	02/27/21 22:21	
EPA 6010D	Potassium	175	mg/L	50.0	02/27/21 22:21	
EPA 6010D	Sodium	5230	mg/L	500	03/01/21 19:38	
EPA 6010D	Calcium, Dissolved	236	mg/L	1.0	03/03/21 03:16	
EPA 6010D	Magnesium, Dissolved	559	mg/L	1.0	03/03/21 03:16	
EPA 6010D	Manganese, Dissolved	0.34	mg/L	0.050	03/03/21 03:16	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524152004	VAP-31-W (29-31)					
EPA 6010D	Potassium, Dissolved	166	mg/L	50.0	03/03/21 03:16	
EPA 6010D	Sodium, Dissolved	4460	mg/L	500	03/03/21 02:22	
EPA 6020B	Arsenic	0.17	mg/L	0.010	02/26/21 11:52	D3
EPA 6020B	Boron	2.2J	mg/L	2.5	02/26/21 11:52	D3
EPA 6020B	Arsenic, Dissolved	0.10	mg/L	0.010	02/25/21 21:47	D3
EPA 6020B	Boron, Dissolved	1.7J	mg/L	2.5	02/25/21 21:47	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	454	mg/L	5.0	03/08/21 18:24	
SM 2320B-2011	Alkalinity, Total as CaCO3	454	mg/L	5.0	03/08/21 18:24	
SM 2540C-2011	Total Dissolved Solids	20100	mg/L	2500	02/25/21 18:52	
SM 4500-S2D-2011	Sulfide	54.5	mg/L	10.0	02/26/21 06:40	
EPA 300.0 Rev 2.1 1993	Chloride	8050	mg/L	100	02/25/21 17:43	
EPA 300.0 Rev 2.1 1993	Sulfate	908	mg/L	100	02/25/21 17:43	
SM 4500-P E-2011	Orthophosphate as P	0.70	mg/L	0.25	02/26/21 03:48	
EPA 9060A	Total Organic Carbon	93.3	mg/L	25.0	03/04/21 02:16	
EPA 9060A	Total Organic Carbon	92.4	mg/L	25.0	03/04/21 02:16	
EPA 9060A	Total Organic Carbon	91.0	mg/L	25.0	03/04/21 02:16	
EPA 9060A	Total Organic Carbon	92.8	mg/L	25.0	03/04/21 02:16	
EPA 9060A	Mean Total Organic Carbon	92.4	mg/L	25.0	03/04/21 02:16	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (5-10)		Lab ID: 92524152001		Collected: 02/23/21 15:00		Received: 02/25/21 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	173	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:04	7440-70-2	
Iron	2.5	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:04	7439-89-6	
Magnesium	490	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:04	7439-95-4	
Manganese	0.082	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:04	7439-96-5	
Potassium	134	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:04	7440-09-7	
Sodium	3900	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:28	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	152	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:06	7440-70-2	
Iron, Dissolved	2.0	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:06	7439-89-6	
Magnesium, Dissolved	458	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:06	7439-95-4	
Manganese, Dissolved	0.076	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:06	7439-96-5	
Potassium, Dissolved	125	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:06	7440-09-7	
Sodium, Dissolved	3360	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:13	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:40	7440-38-2	D3
Boron	1.6J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:40	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:34	7440-38-2	D3
Boron, Dissolved	1.5J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:34	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	123	mg/L	5.0	5.0	1		03/05/21 20:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/05/21 20:07		
Alkalinity, Total as CaCO3	123	mg/L	5.0	5.0	1		03/05/21 20:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	15200	mg/L	2500	2500	1		02/25/21 18:51		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.38	mg/L	0.10	0.050	1		02/26/21 06:38	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	02/26/21 05:00	03/03/21 01:24		B2,H2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (5-10) **Lab ID: 92524152001** Collected: 02/23/21 15:00 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6140	mg/L	100	60.0	100		02/25/21 14:44	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/25/21 14:15	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/25/21 14:15	14797-65-0	
Sulfate	767	mg/L	100	50.0	100		02/25/21 14:44	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.22	mg/L	0.050	0.012	1		02/25/21 14:53		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.0	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Total Organic Carbon	5.8	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Total Organic Carbon	5.8	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Total Organic Carbon	5.8	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	
Mean Total Organic Carbon	5.9	mg/L	1.0	0.50	1		03/04/21 01:22	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (18-20) **Lab ID: 92524152002** Collected: 02/24/21 07:45 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	335	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:14	7440-70-2	
Iron	1.2	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:14	7439-89-6	
Magnesium	606	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:14	7439-95-4	
Manganese	0.31	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:14	7439-96-5	
Potassium	109	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:14	7440-09-7	
Sodium	3680	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:31	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	294	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:09	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:09	7439-89-6	
Magnesium, Dissolved	552	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:09	7439-95-4	
Manganese, Dissolved	0.27	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:09	7439-96-5	
Potassium, Dissolved	101	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:09	7440-09-7	
Sodium, Dissolved	3180	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:16	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.63	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:44	7440-38-2	D3
Boron	1.1J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:44	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.39	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:38	7440-38-2	D3
Boron, Dissolved	0.98J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:38	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	879	mg/L	5.0	5.0	1		03/08/21 17:52		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 17:52		
Alkalinity, Total as CaCO3	879	mg/L	5.0	5.0	1		03/08/21 17:52		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	15300	mg/L	2500	2500	1		02/25/21 18:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	89.3	mg/L	10.0	5.0	100		02/26/21 06:38	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	02/26/21 05:00	03/03/21 01:41		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (18-20) **Lab ID: 92524152002** Collected: 02/24/21 07:45 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6480	mg/L	100	60.0	100		02/25/21 16:45	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 16:45	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 16:45	14797-65-0	D3
Sulfate	256	mg/L	100	50.0	100		02/25/21 16:45	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.1	mg/L	0.25	0.059	5		02/26/21 03:47		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	10.3	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Total Organic Carbon	10.5	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	
Mean Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/04/21 01:40	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

Sample: VAP-31-W (22-24) Lab ID: 92524152003 Collected: 02/24/21 08:08 Received: 02/25/21 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	260	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:17	7440-70-2	
Iron	2.7	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:17	7439-89-6	
Magnesium	634	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:17	7439-95-4	
Manganese	0.38	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:17	7439-96-5	
Potassium	170	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:17	7440-09-7	
Sodium	5220	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:35	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	203	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:12	7440-70-2	
Iron, Dissolved	0.88	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:12	7439-89-6	
Magnesium, Dissolved	529	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:12	7439-95-4	
Manganese, Dissolved	0.36	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:12	7439-96-5	
Potassium, Dissolved	146	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:12	7440-09-7	
Sodium, Dissolved	4200	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:19	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.31	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:48	7440-38-2	D3
Boron	1.9J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:48	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.079	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:42	7440-38-2	D3
Boron, Dissolved	1.4J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:42	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	741	mg/L	5.0	5.0	1		03/08/21 18:12		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 18:12		
Alkalinity, Total as CaCO3	741	mg/L	5.0	5.0	1		03/08/21 18:12		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18500	mg/L	2500	2500	1		02/25/21 18:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	71.1	mg/L	10.0	5.0	100		02/26/21 06:39	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	02/26/21 05:00	03/03/21 01:44		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (22-24) **Lab ID: 92524152003** Collected: 02/24/21 08:08 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8350	mg/L	100	60.0	100		02/25/21 17:14	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 17:14	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 17:14	14797-65-0	D3
Sulfate	636	mg/L	100	50.0	100		02/25/21 17:14	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.2	mg/L	0.25	0.059	5		02/26/21 03:48		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	110	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Total Organic Carbon	104	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Total Organic Carbon	104	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Total Organic Carbon	106	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	
Mean Total Organic Carbon	106	mg/L	25.0	12.5	25		03/04/21 01:58	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

Sample: VAP-31-W (29-31) Lab ID: 92524152004 Collected: 02/24/21 08:50 Received: 02/25/21 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	263	mg/L	1.0	0.94	10	02/26/21 02:09	02/27/21 22:21	7440-70-2	
Iron	1.2	mg/L	0.50	0.42	10	02/26/21 02:09	02/27/21 22:21	7439-89-6	
Magnesium	597	mg/L	1.0	0.68	10	02/26/21 02:09	02/27/21 22:21	7439-95-4	
Manganese	0.37	mg/L	0.050	0.034	10	02/26/21 02:09	02/27/21 22:21	7439-96-5	
Potassium	175	mg/L	50.0	30.4	10	02/26/21 02:09	02/27/21 22:21	7440-09-7	
Sodium	5230	mg/L	500	61.1	100	02/26/21 02:09	03/01/21 19:38	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	236	mg/L	1.0	0.94	10	03/01/21 08:33	03/03/21 03:16	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/01/21 08:33	03/03/21 03:16	7439-89-6	
Magnesium, Dissolved	559	mg/L	1.0	0.68	10	03/01/21 08:33	03/03/21 03:16	7439-95-4	
Manganese, Dissolved	0.34	mg/L	0.050	0.034	10	03/01/21 08:33	03/03/21 03:16	7439-96-5	
Potassium, Dissolved	166	mg/L	50.0	30.4	10	03/01/21 08:33	03/03/21 03:16	7440-09-7	
Sodium, Dissolved	4460	mg/L	500	61.1	100	03/01/21 08:33	03/03/21 02:22	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.17	mg/L	0.010	0.0087	100	02/25/21 19:24	02/26/21 11:52	7440-38-2	D3
Boron	2.2J	mg/L	2.5	0.62	100	02/25/21 19:24	02/26/21 11:52	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.10	mg/L	0.010	0.0087	100	02/25/21 16:11	02/25/21 21:47	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/25/21 16:11	02/25/21 21:47	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	454	mg/L	5.0	5.0	1		03/08/21 18:24		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/08/21 18:24		
Alkalinity, Total as CaCO3	454	mg/L	5.0	5.0	1		03/08/21 18:24		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	20100	mg/L	2500	2500	1		02/25/21 18:52		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	54.5	mg/L	10.0	5.0	100		02/26/21 06:40	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	02/26/21 05:00	03/03/21 01:45		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

Sample: VAP-31-W (29-31) **Lab ID: 92524152004** Collected: 02/24/21 08:50 Received: 02/25/21 11:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8050	mg/L	100	60.0	100		02/25/21 17:43	16887-00-6	
Nitrate as N	ND	mg/L	10.0	6.0	100		02/25/21 17:43	14797-55-8	D3
Nitrite as N	ND	mg/L	10.0	5.0	100		02/25/21 17:43	14797-65-0	D3
Sulfate	908	mg/L	100	50.0	100		02/25/21 17:43	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.70	mg/L	0.25	0.059	5		02/26/21 03:48		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	93.3	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Total Organic Carbon	92.4	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Total Organic Carbon	91.0	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Total Organic Carbon	92.8	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	
Mean Total Organic Carbon	92.4	mg/L	25.0	12.5	25		03/04/21 02:16	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch: 602778 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3176256 Matrix: Water

Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/01/21 18:43	
Iron	mg/L	ND	0.050	0.042	03/01/21 18:43	
Magnesium	mg/L	ND	0.10	0.068	03/01/21 18:43	
Manganese	mg/L	ND	0.0050	0.0034	03/01/21 18:43	
Potassium	mg/L	ND	5.0	3.0	03/01/21 18:43	
Sodium	mg/L	ND	5.0	0.61	03/01/21 18:43	

LABORATORY CONTROL SAMPLE: 3176257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.2	105	80-120	
Iron	mg/L	5	5.2	104	80-120	
Magnesium	mg/L	5	5.4	107	80-120	
Manganese	mg/L	0.5	0.51	103	80-120	
Potassium	mg/L	5	5.2	103	80-120	
Sodium	mg/L	5	5.3	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176258 3176259

Parameter	Units	3176258		3176259		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Calcium	mg/L	462	5	456	453	-132	-186	75-125	1	20	M6
Iron	mg/L	6.4	5	11.2	11.3	98	98	75-125	0	20	
Magnesium	mg/L	689	5	660	676	-580	-254	75-125	2	20	M6
Manganese	mg/L	1.6	0.5	2.0	2.0	82	89	75-125	2	20	
Potassium	mg/L	168	5	169	168	28	10	75-125	1	20	M6
Sodium	mg/L	5690	5	5580	5600	-2200	-1720	75-125	0	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch:	603185	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET Filtered Diss.
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3178071 Matrix: Water

Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/03/21 01:33	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/03/21 01:33	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/03/21 01:33	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/03/21 01:33	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/03/21 01:33	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/03/21 01:33	

LABORATORY CONTROL SAMPLE: 3178072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.4	88	80-120	
Iron, Dissolved	mg/L	5	4.4	89	80-120	
Magnesium, Dissolved	mg/L	5	4.6	93	80-120	
Manganese, Dissolved	mg/L	0.5	0.43	87	80-120	
Potassium, Dissolved	mg/L	5	4.5J	89	80-120	
Sodium, Dissolved	mg/L	5	4.5J	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178073 3178074

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92524147001 Result	Spike Conc.	Spike Conc.	Result							Result
Calcium, Dissolved	mg/L	408	5	5	392	380	-314	-560	75-125	3	20	M6
Iron, Dissolved	mg/L	ND	5	5	4.5	4.9	84	93	75-125	10	20	
Magnesium, Dissolved	mg/L	636	5	5	606	581	-598	-1100	75-125	4	20	M6
Manganese, Dissolved	mg/L	1.4	0.5	0.5	1.7	1.7	70	57	75-125	4	20	M6
Potassium, Dissolved	mg/L	154	5	5	154	149	-4	-86	75-125	3	20	M6
Sodium, Dissolved	mg/L	4990	5	5	4880	4940	-2160	-960	75-125	1	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

QC Batch: 602702 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3175906 Matrix: Water
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/26/21 10:46	
Boron	mg/L	ND	0.025	0.0062	02/26/21 10:46	

LABORATORY CONTROL SAMPLE: 3175907

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	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175908 3175909

Parameter	Units	92524147001		3175908		3175909		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Arsenic	mg/L	ND	0.01	0.01	0.014	0.011	115	84	75-125	24	20 R1
Boron	mg/L	2.4J	0.05	0.05	2.3J	2.4J	-263	-1	75-125		20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch: 602658 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3175488 Matrix: Water
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000087	02/25/21 20:32	
Boron, Dissolved	mg/L	ND	0.025	0.0062	02/25/21 20:32	

LABORATORY CONTROL SAMPLE: 3175489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.010	104	80-120	
Boron, Dissolved	mg/L	0.05	0.051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175490 3175491

Parameter	Units	92524147001		3175491		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic, Dissolved	mg/L	ND	0.01	0.01	0.0094J	0.011	77	94	75-125	20	
Boron, Dissolved	mg/L	2.2J	0.05	0.05	1.8J	2.1J	-786	-285	75-125	20 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

QC Batch: 604532 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524152001

METHOD BLANK: 3184660 Matrix: Water
 Associated Lab Samples: 92524152001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/05/21 17:15	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/05/21 17:15	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/05/21 17:15	

LABORATORY CONTROL SAMPLE: 3184661

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	48.2	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3184662 3184663

Parameter	Units	92523795002		3184663		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Alkalinity, Total as CaCO3	mg/L	170	50	50	219	224	98	109	80-120	2	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3184664 3184665

Parameter	Units	92523800009		3184665		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	42.8	50	50	78.0	77.9	70	70	80-120	0	25 M1

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

QC Batch: 604855 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524152002, 92524152003, 92524152004

METHOD BLANK: 3186615 Matrix: Water
 Associated Lab Samples: 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/08/21 16:33	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/08/21 16:33	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/08/21 16:33	

LABORATORY CONTROL SAMPLE: 3186616

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	51.0	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186617 3186618

Parameter	Units	92523800014		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	43.6	50	50	50	95.4	96.0	104	105	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186619 3186620

Parameter	Units	92524091001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	16.3	50	50	50	70.8	70.9	109	109	80-120	0	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch: 602730	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: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3176027 Matrix: Water
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/25/21 18:51	

LABORATORY CONTROL SAMPLE: 3176028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	262	105	90-110	

SAMPLE DUPLICATE: 3176029

Parameter	Units	92524147001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	20600	20500	0	25	

SAMPLE DUPLICATE: 3176030

Parameter	Units	92523440012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	98.0	91.0	7	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

QC Batch: 602771 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: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3176220 Matrix: Water
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/26/21 06:34	

LABORATORY CONTROL SAMPLE: 3176221

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.47	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176222 3176223

Parameter	Units	92523670003		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfide	mg/L	ND	0.5	0.5	0.47	0.47	94	94	80-120	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176224 3176225

Parameter	Units	92523670004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfide	mg/L	0.073J	0.5	0.5	0.58	0.58	101	101	80-120	0	10		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch: 602789	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: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3176288 Matrix: Water
 Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/03/21 01:10	

LABORATORY CONTROL SAMPLE: 3176290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	205	104	84.6-115	

SAMPLE DUPLICATE: 3176291

Parameter	Units	92523947003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	97.3	84.6	14	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

QC Batch: 602412 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524152001

METHOD BLANK: 3174210 Matrix: Water
 Associated Lab Samples: 92524152001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/24/21 20:50	
Nitrate as N	mg/L	ND	0.10	0.060	02/24/21 20:50	
Nitrite as N	mg/L	ND	0.10	0.050	02/24/21 20:50	
Sulfate	mg/L	ND	1.0	0.50	02/24/21 20:50	

LABORATORY CONTROL SAMPLE: 3174211

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.2	96	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174212 3174213

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	5480	50	50	5610	5550	248	130	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	1.7	1.7	69	69	90-110	0	10 M6
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M6
Sulfate	mg/L	295	50	50	339	339	89	88	90-110	0	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch:	602684	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524152002, 92524152003, 92524152004

METHOD BLANK: 3175722 Matrix: Water

Associated Lab Samples: 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/25/21 16:02	
Nitrate as N	mg/L	ND	0.10	0.060	02/25/21 16:02	
Nitrite as N	mg/L	ND	0.10	0.050	02/25/21 16:02	
Sulfate	mg/L	ND	1.0	0.50	02/25/21 16:02	

LABORATORY CONTROL SAMPLE: 3175723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.8	98	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	97	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3175724 3175725

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524147001 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	9250	50	50	9270	9180	44	-124	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	ND	ND	56	52	90-110		10 D3,M6
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	40	40	90-110		10 D3,M6
Sulfate	mg/L	853	50	50	902	890	99	76	90-110	1	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch: 602647	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: 92524152001

METHOD BLANK: 3175375 Matrix: Water

Associated Lab Samples: 92524152001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/25/21 14:50	

LABORATORY CONTROL SAMPLE & LCSD: 3175376 3175377

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Orthophosphate as P	mg/L	0.25	0.24	0.24	98	98	49-145	0	10	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

QC Batch: 602772 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: 92524152002, 92524152003, 92524152004

METHOD BLANK: 3176226 Matrix: Water
 Associated Lab Samples: 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/26/21 03:28	

LABORATORY CONTROL SAMPLE: 3176227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.24	96	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176228 3176229

Parameter	Units	92524178001		3176229		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Orthophosphate as P	mg/L	0.92	1.2	1.8	1.8	67	67	90-110	0	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176230 3176231

Parameter	Units	92524193001		3176231		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Orthophosphate as P	mg/L	0.057	0.25	0.23	0.23	68	69	90-110	1	10	M1

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524152

QC Batch: 603999 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

METHOD BLANK: 3181952 Matrix: Water

Associated Lab Samples: 92524152001, 92524152002, 92524152003, 92524152004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/03/21 21:06	

LABORATORY CONTROL SAMPLE: 3181953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.4	98	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.7	99	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	
Total Organic Carbon	mg/L	25	24.6	98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3181954 3181955

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524081005 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	32.6	25	25	55.7	56.0	92	94	75-125	1	25		
Total Organic Carbon	mg/L	32.6	25	25	55.6	55.9	92	93	75-125	1	25		
Total Organic Carbon	mg/L	32.8	25	25	56.0	56.5	93	95	75-125	1	25		
Total Organic Carbon	mg/L	32.0	25	25	54.6	55.4	90	93	75-125	1	25		
Total Organic Carbon	mg/L	32.9	25	25	56.3	56.4	94	94	75-125	0	25		

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QUALIFIERS

Project: MCMANUS 30050105.00006
Pace Project No.: 92524152

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.
D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H2 Extraction or preparation conducted outside EPA method holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524152

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524152001	VAP-31-W (5-10)	EPA 3010A	602778	EPA 6010D	602799
92524152002	VAP-31-W (18-20)	EPA 3010A	602778	EPA 6010D	602799
92524152003	VAP-31-W (22-24)	EPA 3010A	602778	EPA 6010D	602799
92524152004	VAP-31-W (29-31)	EPA 3010A	602778	EPA 6010D	602799
92524152001	VAP-31-W (5-10)	EPA 3010A	603185	EPA 6010D	603191
92524152002	VAP-31-W (18-20)	EPA 3010A	603185	EPA 6010D	603191
92524152003	VAP-31-W (22-24)	EPA 3010A	603185	EPA 6010D	603191
92524152004	VAP-31-W (29-31)	EPA 3010A	603185	EPA 6010D	603191
92524152001	VAP-31-W (5-10)	EPA 3010A	602702	EPA 6020B	602750
92524152002	VAP-31-W (18-20)	EPA 3010A	602702	EPA 6020B	602750
92524152003	VAP-31-W (22-24)	EPA 3010A	602702	EPA 6020B	602750
92524152004	VAP-31-W (29-31)	EPA 3010A	602702	EPA 6020B	602750
92524152001	VAP-31-W (5-10)	EPA 3010A	602658	EPA 6020B	602711
92524152002	VAP-31-W (18-20)	EPA 3010A	602658	EPA 6020B	602711
92524152003	VAP-31-W (22-24)	EPA 3010A	602658	EPA 6020B	602711
92524152004	VAP-31-W (29-31)	EPA 3010A	602658	EPA 6020B	602711
92524152001	VAP-31-W (5-10)	SM 2320B-2011	604532		
92524152002	VAP-31-W (18-20)	SM 2320B-2011	604855		
92524152003	VAP-31-W (22-24)	SM 2320B-2011	604855		
92524152004	VAP-31-W (29-31)	SM 2320B-2011	604855		
92524152001	VAP-31-W (5-10)	SM 2540C-2011	602730		
92524152002	VAP-31-W (18-20)	SM 2540C-2011	602730		
92524152003	VAP-31-W (22-24)	SM 2540C-2011	602730		
92524152004	VAP-31-W (29-31)	SM 2540C-2011	602730		
92524152001	VAP-31-W (5-10)	SM 4500-S2D-2011	602771		
92524152002	VAP-31-W (18-20)	SM 4500-S2D-2011	602771		
92524152003	VAP-31-W (22-24)	SM 4500-S2D-2011	602771		
92524152004	VAP-31-W (29-31)	SM 4500-S2D-2011	602771		
92524152001	VAP-31-W (5-10)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524152002	VAP-31-W (18-20)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524152003	VAP-31-W (22-24)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524152004	VAP-31-W (29-31)	SM 5210B-2011	602789	SM 5210B-2011	602834
92524152001	VAP-31-W (5-10)	EPA 300.0 Rev 2.1 1993	602412		
92524152002	VAP-31-W (18-20)	EPA 300.0 Rev 2.1 1993	602684		
92524152003	VAP-31-W (22-24)	EPA 300.0 Rev 2.1 1993	602684		
92524152004	VAP-31-W (29-31)	EPA 300.0 Rev 2.1 1993	602684		
92524152001	VAP-31-W (5-10)	SM 4500-P E-2011	602647		
92524152002	VAP-31-W (18-20)	SM 4500-P E-2011	602772		
92524152003	VAP-31-W (22-24)	SM 4500-P E-2011	602772		
92524152004	VAP-31-W (29-31)	SM 4500-P E-2011	602772		
92524152001	VAP-31-W (5-10)	EPA 9060A	603999		
92524152002	VAP-31-W (18-20)	EPA 9060A	603999		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006
Pace Project No.: 92524152

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524152003	VAP-31-W (22-24)	EPA 9060A	603999		
92524152004	VAP-31-W (29-31)	EPA 9060A	603999		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Ashville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition
Upon Receipt

Client Name:
Accadis

Project #: **WO# : 92524152**

Courier:
 Commercial
 Fed Ex
 UPS
 USPS
 Other _____
 Client



92524152

Custody Seal Present? Yes No Seals Intact? Yes No

Anal/Initial Person Examining Contents 2-25-AJAR

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Storage Process?
 Yes No BNA

Thermometer:
 In Out ID: 93-7071 Type of In: Direct Blue Blue

Cooler Temp: 4.1 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C
 Compliance of temp criteria. Samples on ice, cooling process required

Cooler Temp Corrected (°C): 4.1

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

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

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

COMMENTS/SAMPLE DISCREPANCY Field Data Required? Yes No

 (at ID of gift containers)

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SOUR Review: _____ Date: _____

Project Manager SRP 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, DMG/SDS (water) DOC, UMG

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

Project #

WO# : 92524152

PH: KLH1

Due Date: 02/26/21

CLIENT: CR-CA Power

Sample	1	2	3	4	5	6	7	8	9	10	11	12
BP40-125 ml, Plastic, Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
BP20-125 ml, Plastic, Unpreserved (N/A)	2	2	2	2	/	/	/	/	/	/	/	/
BP20-100 ml, Plastic, Unpreserved (N/A)	1	1	1	1	/	/	/	/	/	/	/	/
BP10-100 ml, Plastic, Unpreserved (N/A)	1	1	1	1	/	/	/	/	/	/	/	/
BP40-125 ml, Plastic HDPE (pH = 2) (N/A)	2	2	2	2	/	/	/	/	/	/	/	/
BP20-125 ml, plastic HDPE (pH = 2)	2	2	2	2	/	/	/	/	/	/	/	/
BP40-125 ml, Plastic 29 Acetate B NaOH (N/A)	2	2	2	2	/	/	/	/	/	/	/	/
BP40-125 ml, Plastic NaOH (pH = 12) (N/A)	2	2	2	2	/	/	/	/	/	/	/	/
V0910-100ml-enclosed Glass jar Unpreserved	/	/	/	/	/	/	/	/	/	/	/	/
AA330-1 liter Amber Unpreserved (N/A) (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
AA330-1 liter Amber HD (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AA330-250 ml, Amber Unpreserved (N/A) (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
AA330-1 liter Amber HD504 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AA330-250 ml, Amber HD504 (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
AA330(500ml)-250 ml, Amber HD504 (N/A)(N/A)	/	/	/	/	/	/	/	/	/	/	/	/
EA991-80 ml, VOA HD (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
V0910-40 ml, VOA NaOH (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
V0910-40 ml, VOA (pH = 2)	/	/	/	/	/	/	/	/	/	/	/	/
EA991-40 ml, VOA (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
EA991-40 ml, VOA (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
VO400-50 vials per lot-V0910/NaOH (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
V0910-50 vials per lot-V0910/NaOH (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Sterile Plastic (N/A - lot)	/	/	/	/	/	/	/	/	/	/	/	/
BP40-125 ml, Sterile Plastic (pH = 12)	/	/	/	/	/	/	/	/	/	/	/	/
EA991-250 ml, Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
V0910-20 ml, Sorbent vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
EA991-40 ml, Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina Division Certification Office 2-A. Out of lot, incorrect preservative, out of time, incorrect containers.

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Sample ID	Collection Date	Time	Location	PARAMETER ANALYSIS & METHOD										REMARKS			
				Chloride	Calcium	Total Hardness	Total Alkalinity	Chloride	Sulfate	Hardness as CaCO ₃	Between Phosphorus	K ₂ T	TOC		BOD	TDS	
PROPERTY WEBS AREAS: 8006 5th St 350 SUZQ WATER PARK RAVERIA AT 22002 M ^{rs} MARISA M. C. BERNARDI 20058105.0000																	
VAP-31-W (5-10)	2/10/08	15:00															
VAP-31-W (8-20)	2/10/08	15:00															
VAP-31-W (23-24)	2/10/08	8:00															
VAP-31-W (25-26)	2/10/08	8:00															

PROPERTY WEBS
 AREAS: 8006 5th St 350
 SUZQ WATER PARK
 RAVERIA AT 22002
 M^{rs} MARISA M. C. BERNARDI
 20058105.0000

Special Instructions/Comments: METALS: As, Fe, Mn, Mg, Co, Ni, K, B
 Dissolved metals: Field Filter
 * Trace/Disaster: All 24 hr. TAT

Client Name: PARC of
 Contact Person:
 Phone:
 Address:

Collection Date:
 Time:
 Location:
 Project Name:
 Requested By:

Lab Order #
 Date:



March 10, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS PLANT 30050105.00006
Pace Project No.: 92523889

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 24, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

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: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92523889001	VAP-14-W (5-10)	Water	02/23/21 08:40	02/24/21 12:30
92523889002	VAP-14-W (22-24)	Water	02/23/21 09:15	02/24/21 12:30
92523889003	VAP-14-W (29-31)	Water	02/23/21 09:45	02/24/21 12:30
92523889004	VAP-14-W (31-33)	Water	02/23/21 10:10	02/24/21 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92523889001	VAP-14-W (5-10)	EPA 6010D	KQ, RDT	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	MFO	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
92523889002	VAP-14-W (22-24)	EPA 9060A	JLH	5
		EPA 6010D	KQ, RDT	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	MFO	1
		EPA 300.0 Rev 2.1 1993	CDC	4
92523889003	VAP-14-W (29-31)	SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	KQ, RDT	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	MFO	1
92523889004	VAP-14-W (31-33)	EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	KQ, RDT	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	JP1	1
		SM 5210B-2011	MFO	1
		EPA 300.0 Rev 2.1 1993	CDC	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92523889001	VAP-14-W (5-10)					
EPA 6010D	Calcium	196	mg/L	1.0	02/26/21 14:22	
EPA 6010D	Iron	3.9	mg/L	0.050	02/25/21 10:10	
EPA 6010D	Magnesium	588	mg/L	1.0	02/26/21 14:22	
EPA 6010D	Manganese	0.13	mg/L	0.0050	02/25/21 10:10	
EPA 6010D	Potassium	199	mg/L	50.0	02/26/21 14:22	
EPA 6010D	Sodium	4340	mg/L	500	02/26/21 10:57	
EPA 6010D	Calcium, Dissolved	164	mg/L	1.0	03/02/21 15:23	
EPA 6010D	Iron, Dissolved	3.3	mg/L	0.050	03/02/21 04:21	
EPA 6010D	Magnesium, Dissolved	529	mg/L	1.0	03/02/21 15:23	
EPA 6010D	Manganese, Dissolved	0.12	mg/L	0.0050	03/02/21 04:21	
EPA 6010D	Potassium, Dissolved	166	mg/L	50.0	03/02/21 15:23	
EPA 6010D	Sodium, Dissolved	3900	mg/L	500	03/02/21 14:53	
EPA 6020B	Boron	1.7J	mg/L	2.5	02/25/21 13:36	
EPA 6020B	Boron, Dissolved	1.7J	mg/L	2.5	02/25/21 13:11	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	109	mg/L	5.0	02/25/21 17:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	109	mg/L	5.0	02/25/21 17:16	
SM 2540C-2011	Total Dissolved Solids	15900	mg/L	2500	02/24/21 18:41	
SM 4500-S2D-2011	Sulfide	0.47	mg/L	0.10	02/25/21 07:03	
EPA 300.0 Rev 2.1 1993	Chloride	5400	mg/L	80.0	02/25/21 08:33	
EPA 300.0 Rev 2.1 1993	Sulfate	253	mg/L	80.0	02/25/21 08:33	
SM 4500-P E-2011	Orthophosphate as P	0.25	mg/L	0.050	02/25/21 03:08	
EPA 9060A	Total Organic Carbon	10.8	mg/L	1.0	03/02/21 06:36	
EPA 9060A	Total Organic Carbon	10.8	mg/L	1.0	03/02/21 06:36	
EPA 9060A	Total Organic Carbon	10.9	mg/L	1.0	03/02/21 06:36	
EPA 9060A	Total Organic Carbon	11.0	mg/L	1.0	03/02/21 06:36	
EPA 9060A	Mean Total Organic Carbon	10.9	mg/L	1.0	03/02/21 06:36	
92523889002	VAP-14-W (22-24)					
EPA 6010D	Calcium	263	mg/L	1.0	02/26/21 14:25	
EPA 6010D	Iron	2.1	mg/L	0.050	02/25/21 10:14	
EPA 6010D	Magnesium	648	mg/L	1.0	02/26/21 14:25	
EPA 6010D	Manganese	0.38	mg/L	0.0050	02/25/21 10:14	
EPA 6010D	Potassium	199	mg/L	50.0	02/26/21 14:25	
EPA 6010D	Sodium	4740	mg/L	500	02/26/21 11:00	
EPA 6010D	Calcium, Dissolved	216	mg/L	1.0	03/02/21 15:39	
EPA 6010D	Iron, Dissolved	0.063	mg/L	0.050	03/02/21 04:24	
EPA 6010D	Magnesium, Dissolved	572	mg/L	1.0	03/02/21 15:39	
EPA 6010D	Manganese, Dissolved	0.35	mg/L	0.0050	03/02/21 04:24	
EPA 6010D	Potassium, Dissolved	158	mg/L	50.0	03/02/21 15:39	
EPA 6010D	Sodium, Dissolved	4500	mg/L	500	03/02/21 14:56	
EPA 6020B	Arsenic	0.32	mg/L	0.010	02/25/21 13:40	
EPA 6020B	Boron	1.7J	mg/L	2.5	02/25/21 13:40	
EPA 6020B	Arsenic, Dissolved	0.18	mg/L	0.010	02/25/21 12:42	
EPA 6020B	Boron, Dissolved	1.7J	mg/L	2.5	02/25/21 12:42	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	708	mg/L	5.0	02/25/21 17:44	
SM 2320B-2011	Alkalinity, Total as CaCO3	708	mg/L	5.0	02/25/21 17:44	
SM 2540C-2011	Total Dissolved Solids	18800	mg/L	2500	02/24/21 18:41	
SM 4500-S2D-2011	Sulfide	87.2	mg/L	10.0	02/25/21 07:04	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92523889002	VAP-14-W (22-24)					
EPA 300.0 Rev 2.1 1993	Chloride	7760	mg/L	100	02/25/21 08:48	
EPA 300.0 Rev 2.1 1993	Sulfate	900	mg/L	100	02/25/21 08:48	
SM 4500-P E-2011	Orthophosphate as P	0.56	mg/L	0.25	02/25/21 03:09	
EPA 9060A	Total Organic Carbon	10.4	mg/L	1.0	03/02/21 06:54	
EPA 9060A	Total Organic Carbon	10.4	mg/L	1.0	03/02/21 06:54	
EPA 9060A	Total Organic Carbon	10.7	mg/L	1.0	03/02/21 06:54	
EPA 9060A	Total Organic Carbon	10.7	mg/L	1.0	03/02/21 06:54	
EPA 9060A	Mean Total Organic Carbon	10.5	mg/L	1.0	03/02/21 06:54	
92523889003	VAP-14-W (29-31)					
EPA 6010D	Calcium	261	mg/L	1.0	02/26/21 14:28	
EPA 6010D	Iron	0.89	mg/L	0.050	02/25/21 10:17	
EPA 6010D	Magnesium	584	mg/L	1.0	02/26/21 14:28	
EPA 6010D	Manganese	0.35	mg/L	0.0050	02/25/21 10:17	
EPA 6010D	Potassium	206	mg/L	50.0	02/26/21 14:28	
EPA 6010D	Sodium	4690	mg/L	500	02/26/21 11:04	
EPA 6010D	Calcium, Dissolved	209	mg/L	1.0	03/02/21 15:42	
EPA 6010D	Iron, Dissolved	0.14	mg/L	0.050	03/02/21 04:28	
EPA 6010D	Magnesium, Dissolved	495	mg/L	1.0	03/02/21 15:42	
EPA 6010D	Manganese, Dissolved	0.31	mg/L	0.0050	03/02/21 04:28	
EPA 6010D	Potassium, Dissolved	165	mg/L	50.0	03/02/21 15:42	
EPA 6010D	Sodium, Dissolved	4310	mg/L	500	03/02/21 15:00	
EPA 6020B	Arsenic	0.078	mg/L	0.010	02/25/21 13:44	
EPA 6020B	Boron	2.1J	mg/L	2.5	02/25/21 13:44	
EPA 6020B	Arsenic, Dissolved	0.044	mg/L	0.010	02/25/21 12:46	
EPA 6020B	Boron, Dissolved	2.1J	mg/L	2.5	02/25/21 12:46	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	440	mg/L	5.0	02/25/21 17:58	
SM 2320B-2011	Alkalinity, Total as CaCO3	440	mg/L	5.0	02/25/21 17:58	
SM 2540C-2011	Total Dissolved Solids	17800	mg/L	2500	02/24/21 18:41	
SM 4500-S2D-2011	Sulfide	41.7	mg/L	10.0	02/25/21 07:04	
EPA 300.0 Rev 2.1 1993	Chloride	8200	mg/L	100	02/25/21 09:02	
EPA 300.0 Rev 2.1 1993	Sulfate	655	mg/L	100	02/25/21 09:02	
SM 4500-P E-2011	Orthophosphate as P	0.54	mg/L	0.25	02/25/21 03:09	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	03/02/21 07:51	
EPA 9060A	Total Organic Carbon	7.5	mg/L	1.0	03/02/21 07:51	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	03/02/21 07:51	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	03/02/21 07:51	
EPA 9060A	Mean Total Organic Carbon	7.5	mg/L	1.0	03/02/21 07:51	
92523889004	VAP-14-W (31-33)					
EPA 6010D	Calcium	248	mg/L	1.0	02/26/21 14:32	
EPA 6010D	Iron	0.77	mg/L	0.050	02/25/21 10:21	
EPA 6010D	Magnesium	537	mg/L	1.0	02/26/21 14:32	
EPA 6010D	Manganese	0.30	mg/L	0.0050	02/25/21 10:21	
EPA 6010D	Potassium	194	mg/L	50.0	02/26/21 14:32	
EPA 6010D	Sodium	4410	mg/L	500	02/26/21 11:07	
EPA 6010D	Calcium, Dissolved	213	mg/L	1.0	03/02/21 15:46	
EPA 6010D	Iron, Dissolved	0.29	mg/L	0.050	03/02/21 04:31	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92523889004	VAP-14-W (31-33)					
EPA 6010D	Magnesium, Dissolved	492	mg/L	1.0	03/02/21 15:46	
EPA 6010D	Manganese, Dissolved	0.29	mg/L	0.0050	03/02/21 04:31	
EPA 6010D	Potassium, Dissolved	167	mg/L	50.0	03/02/21 15:46	
EPA 6010D	Sodium, Dissolved	4050	mg/L	500	03/02/21 15:03	
EPA 6020B	Arsenic	0.032	mg/L	0.010	02/25/21 13:59	
EPA 6020B	Boron	2.0J	mg/L	2.5	02/25/21 13:59	
EPA 6020B	Arsenic, Dissolved	0.012	mg/L	0.010	02/25/21 12:50	
EPA 6020B	Boron, Dissolved	2.0J	mg/L	2.5	02/25/21 12:50	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	413	mg/L	5.0	02/25/21 18:07	
SM 2320B-2011	Alkalinity, Total as CaCO3	413	mg/L	5.0	02/25/21 18:07	
SM 2540C-2011	Total Dissolved Solids	17800	mg/L	2500	02/24/21 18:41	
SM 4500-S2D-2011	Sulfide	46.0	mg/L	10.0	02/25/21 07:04	
EPA 300.0 Rev 2.1 1993	Chloride	7370	mg/L	100	02/25/21 09:16	
EPA 300.0 Rev 2.1 1993	Sulfate	866	mg/L	100	02/25/21 09:16	
SM 4500-P E-2011	Orthophosphate as P	0.46	mg/L	0.050	02/25/21 03:10	
EPA 9060A	Total Organic Carbon	6.9	mg/L	1.0	03/02/21 08:09	
EPA 9060A	Total Organic Carbon	6.9	mg/L	1.0	03/02/21 08:09	
EPA 9060A	Total Organic Carbon	7.2	mg/L	1.0	03/02/21 08:09	
EPA 9060A	Total Organic Carbon	7.1	mg/L	1.0	03/02/21 08:09	
EPA 9060A	Mean Total Organic Carbon	7.0	mg/L	1.0	03/02/21 08:09	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (5-10)		Lab ID: 92523889001		Collected: 02/23/21 08:40		Received: 02/24/21 12:30		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	196	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:22	7440-70-2	
Iron	3.9	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:10	7439-89-6	
Magnesium	588	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:22	7439-95-4	
Manganese	0.13	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:10	7439-96-5	
Potassium	199	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:22	7440-09-7	
Sodium	4340	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 10:57	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	164	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:23	7440-70-2	
Iron, Dissolved	3.3	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:21	7439-89-6	
Magnesium, Dissolved	529	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:23	7439-95-4	
Manganese, Dissolved	0.12	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:21	7439-96-5	
Potassium, Dissolved	166	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:23	7440-09-7	
Sodium, Dissolved	3900	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 14:53	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:36	7440-38-2	
Boron	1.7J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:36	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 13:11	7440-38-2	
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 13:11	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	109	mg/L	5.0	5.0	1		02/25/21 17:16		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 17:16		
Alkalinity, Total as CaCO3	109	mg/L	5.0	5.0	1		02/25/21 17:16		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	15900	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.47	mg/L	0.10	0.050	1		02/25/21 07:03	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	02/25/21 07:22	03/02/21 06:01		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (5-10) **Lab ID: 92523889001** Collected: 02/23/21 08:40 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5400	mg/L	80.0	48.0	80		02/25/21 08:33	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 21:45	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 21:45	14797-65-0	
Sulfate	253	mg/L	80.0	40.0	80		02/25/21 08:33	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.25	mg/L	0.050	0.012	1		02/25/21 03:08		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	10.8	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Total Organic Carbon	10.8	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Total Organic Carbon	10.9	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Total Organic Carbon	11.0	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	
Mean Total Organic Carbon	10.9	mg/L	1.0	0.50	1		03/02/21 06:36	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (22-24) Lab ID: 92523889002 Collected: 02/23/21 09:15 Received: 02/24/21 12:30 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	263	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:25	7440-70-2	
Iron	2.1	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:14	7439-89-6	
Magnesium	648	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:25	7439-95-4	
Manganese	0.38	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:14	7439-96-5	
Potassium	199	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:25	7440-09-7	
Sodium	4740	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:00	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	216	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:39	7440-70-2	
Iron, Dissolved	0.063	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:24	7439-89-6	
Magnesium, Dissolved	572	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:39	7439-95-4	
Manganese, Dissolved	0.35	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:24	7439-96-5	
Potassium, Dissolved	158	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:39	7440-09-7	
Sodium, Dissolved	4500	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 14:56	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.32	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:40	7440-38-2	
Boron	1.7J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:40	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.18	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:42	7440-38-2	
Boron, Dissolved	1.7J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:42	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	708	mg/L	5.0	5.0	1		02/25/21 17:44		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 17:44		
Alkalinity, Total as CaCO3	708	mg/L	5.0	5.0	1		02/25/21 17:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	18800	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	87.2	mg/L	10.0	5.0	100		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:04		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (22-24) **Lab ID: 92523889002** Collected: 02/23/21 09:15 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7760	mg/L	100	60.0	100		02/25/21 08:48	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 21:59	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 21:59	14797-65-0	
Sulfate	900	mg/L	100	50.0	100		02/25/21 08:48	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.56	mg/L	0.25	0.059	5		02/25/21 03:09		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Total Organic Carbon	10.4	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Total Organic Carbon	10.7	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Total Organic Carbon	10.7	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	
Mean Total Organic Carbon	10.5	mg/L	1.0	0.50	1		03/02/21 06:54	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (29-31) Lab ID: 92523889003 Collected: 02/23/21 09:45 Received: 02/24/21 12:30 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	261	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:28	7440-70-2	
Iron	0.89	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:17	7439-89-6	
Magnesium	584	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:28	7439-95-4	
Manganese	0.35	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:17	7439-96-5	
Potassium	206	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:28	7440-09-7	
Sodium	4690	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:04	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	209	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:42	7440-70-2	
Iron, Dissolved	0.14	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:28	7439-89-6	
Magnesium, Dissolved	495	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:42	7439-95-4	
Manganese, Dissolved	0.31	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:28	7439-96-5	
Potassium, Dissolved	165	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:42	7440-09-7	
Sodium, Dissolved	4310	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:00	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.078	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:44	7440-38-2	
Boron	2.1J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:44	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.044	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:46	7440-38-2	
Boron, Dissolved	2.1J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:46	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	440	mg/L	5.0	5.0	1		02/25/21 17:58		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 17:58		
Alkalinity, Total as CaCO3	440	mg/L	5.0	5.0	1		02/25/21 17:58		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17800	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	41.7	mg/L	10.0	5.0	100		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:07		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (29-31) **Lab ID: 92523889003** Collected: 02/23/21 09:45 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8200	mg/L	100	60.0	100		02/25/21 09:02	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 22:14	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 22:14	14797-65-0	
Sulfate	655	mg/L	100	50.0	100		02/25/21 09:02	14808-79-8	
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		02/25/21 03:09		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	
Mean Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 07:51	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

Sample: VAP-14-W (31-33) Lab ID: 92523889004 Collected: 02/23/21 10:10 Received: 02/24/21 12:30 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	248	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:32	7440-70-2	
Iron	0.77	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:21	7439-89-6	
Magnesium	537	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:32	7439-95-4	
Manganese	0.30	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:21	7439-96-5	
Potassium	194	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:32	7440-09-7	
Sodium	4410	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:07	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	213	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:46	7440-70-2	
Iron, Dissolved	0.29	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:31	7439-89-6	
Magnesium, Dissolved	492	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:46	7439-95-4	
Manganese, Dissolved	0.29	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:31	7439-96-5	
Potassium, Dissolved	167	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:46	7440-09-7	
Sodium, Dissolved	4050	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:03	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.032	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:59	7440-38-2	
Boron	2.0J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:59	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.012	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:50	7440-38-2	
Boron, Dissolved	2.0J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:50	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	413	mg/L	5.0	5.0	1		02/25/21 18:07		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 18:07		
Alkalinity, Total as CaCO3	413	mg/L	5.0	5.0	1		02/25/21 18:07		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17800	mg/L	2500	2500	1		02/24/21 18:41		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	46.0	mg/L	10.0	5.0	100		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:08		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Sample: VAP-14-W (31-33) **Lab ID: 92523889004** Collected: 02/23/21 10:10 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7370	mg/L	100	60.0	100		02/25/21 09:16	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/24/21 22:28	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/24/21 22:28	14797-65-0	
Sulfate	866	mg/L	100	50.0	100		02/25/21 09:16	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.46	mg/L	0.050	0.012	1		02/25/21 03:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Total Organic Carbon	7.1	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	
Mean Total Organic Carbon	7.0	mg/L	1.0	0.50	1		03/02/21 08:09	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

QC Batch:	602444	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3174321 Matrix: Water

Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	02/25/21 10:04	
Iron	mg/L	ND	0.050	0.042	02/25/21 10:04	
Magnesium	mg/L	ND	0.10	0.068	02/25/21 10:04	
Manganese	mg/L	ND	0.0050	0.0034	02/25/21 10:04	
Potassium	mg/L	ND	5.0	3.0	02/26/21 10:50	
Sodium	mg/L	ND	5.0	0.61	02/26/21 10:50	

LABORATORY CONTROL SAMPLE: 3174322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	103	80-120	
Iron	mg/L	5	5.2	103	80-120	
Magnesium	mg/L	5	5.2	103	80-120	
Manganese	mg/L	0.5	0.51	103	80-120	
Potassium	mg/L	5	4.9J	98	80-120	
Sodium	mg/L	5	5.0J	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174323 3174324

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Conc.								
Calcium	mg/L	287	5	5	5	288	297	28	196	75-125	3	20	M6
Iron	mg/L	0.14	5	5	5	5.2	5.2	101	102	75-125	1	20	
Magnesium	mg/L	543	5	5	5	543	571	-14	544	75-125	5	20	M6
Manganese	mg/L	0.26	0.5	0.5	0.5	0.74	0.76	96	101	75-125	3	20	
Potassium	mg/L	120	5	5	5	125	133	98	246	75-125	6	20	M6
Sodium	mg/L	2880	5	5	5	2900	2950	369	1540	75-125	2	20	M6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

QC Batch:	602895	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET Filtered Diss.
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3176620 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/02/21 04:14	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/02/21 04:14	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/02/21 04:14	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/02/21 04:14	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/02/21 14:40	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/02/21 14:40	

LABORATORY CONTROL SAMPLE: 3176621

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.7	94	80-120	
Iron, Dissolved	mg/L	5	4.7	93	80-120	
Magnesium, Dissolved	mg/L	5	4.9	98	80-120	
Manganese, Dissolved	mg/L	0.5	0.46	92	80-120	
Potassium, Dissolved	mg/L	5	4.8J	96	80-120	
Sodium, Dissolved	mg/L	5	4.9J	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176622 3176623

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike Conc.	Result	Spike Conc.	Result							
Calcium, Dissolved	mg/L	240	5	5	252	254	239	291	75-125	1	20	M6
Iron, Dissolved	mg/L	0.080	5	5	4.6	4.4	91	87	75-125	4	20	
Magnesium, Dissolved	mg/L	468	5	5	489	495	423	554	75-125	1	20	M6
Manganese, Dissolved	mg/L	0.27	0.5	0.5	0.72	0.70	89	86	75-125	2	20	
Potassium, Dissolved	mg/L	98.7	5	5	107	109	160	196	75-125	2	20	M6
Sodium, Dissolved	mg/L	2650	5	5	2730	2590	1570	-1310	75-125	5	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602358 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3173960 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/25/21 12:13	
Boron	mg/L	ND	0.025	0.0062	02/25/21 12:13	

LABORATORY CONTROL SAMPLE: 3173961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.011	106	80-120	
Boron	mg/L	0.05	0.050	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3173962 3173963

Parameter	Units	92523918001		3173963		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	0.42	0.01	0.01	0.44	172	127	75-125	1	20	M6
Boron	mg/L	0.95J	0.05	0.05	0.98J	53	59	75-125		20	M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602352 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3173929 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000087	02/24/21 20:49	
Boron, Dissolved	mg/L	ND	0.025	0.0062	02/24/21 20:49	

LABORATORY CONTROL SAMPLE: 3173930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.010	104	80-120	
Boron, Dissolved	mg/L	0.05	0.050	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3173931 3173932

Parameter	Units	92523918001		3173932		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic, Dissolved	mg/L	0.17	0.01	0.01	0.26	0.18	921	154	75-125	34	20 M6,R1
Boron, Dissolved	mg/L	0.97J	0.05	0.05	0.91J	0.95J	-122	-55	75-125		20 M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602563 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3174842 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	02/25/21 17:02	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	02/25/21 17:02	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	02/25/21 17:02	

LABORATORY CONTROL SAMPLE: 3174843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.2	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174844 3174845

Parameter	Units	92523889001		3174845		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Alkalinity, Total as CaCO3	mg/L	109	50	50	154	159	91	101	80-120	3	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174846 3174847

Parameter	Units	92523918001		3174847		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Alkalinity, Total as CaCO3	mg/L	720	50	50	726	716	12	-8	80-120	1	25 M1

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602365 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: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3173982 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/24/21 18:41	

LABORATORY CONTROL SAMPLE: 3173983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	272	109	90-110	

SAMPLE DUPLICATE: 3174230

Parameter	Units	92523918001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13000	13600	5	25	

SAMPLE DUPLICATE: 3174231

Parameter	Units	92523308005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	116	101	14	25	

SAMPLE DUPLICATE: 3174232

Parameter	Units	92523308008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	90.0	75.0	18	25	

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602438 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: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3174289 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/25/21 07:02	

LABORATORY CONTROL SAMPLE: 3174290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174291 3174292

Parameter	Units	92523918001		3174291		3174292		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Sulfide	mg/L	85.6	125	125	201	198	92	90	80-120	1	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174293 3174294

Parameter	Units	92523038013		3174293		3174294		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.				
Sulfide	mg/L	ND	0.5	0.5	0.53	0.53	106	106	80-120	0	10

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602454 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: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3174365 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/02/21 05:54	

LABORATORY CONTROL SAMPLE: 3174367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	202	102	84.6-115	

SAMPLE DUPLICATE: 3174368

Parameter	Units	92523918001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		25	

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523889

QC Batch: 602412 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3174210 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/24/21 20:50	
Nitrate as N	mg/L	ND	0.10	0.060	02/24/21 20:50	
Nitrite as N	mg/L	ND	0.10	0.050	02/24/21 20:50	
Sulfate	mg/L	ND	1.0	0.50	02/24/21 20:50	

LABORATORY CONTROL SAMPLE: 3174211

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.2	96	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174212 3174213

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	5480	50	50	5610	5550	248	130	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	1.7	1.7	69	69	90-110	0	10 M6
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M6
Sulfate	mg/L	295	50	50	339	339	89	88	90-110	0	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

QC Batch: 602429 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: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3174265 Matrix: Water
 Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/25/21 03:04	

LABORATORY CONTROL SAMPLE: 3174266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.24	98	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174269 3174270

Parameter	Units	3174269		3174270		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Orthophosphate as P	mg/L	0.66	1.2	1.2	1.9	1.9	103	96	90-110	5	10

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

QC Batch: 603153 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

METHOD BLANK: 3177969 Matrix: Water

Associated Lab Samples: 92523889001, 92523889002, 92523889003, 92523889004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	

LABORATORY CONTROL SAMPLE: 3177970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.9	100	75-125	
Total Organic Carbon	mg/L	25	23.2	93	75-125	
Total Organic Carbon	mg/L	25	24.4	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177971 3177972

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523998001 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	264	25	25	285	280	81	60	75-125	2	25	M6	
Total Organic Carbon	mg/L	261	25	25	283	278	90	71	75-125	2	25	M6	
Total Organic Carbon	mg/L	271	25	25	289	282	71	44	75-125	2	25	M6	
Total Organic Carbon	mg/L	258	25	25	280	276	87	74	75-125	1	25	M6	
Total Organic Carbon	mg/L	268	25	25	287	282	76	52	75-125	2	25	M6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177973 3177974

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	9.3	25	25	34.9	34.8	102	102	75-125	0	25		
Total Organic Carbon	mg/L	9.1	25	25	34.7	34.8	102	103	75-125	0	25		
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.8	102	102	75-125	0	25		
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.5	102	101	75-125	1	25		
Total Organic Carbon	mg/L	9.4	25	25	34.9	35.0	102	103	75-125	0	25		

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QUALIFIERS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

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

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

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523889

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92523889001	VAP-14-W (5-10)	EPA 3010A	602444	EPA 6010D	602471
92523889002	VAP-14-W (22-24)	EPA 3010A	602444	EPA 6010D	602471
92523889003	VAP-14-W (29-31)	EPA 3010A	602444	EPA 6010D	602471
92523889004	VAP-14-W (31-33)	EPA 3010A	602444	EPA 6010D	602471
92523889001	VAP-14-W (5-10)	EPA 3010A	602895	EPA 6010D	602904
92523889002	VAP-14-W (22-24)	EPA 3010A	602895	EPA 6010D	602904
92523889003	VAP-14-W (29-31)	EPA 3010A	602895	EPA 6010D	602904
92523889004	VAP-14-W (31-33)	EPA 3010A	602895	EPA 6010D	602904
92523889001	VAP-14-W (5-10)	EPA 3010A	602358	EPA 6020B	602425
92523889002	VAP-14-W (22-24)	EPA 3010A	602358	EPA 6020B	602425
92523889003	VAP-14-W (29-31)	EPA 3010A	602358	EPA 6020B	602425
92523889004	VAP-14-W (31-33)	EPA 3010A	602358	EPA 6020B	602425
92523889001	VAP-14-W (5-10)	EPA 3010A	602352	EPA 6020B	602389
92523889002	VAP-14-W (22-24)	EPA 3010A	602352	EPA 6020B	602389
92523889003	VAP-14-W (29-31)	EPA 3010A	602352	EPA 6020B	602389
92523889004	VAP-14-W (31-33)	EPA 3010A	602352	EPA 6020B	602389
92523889001	VAP-14-W (5-10)	SM 2320B-2011	602563		
92523889002	VAP-14-W (22-24)	SM 2320B-2011	602563		
92523889003	VAP-14-W (29-31)	SM 2320B-2011	602563		
92523889004	VAP-14-W (31-33)	SM 2320B-2011	602563		
92523889001	VAP-14-W (5-10)	SM 2540C-2011	602365		
92523889002	VAP-14-W (22-24)	SM 2540C-2011	602365		
92523889003	VAP-14-W (29-31)	SM 2540C-2011	602365		
92523889004	VAP-14-W (31-33)	SM 2540C-2011	602365		
92523889001	VAP-14-W (5-10)	SM 4500-S2D-2011	602438		
92523889002	VAP-14-W (22-24)	SM 4500-S2D-2011	602438		
92523889003	VAP-14-W (29-31)	SM 4500-S2D-2011	602438		
92523889004	VAP-14-W (31-33)	SM 4500-S2D-2011	602438		
92523889001	VAP-14-W (5-10)	SM 5210B-2011	602454	SM 5210B-2011	602495
92523889002	VAP-14-W (22-24)	SM 5210B-2011	602454	SM 5210B-2011	602495
92523889003	VAP-14-W (29-31)	SM 5210B-2011	602454	SM 5210B-2011	602495
92523889004	VAP-14-W (31-33)	SM 5210B-2011	602454	SM 5210B-2011	602495
92523889001	VAP-14-W (5-10)	EPA 300.0 Rev 2.1 1993	602412		
92523889002	VAP-14-W (22-24)	EPA 300.0 Rev 2.1 1993	602412		
92523889003	VAP-14-W (29-31)	EPA 300.0 Rev 2.1 1993	602412		
92523889004	VAP-14-W (31-33)	EPA 300.0 Rev 2.1 1993	602412		
92523889001	VAP-14-W (5-10)	SM 4500-P E-2011	602429		
92523889002	VAP-14-W (22-24)	SM 4500-P E-2011	602429		
92523889003	VAP-14-W (29-31)	SM 4500-P E-2011	602429		
92523889004	VAP-14-W (31-33)	SM 4500-P E-2011	602429		
92523889001	VAP-14-W (5-10)	EPA 9060A	603153		
92523889002	VAP-14-W (22-24)	EPA 9060A	603153		
92523889003	VAP-14-W (29-31)	EPA 9060A	603153		
92523889004	VAP-14-W (31-33)	EPA 9060A	603153		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS PLANT 30050105.00006
Pace Project No.: 92523889

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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REPORT OF LABORATORY ANALYSIS

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Document Number:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAR-03-023-Rev.07

(Document Revised: October 28, 2020)
 Page 1 of 2
 Issuing Authority:
 Pace Carolina Quality Office

Laboratory receiving samples:

Asheville Eder Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name: ARCADIS

Project #: **WO# : 92523889**

Courier: Fed Ex UPS USPS Other Client
 Commercial Trace



Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: 2/22/21/SR

Packing Material: Bubble Wrap Bubble Bags None Other
 Thermostabil: Yes No None

Biological Tissue (Specs)?
 Yes No N/A

Thermostabil: Storage ID: 93T071 Type of Ice: Dry Blue None
 Cooler Temp: 6.0 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C): 6.0

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 sample originate from a foreign source (Internationally, including travel and Puerto Rico)? Yes No

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of gift containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____

Date: _____

Project Manager SRP Review: _____

Date: _____



Document Name:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAR-CI-003-Rev.09

Document Revised: October 28, 2020
 Page 1 of 3
 Issuing Authority:
 North Carolina Quality Office

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

Exceptions: VDA, Collars, TOC, Oil and Grease, DRD/SDS (water), DOC, Urig

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

Project #

WO#: 92523889

PR: KLH1

Due Date: 02/25/21

CLIENT: GR-GR Power

Sample	BAW-100 ml Plastic Unpreserved (N/A) (D-)	BAW-200 ml Plastic Unpreserved (N/A)	BAW-300 ml Plastic Unpreserved (N/A)	BAW-1 liter Plastic Unpreserved (N/A)	BAW-1.25 ml Plastic HClO4 (pH < 2) (D-)	BAW-125 ml Plastic HNO3 (pH < 2)	BAW-125 ml Plastic H2SO4 (pH < 2) Acetic & NaOH (D-)	BAW-125 ml Plastic NaOH (pH < 12) (D-)	WDR-Whole-mounted Glass Jar Unpreserved	AS10-1 liter Amber Unpreserved (N/A) (D-)	AS10-1 liter Amber HCl (pH < 2)	AS10-250 ml Amber Unpreserved (N/A) (D-)	AS10-1 liter Amber H2SO4 (pH < 2)	AS10-250 ml Amber H2SO4 (pH < 2)	AS10-250ml-200-ml Amber HNO3 (N/A) (D-)	CO10-40 ml VOA HCl (N/A)	VO10-40 ml VOA Na2S2O8 (N/A)	VO10-40 ml VOA NaOH (N/A)	CO10-40 ml VOA HClO4 (N/A)	VO10- (1 vials per 100-500 ml) (N/A)	VO10- (1 vials per 100-500 ml) (N/A)	SP10-125 ml Sterile Plastic (N/A - 100)	SP10-250 ml Sterile Plastic (N/A - 100)	GN	AS10-100 ml Plastic per 100-300 (D-3-6-7)	AS10-100 ml Amber Unpreserved vials (N/A)	VO10-10 ml Substrate vials (N/A)	CO10-40 ml Amber Unpreserved vials (N/A)		
1	/	2	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	/	2	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	/	2	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	/	2	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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 Air Quality Certification Office (A-4).
 Out of field, incorrect preservative, out of temp, incorrect containers.

ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order #
 Date:

Sample ID	Collection Date/Time	Type of Sample	Matrix	PARAMETER ANALYSIS & METHOD																																																					
				As	Cd	Cr	Pb	Fe	Cu	Zn	Co	Mn	Ni																																												
Station: ARCADIS Location: Site 200 Description: SHED water from shed Remarks: Retention N.C. at 9:00 AM, 9:15 AM, 9:45 AM with @ Arcadis. @ MEMORANDUM - BELMONT 300 50 105 00005				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Parameter</th> <th>Method</th> <th>Result</th> <th>Unit</th> </tr> <tr> <td>As</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Cd</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Cr</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Pb</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Fe</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Cu</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Zn</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Co</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Mn</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> <tr> <td>Ni</td> <td>IC</td> <td>0</td> <td>µg/L</td> </tr> </table>										Parameter	Method	Result	Unit	As	IC	0	µg/L	Cd	IC	0	µg/L	Cr	IC	0	µg/L	Pb	IC	0	µg/L	Fe	IC	0	µg/L	Cu	IC	0	µg/L	Zn	IC	0	µg/L	Co	IC	0	µg/L	Mn	IC	0	µg/L	Ni	IC	0	µg/L
Parameter	Method	Result	Unit																																																						
As	IC	0	µg/L																																																						
Cd	IC	0	µg/L																																																						
Cr	IC	0	µg/L																																																						
Pb	IC	0	µg/L																																																						
Fe	IC	0	µg/L																																																						
Cu	IC	0	µg/L																																																						
Zn	IC	0	µg/L																																																						
Co	IC	0	µg/L																																																						
Mn	IC	0	µg/L																																																						
Ni	IC	0	µg/L																																																						
VAP-14-W (5-10)	2/20/04 9:10	X	W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																					
VAP-14-W (22-24)	2/20/04 9:15	X	W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																					
VAP-14-W (29-31)	2/20/04 9:45	X	W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																					
VAP-14-W (31-35)	2/20/04 10:15	X	W	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																																					

Retention = As, Fe, Cu, Mn, Ni, Co, Ni, K, O
 Dissolved metals Fe, Cd, Cr, Ni

Phase

Cover Category Code (V)

Contractor Name

Contractor Address

Contractor Phone

Contractor Email

Contractor Signature

Contractor Title

Contractor Date

Contractor Address

Contractor Phone

Contractor Email



March 10, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS PLANT 30050105.00006
Pace Project No.: 92523918

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 24, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

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: MCMANUS PLANT 30050105.00006
Pace Project No.: 92523918

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92523918001	VAP-14-W (17-19)	Water	02/23/21 12:35	02/24/21 12:30
92523918002	DUP-01-W (02232021)	Water	02/23/21 00:00	02/24/21 12:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Lab ID	Sample ID	Method	Analysts	Analytes Reported		
92523918001	VAP-14-W (17-19)	EPA 6010D	KQ, RDT	6		
		EPA 6010D	KQ, SH1	6		
		EPA 6020B	JOR	2		
		EPA 6020B	JOR	2		
		SM 2320B-2011	ECH	3		
		SM 2540C-2011	RED	1		
		SM 4500-S2D-2011	JP1	1		
		SM 5210B-2011	MFO	1		
		EPA 300.0 Rev 2.1 1993	CDC	4		
		SM 4500-P E-2011	JP1	1		
		EPA 9060A	JLH	5		
		92523918002	DUP-01-W (02232021)	EPA 6010D	KQ, RDT	6
				EPA 6010D	KQ, SH1	6
EPA 6020B	JOR			2		
EPA 6020B	JOR			2		
SM 2320B-2011	ECH			3		
SM 2540C-2011	RED			1		
SM 4500-S2D-2011	JP1			1		
SM 5210B-2011	MFO			1		
EPA 300.0 Rev 2.1 1993	CDC			4		
SM 4500-P E-2011	JP1			1		
EPA 9060A	JLH			5		

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92523918001	VAP-14-W (17-19)					
EPA 6010D	Calcium	287	mg/L	1.0	02/26/21 14:35	M6
EPA 6010D	Iron	0.14	mg/L	0.050	02/25/21 10:24	
EPA 6010D	Magnesium	543	mg/L	1.0	02/26/21 14:35	M6
EPA 6010D	Manganese	0.26	mg/L	0.0050	02/25/21 10:24	
EPA 6010D	Potassium	120	mg/L	50.0	02/26/21 14:35	M6
EPA 6010D	Sodium	2880	mg/L	500	02/26/21 11:10	M6
EPA 6010D	Calcium, Dissolved	240	mg/L	1.0	03/02/21 15:49	M6
EPA 6010D	Iron, Dissolved	0.080	mg/L	0.050	03/02/21 04:35	
EPA 6010D	Magnesium, Dissolved	468	mg/L	1.0	03/02/21 15:49	M6
EPA 6010D	Manganese, Dissolved	0.27	mg/L	0.0050	03/02/21 04:35	
EPA 6010D	Potassium, Dissolved	98.7	mg/L	50.0	03/02/21 15:49	M6
EPA 6010D	Sodium, Dissolved	2650	mg/L	500	03/02/21 15:06	M6
EPA 6020B	Arsenic	0.42	mg/L	0.010	02/25/21 13:15	M6
EPA 6020B	Boron	0.95J	mg/L	2.5	02/25/21 13:15	M6
EPA 6020B	Arsenic, Dissolved	0.17	mg/L	0.010	02/25/21 12:21	M6, R1
EPA 6020B	Boron, Dissolved	0.97J	mg/L	2.5	02/25/21 12:21	M6
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	720	mg/L	5.0	02/25/21 18:16	
SM 2320B-2011	Alkalinity, Total as CaCO3	720	mg/L	5.0	02/25/21 18:16	M1
SM 2540C-2011	Total Dissolved Solids	13000	mg/L	2500	02/24/21 18:42	
SM 4500-S2D-2011	Sulfide	85.6	mg/L	25.0	02/25/21 07:04	
EPA 300.0 Rev 2.1 1993	Chloride	5480	mg/L	70.0	02/25/21 09:30	M6
EPA 300.0 Rev 2.1 1993	Sulfate	295	mg/L	10.0	02/24/21 22:42	M6
SM 4500-P E-2011	Orthophosphate as P	0.66	mg/L	0.25	02/25/21 03:10	
EPA 9060A	Total Organic Carbon	9.4	mg/L	1.0	03/02/21 08:28	
EPA 9060A	Total Organic Carbon	9.1	mg/L	1.0	03/02/21 08:28	
EPA 9060A	Total Organic Carbon	9.4	mg/L	1.0	03/02/21 08:28	
EPA 9060A	Total Organic Carbon	9.4	mg/L	1.0	03/02/21 08:28	
EPA 9060A	Mean Total Organic Carbon	9.3	mg/L	1.0	03/02/21 08:28	
92523918002	DUP-01-W (02232021)					
EPA 6010D	Calcium	298	mg/L	10.0	02/26/21 14:18	
EPA 6010D	Iron	0.067	mg/L	0.050	02/25/21 10:45	
EPA 6010D	Magnesium	536	mg/L	10.0	02/26/21 14:18	
EPA 6010D	Manganese	0.26	mg/L	0.0050	02/25/21 10:45	
EPA 6010D	Sodium	2970	mg/L	500	02/26/21 14:18	
EPA 6010D	Calcium, Dissolved	262	mg/L	1.0	03/02/21 16:02	
EPA 6010D	Magnesium, Dissolved	519	mg/L	1.0	03/02/21 16:02	
EPA 6010D	Manganese, Dissolved	0.24	mg/L	0.0050	03/02/21 04:55	
EPA 6010D	Potassium, Dissolved	111	mg/L	50.0	03/02/21 16:02	
EPA 6010D	Sodium, Dissolved	2610	mg/L	500	03/02/21 15:19	
EPA 6020B	Arsenic	0.42	mg/L	0.010	02/25/21 14:03	
EPA 6020B	Boron	0.97J	mg/L	2.5	02/25/21 14:03	
EPA 6020B	Arsenic, Dissolved	0.16	mg/L	0.010	02/25/21 13:07	
EPA 6020B	Boron, Dissolved	0.89J	mg/L	2.5	02/25/21 13:07	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	752	mg/L	5.0	02/25/21 18:57	
SM 2320B-2011	Alkalinity, Total as CaCO3	752	mg/L	5.0	02/25/21 18:57	
SM 2540C-2011	Total Dissolved Solids	13000	mg/L	2500	02/24/21 18:42	
SM 4500-S2D-2011	Sulfide	72.9	mg/L	10.0	02/25/21 07:05	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92523918002	DUP-01-W (02232021)					
EPA 300.0 Rev 2.1 1993	Chloride	7260	mg/L	100	02/25/21 08:13	
EPA 300.0 Rev 2.1 1993	Nitrate as N	0.13	mg/L	0.10	02/25/21 09:44	H1
EPA 300.0 Rev 2.1 1993	Sulfate	1040	mg/L	14.0	02/25/21 03:02	
SM 4500-P E-2011	Orthophosphate as P	0.82	mg/L	0.25	02/25/21 03:07	H1
EPA 9060A	Total Organic Carbon	9.9	mg/L	1.0	03/02/21 09:30	
EPA 9060A	Total Organic Carbon	9.7	mg/L	1.0	03/02/21 09:30	
EPA 9060A	Total Organic Carbon	9.8	mg/L	1.0	03/02/21 09:30	
EPA 9060A	Total Organic Carbon	9.9	mg/L	1.0	03/02/21 09:30	
EPA 9060A	Mean Total Organic Carbon	9.8	mg/L	1.0	03/02/21 09:30	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Sample: VAP-14-W (17-19) Lab ID: 92523918001 Collected: 02/23/21 12:35 Received: 02/24/21 12:30 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	287	mg/L	1.0	0.94	10	02/25/21 02:37	02/26/21 14:35	7440-70-2	M6
Iron	0.14	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:24	7439-89-6	
Magnesium	543	mg/L	1.0	0.68	10	02/25/21 02:37	02/26/21 14:35	7439-95-4	M6
Manganese	0.26	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:24	7439-96-5	
Potassium	120	mg/L	50.0	30.4	10	02/25/21 02:37	02/26/21 14:35	7440-09-7	M6
Sodium	2880	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 11:10	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	240	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 15:49	7440-70-2	M6
Iron, Dissolved	0.080	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:35	7439-89-6	
Magnesium, Dissolved	468	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 15:49	7439-95-4	M6
Manganese, Dissolved	0.27	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:35	7439-96-5	
Potassium, Dissolved	98.7	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 15:49	7440-09-7	M6
Sodium, Dissolved	2650	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:06	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.42	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 13:15	7440-38-2	M6
Boron	0.95J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 13:15	7440-42-8	M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.17	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 12:21	7440-38-2	M6, R1
Boron, Dissolved	0.97J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 12:21	7440-42-8	M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	720	mg/L	5.0	5.0	1		02/25/21 18:16		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 18:16		
Alkalinity, Total as CaCO3	720	mg/L	5.0	5.0	1		02/25/21 18:16		M1
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13000	mg/L	2500	2500	1		02/24/21 18:42		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	85.6	mg/L	25.0	12.5	250		02/25/21 07:04	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	02/25/21 07:22	03/02/21 06:13		

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Sample: VAP-14-W (17-19) **Lab ID: 92523918001** Collected: 02/23/21 12:35 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5480	mg/L	70.0	42.0	70		02/25/21 09:30	16887-00-6	M6
Nitrate as N	ND	mg/L	0.10	0.060	1		02/25/21 09:59	14797-55-8	M6
Nitrite as N	ND	mg/L	0.10	0.050	1		02/25/21 09:59	14797-65-0	M6
Sulfate	295	mg/L	10.0	5.0	10		02/24/21 22:42	14808-79-8	M6
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		02/25/21 03:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Total Organic Carbon	9.1	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	
Mean Total Organic Carbon	9.3	mg/L	1.0	0.50	1		03/02/21 08:28	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Sample: DUP-01-W (02232021) **Lab ID: 92523918002** Collected: 02/23/21 00:00 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	298	mg/L	10.0	9.4	100	02/25/21 02:37	02/26/21 14:18	7440-70-2	
Iron	0.067	mg/L	0.050	0.042	1	02/25/21 02:37	02/25/21 10:45	7439-89-6	
Magnesium	536	mg/L	10.0	6.8	100	02/25/21 02:37	02/26/21 14:18	7439-95-4	
Manganese	0.26	mg/L	0.0050	0.0034	1	02/25/21 02:37	02/25/21 10:45	7439-96-5	
Potassium	ND	mg/L	500	304	100	02/25/21 02:37	02/26/21 14:18	7440-09-7	
Sodium	2970	mg/L	500	61.1	100	02/25/21 02:37	02/26/21 14:18	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	262	mg/L	1.0	0.94	10	02/26/21 11:20	03/02/21 16:02	7440-70-2	
Iron, Dissolved	ND	mg/L	0.050	0.042	1	02/26/21 11:20	03/02/21 04:55	7439-89-6	
Magnesium, Dissolved	519	mg/L	1.0	0.68	10	02/26/21 11:20	03/02/21 16:02	7439-95-4	
Manganese, Dissolved	0.24	mg/L	0.0050	0.0034	1	02/26/21 11:20	03/02/21 04:55	7439-96-5	
Potassium, Dissolved	111	mg/L	50.0	30.4	10	02/26/21 11:20	03/02/21 16:02	7440-09-7	
Sodium, Dissolved	2610	mg/L	500	61.1	100	02/26/21 11:20	03/02/21 15:19	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.42	mg/L	0.010	0.0087	100	02/24/21 16:47	02/25/21 14:03	7440-38-2	
Boron	0.97J	mg/L	2.5	0.62	100	02/24/21 16:47	02/25/21 14:03	7440-42-8	
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.16	mg/L	0.010	0.0087	100	02/24/21 16:30	02/25/21 13:07	7440-38-2	
Boron, Dissolved	0.89J	mg/L	2.5	0.62	100	02/24/21 16:30	02/25/21 13:07	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	752	mg/L	5.0	5.0	1		02/25/21 18:57		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		02/25/21 18:57		
Alkalinity, Total as CaCO3	752	mg/L	5.0	5.0	1		02/25/21 18:57		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	13000	mg/L	2500	2500	1		02/24/21 18:42		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	72.9	mg/L	10.0	5.0	100		02/25/21 07:05	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	02/25/21 07:22	03/02/21 06:17		H2

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ANALYTICAL RESULTS

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

Sample: DUP-01-W (02232021) **Lab ID: 92523918002** Collected: 02/23/21 00:00 Received: 02/24/21 12:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7260	mg/L	100	60.0	100		02/25/21 08:13	16887-00-6	
Nitrate as N	ND	mg/L	1.0	0.60	10		02/24/21 21:24	14797-55-8	
Nitrate as N	0.13	mg/L	0.10	0.060	1		02/25/21 09:44	14797-55-8	H1
Nitrite as N	ND	mg/L	1.0	0.50	10		02/24/21 21:24	14797-65-0	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/25/21 09:44	14797-65-0	H1
Sulfate	1040	mg/L	14.0	7.0	14		02/25/21 03:02	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.82	mg/L	0.25	0.059	5		02/25/21 03:07		H1
Total Organic Carbon,Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	9.9	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Total Organic Carbon	9.7	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Total Organic Carbon	9.8	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Total Organic Carbon	9.9	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	
Mean Total Organic Carbon	9.8	mg/L	1.0	0.50	1		03/02/21 09:30	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

QC Batch: 602444

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3174321

Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	02/25/21 10:04	
Iron	mg/L	ND	0.050	0.042	02/25/21 10:04	
Magnesium	mg/L	ND	0.10	0.068	02/25/21 10:04	
Manganese	mg/L	ND	0.0050	0.0034	02/25/21 10:04	
Potassium	mg/L	ND	5.0	3.0	02/26/21 10:50	
Sodium	mg/L	ND	5.0	0.61	02/26/21 10:50	

LABORATORY CONTROL SAMPLE: 3174322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	103	80-120	
Iron	mg/L	5	5.2	103	80-120	
Magnesium	mg/L	5	5.2	103	80-120	
Manganese	mg/L	0.5	0.51	103	80-120	
Potassium	mg/L	5	4.9J	98	80-120	
Sodium	mg/L	5	5.0J	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174323 3174324

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike Conc.	Result	Spike Conc.	Result							
Calcium	mg/L	287	5	5	288	297	28	196	75-125	3	20	M6
Iron	mg/L	0.14	5	5	5.2	5.2	101	102	75-125	1	20	
Magnesium	mg/L	543	5	5	543	571	-14	544	75-125	5	20	M6
Manganese	mg/L	0.26	0.5	0.5	0.74	0.76	96	101	75-125	3	20	
Potassium	mg/L	120	5	5	125	133	98	246	75-125	6	20	M6
Sodium	mg/L	2880	5	5	2900	2950	369	1540	75-125	2	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

QC Batch: 602895

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET Filtered Diss.

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3176620

Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/02/21 04:14	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/02/21 04:14	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/02/21 04:14	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/02/21 04:14	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/02/21 14:40	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/02/21 14:40	

LABORATORY CONTROL SAMPLE: 3176621

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.7	94	80-120	
Iron, Dissolved	mg/L	5	4.7	93	80-120	
Magnesium, Dissolved	mg/L	5	4.9	98	80-120	
Manganese, Dissolved	mg/L	0.5	0.46	92	80-120	
Potassium, Dissolved	mg/L	5	4.8J	96	80-120	
Sodium, Dissolved	mg/L	5	4.9J	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3176622 3176623

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike Conc.	Result	Spike Conc.	Result							
Calcium, Dissolved	mg/L	240	5	5	252	254	239	291	75-125	1	20	M6
Iron, Dissolved	mg/L	0.080	5	5	4.6	4.4	91	87	75-125	4	20	
Magnesium, Dissolved	mg/L	468	5	5	489	495	423	554	75-125	1	20	M6
Manganese, Dissolved	mg/L	0.27	0.5	0.5	0.72	0.70	89	86	75-125	2	20	
Potassium, Dissolved	mg/L	98.7	5	5	107	109	160	196	75-125	2	20	M6
Sodium, Dissolved	mg/L	2650	5	5	2730	2590	1570	-1310	75-125	5	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

QC Batch: 602358 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3173960 Matrix: Water
 Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/25/21 12:13	
Boron	mg/L	ND	0.025	0.0062	02/25/21 12:13	

LABORATORY CONTROL SAMPLE: 3173961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.011	106	80-120	
Boron	mg/L	0.05	0.050	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3173962 3173963

Parameter	Units	92523918001		3173963		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	0.42	0.01	0.01	0.44	0.43	172	127	75-125	1	20 M6
Boron	mg/L	0.95J	0.05	0.05	0.98J	0.98J	53	59	75-125		20 M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

QC Batch: 602352

Analysis Method: EPA 6020B

QC Batch Method: EPA 3010A

Analysis Description: 6020 MET Dissolved

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3173929

Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.00010	0.000087	02/24/21 20:49	
Boron, Dissolved	mg/L	ND	0.025	0.0062	02/24/21 20:49	

LABORATORY CONTROL SAMPLE: 3173930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.010	104	80-120	
Boron, Dissolved	mg/L	0.05	0.050	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3173931 3173932

Parameter	Units	92523918001		3173931		3173932		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Arsenic, Dissolved	mg/L	0.17	0.01	0.01	0.26	0.18	921	75-125	34	20	M6,R1
Boron, Dissolved	mg/L	0.97J	0.05	0.05	0.91J	0.95J	-122	75-125		20	M6

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

QC Batch:	602563	Analysis Method:	SM 2320B-2011
QC Batch Method:	SM 2320B-2011	Analysis Description:	2320B Alkalinity
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3174842 Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	02/25/21 17:02	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	02/25/21 17:02	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	02/25/21 17:02	

LABORATORY CONTROL SAMPLE: 3174843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	53.2	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174844 3174845

Parameter	Units	92523889001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	109	50	50	154	159	91	101	80-120	3	25		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174846 3174847

Parameter	Units	92523918001		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.										
Alkalinity, Total as CaCO3	mg/L	720	50	50	726	716	12	-8	80-120	1	25	M1	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

QC Batch: 602365 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: 92523918001, 92523918002

METHOD BLANK: 3173982 Matrix: Water
 Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/24/21 18:41	

LABORATORY CONTROL SAMPLE: 3173983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	272	109	90-110	

SAMPLE DUPLICATE: 3174230

Parameter	Units	92523918001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13000	13600	5	25	

SAMPLE DUPLICATE: 3174231

Parameter	Units	92523308005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	116	101	14	25	

SAMPLE DUPLICATE: 3174232

Parameter	Units	92523308008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	90.0	75.0	18	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

QC Batch: 602438

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: 92523918001, 92523918002

METHOD BLANK: 3174289

Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	02/25/21 07:02	

LABORATORY CONTROL SAMPLE: 3174290

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174291 3174292

Parameter	Units	92523918001		3174292		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MS Result	MS Spike Conc.						
Sulfide	mg/L	85.6	125	201	125	92	90	80-120	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174293 3174294

Parameter	Units	92523038013		3174294		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MS Result	MS Spike Conc.						
Sulfide	mg/L	ND	0.5	0.53	0.5	106	106	80-120	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

QC Batch: 602454 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: 92523918001, 92523918002

METHOD BLANK: 3174365 Matrix: Water
 Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/02/21 05:54	

LABORATORY CONTROL SAMPLE: 3174367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	202	102	84.6-115	

SAMPLE DUPLICATE: 3174368

Parameter	Units	92523918001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006

Pace Project No.: 92523918

QC Batch: 602412	Analysis Method: EPA 300.0 Rev 2.1 1993
QC Batch Method: EPA 300.0 Rev 2.1 1993	Analysis Description: 300.0 IC Anions
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3174210 Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/24/21 20:50	
Nitrate as N	mg/L	ND	0.10	0.060	02/24/21 20:50	
Nitrite as N	mg/L	ND	0.10	0.050	02/24/21 20:50	
Sulfate	mg/L	ND	1.0	0.50	02/24/21 20:50	

LABORATORY CONTROL SAMPLE: 3174211

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.2	96	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	96	90-110	
Sulfate	mg/L	50	48.8	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174212 3174213

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	5480	50	50	5610	5550	248	130	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	1.7	1.7	69	69	90-110	0	10 M6
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M6
Sulfate	mg/L	295	50	50	339	339	89	88	90-110	0	10 M6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

QC Batch: 602429 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: 92523918001, 92523918002

METHOD BLANK: 3174265 Matrix: Water
 Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/25/21 03:04	

LABORATORY CONTROL SAMPLE: 3174266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.24	98	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3174269 3174270

Parameter	Units	3174269		3174270		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Orthophosphate as P	mg/L	0.66	1.2	1.2	1.9	1.9	103	96	90-110	5	10

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

QC Batch: 603153 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92523918001, 92523918002

METHOD BLANK: 3177969 Matrix: Water

Associated Lab Samples: 92523918001, 92523918002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	

LABORATORY CONTROL SAMPLE: 3177970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.9	100	75-125	
Total Organic Carbon	mg/L	25	23.2	93	75-125	
Total Organic Carbon	mg/L	25	24.4	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177971 3177972

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523998001 Result	Spike Conc.	Spike Conc.	Result							Result
Mean Total Organic Carbon	mg/L	264	25	25	285	280	81	60	75-125	2	25 M6
Total Organic Carbon	mg/L	261	25	25	283	278	90	71	75-125	2	25 M6
Total Organic Carbon	mg/L	271	25	25	289	282	71	44	75-125	2	25 M6
Total Organic Carbon	mg/L	258	25	25	280	276	87	74	75-125	1	25 M6
Total Organic Carbon	mg/L	268	25	25	287	282	76	52	75-125	2	25 M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177973 3177974

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Result							Result
Mean Total Organic Carbon	mg/L	9.3	25	25	34.9	34.8	102	102	75-125	0	25
Total Organic Carbon	mg/L	9.1	25	25	34.7	34.8	102	103	75-125	0	25
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.8	102	102	75-125	0	25
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.5	102	101	75-125	1	25
Total Organic Carbon	mg/L	9.4	25	25	34.9	35.0	102	103	75-125	0	25

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS PLANT 30050105.00006
Pace Project No.: 92523918

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

H1	Analysis conducted outside the EPA method holding time.
H2	Extraction or preparation conducted outside EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1	RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS PLANT 30050105.00006
 Pace Project No.: 92523918

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92523918001	VAP-14-W (17-19)	EPA 3010A	602444	EPA 6010D	602471
92523918002	DUP-01-W (02232021)	EPA 3010A	602444	EPA 6010D	602471
92523918001	VAP-14-W (17-19)	EPA 3010A	602895	EPA 6010D	602904
92523918002	DUP-01-W (02232021)	EPA 3010A	602895	EPA 6010D	602904
92523918001	VAP-14-W (17-19)	EPA 3010A	602358	EPA 6020B	602425
92523918002	DUP-01-W (02232021)	EPA 3010A	602358	EPA 6020B	602425
92523918001	VAP-14-W (17-19)	EPA 3010A	602352	EPA 6020B	602389
92523918002	DUP-01-W (02232021)	EPA 3010A	602352	EPA 6020B	602389
92523918001	VAP-14-W (17-19)	SM 2320B-2011	602563		
92523918002	DUP-01-W (02232021)	SM 2320B-2011	602563		
92523918001	VAP-14-W (17-19)	SM 2540C-2011	602365		
92523918002	DUP-01-W (02232021)	SM 2540C-2011	602365		
92523918001	VAP-14-W (17-19)	SM 4500-S2D-2011	602438		
92523918002	DUP-01-W (02232021)	SM 4500-S2D-2011	602438		
92523918001	VAP-14-W (17-19)	SM 5210B-2011	602454	SM 5210B-2011	602495
92523918002	DUP-01-W (02232021)	SM 5210B-2011	602454	SM 5210B-2011	602495
92523918001	VAP-14-W (17-19)	EPA 300.0 Rev 2.1 1993	602412		
92523918002	DUP-01-W (02232021)	EPA 300.0 Rev 2.1 1993	602412		
92523918001	VAP-14-W (17-19)	SM 4500-P E-2011	602429		
92523918002	DUP-01-W (02232021)	SM 4500-P E-2011	602429		
92523918001	VAP-14-W (17-19)	EPA 9060A	603153		
92523918002	DUP-01-W (02232021)	EPA 9060A	603153		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Ashville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition: Open/Sealed

Client Name:

ARCADIS

Project #:

W0#: 92523918

Carrier: Fed Ex UPS USPS Other Client
 Commercial Home



Applicable Person Examining Contents: 2/24/21/GR

Cooling Seal Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Threat (Hazard)?
 Yes No N/A

Thermometer: In Use ID: 937071 Type of Use: Yes No Other

Cooler Temp: 4.5 ^{°C} Correction Factor: 0
See note/subject (C)

Temp should be above freezing to 5°C
 Sample out of temp criteria. Samples sealed, cooling process completed

Cooler Temp Corrected (°C): 4.5

USDA Regulated Soil? N/A, water sample

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

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

	Yes	No	NA	Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Sampler Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Short Hold Time Analysis (COT In)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Batch Type Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.
Sufficient Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.
Home Containers Used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Discarded analysis: Samples Field Filtered?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Sample Labels Match CDC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
Includes Date/Time/ID/Analysis Matrix				<u>WT</u>
Residence in VOA Vials (5-6mm)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10.
Trip Blank Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11.
Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Field Data Requested? Yes No

COMMENTS/SAMPLE DISCREPANCY

Lot ID of vial containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURP Review: _____ Date: _____

Project Manager SRP Review: _____ Date: _____



Document Name:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-CAR-C3-888-Rev.07

Document Revised: October 18, 2020
 Page 2 of 2
 Issuing Authority:
 Pace Carolina Quality Office

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

Project #

W0# : 92523918

PR: KLH1

Due Date: 02/25/21

Exception: VOA, Coliform, TOC, Oil and Grease, DR/9025 (water) DOC, DMG

CLIENT: CR-OR Power

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

Method	1	2	3	4	5	6	7	8	9	10	11	12
BP40-125 ml. Plastic Unpreserved (N/A) (C-1)												
BP10-250 ml. Plastic Unpreserved (N/A)		2										
BP10-500 ml. Plastic Unpreserved (N/A)		1										
BP10-1.0 liter Plastic Unpreserved (N/A)		1										
BP40-125 ml. Plastic HD504 (pH < 2) (C-1)												
BP10-250 ml. plastic HD504 (pH < 2)		2										
BP40-125 ml. Plastic 20 Acetone B Neutral (C-1)												
BP40-125 ml. Plastic HD504 (pH < 2) (C-1)												
WSP-Volatile-residual Chlorine (or Unpreserved)												
AS10-1 liter Amber Unpreserved (N/A) (C-1)												
AS10-1 liter Amber HD (pH < 2)												
AS10-125 ml. Amber Unpreserved (N/A) (C-1)												
AS10-1 liter Amber HD504 (pH < 2)												
AS10-250 ml. Amber HD504 (pH < 2)												
AS10-500 ml. Amber HD504 (pH < 2)												
AS10-1000 ml. Amber HD504 (pH < 2)												
VOA-40 ml. VOA HD (N/A)												
V100-40 ml. VOA HD504 (N/A)												
V100-40 ml. VOA HD (N/A)												
VOA-40 ml. VOA HD504 (N/A)												
V100 (3 vials per 100-500) (N/A)												
V100 (2 vials per 100-500) (N/A)												
SP17-125 ml. Sterile Plastic (N/A - 100)												
SP17-250 ml. Sterile Plastic (N/A - 100)												
GN												
BP10-250 ml. Plastic (pH-10) (C-1)												
AS10-125 ml. Amber Unpreserved vials (N/A)												
V100-40 ml. Sterilization vials (N/A)												
AS10-40 ml. Amber Unpreserved vials (N/A)												

pH Adjustment Log for Preserved Samples

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

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

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Sample ID	Collection Date	Special	Quantity	Matrix	PARAMETER ANALYSIS & METHOD										REMARKS		
					TOTAL METALS	DISSOLVE METALS	ALUMINUM	CO ₂ / NO ₂ / NH ₃	SULFIDE	NO ₂ / NH ₃ / NH ₄	BATHOPHOSPHATE	K ₂ T	TBC	BOB		TDS	
METALS W/TOB ACCUOL	9/9-4/5-22 BY				1	1	1	1	1	1	1	1	1	1	1	1	
SYAO W/NOY P/NOX B/NO					1	1	1	1	1	1	1	1	1	1	1	1	
ROXINER NC 37603	WALTON.WEST@ARCADIS.COM				1	1	1	1	1	1	1	1	1	1	1	1	
METALS FOR LEAD	JAN5A19S.00006				1	1	1	1	1	1	1	1	1	1	1	1	
VAP-14-W(17-19)	3/20/12/15				X	W	1	1	1	1	1	1	1	1	1	1	001
AUG01-W(16/22/201)	11				X	W	1	1	1	1	1	1	1	1	1	1	002
MS/MSD-W(17-15)	11				X	W	2	2	2	2	2	2	2	2	2	2	VAP-N-W(17-19) 001

Special Instructions: METALS AT 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
 Disused metals are field filling
 * TOB are OUTGROWN AT HOME BY HAW TAT

Special Order (underlined)

Order Category: <input type="checkbox"/> Other <input type="checkbox"/> New Order	Order Number: <input type="checkbox"/> New Order	Order Date: <input type="checkbox"/> New Order	Order Status: <input type="checkbox"/> New Order
Customer Name: <input type="checkbox"/> New Order	Customer Address: <input type="checkbox"/> New Order	Customer Phone: <input type="checkbox"/> New Order	Customer Email: <input type="checkbox"/> New Order
Order Comments: <input type="checkbox"/> New Order	Order Notes: <input type="checkbox"/> New Order	Order Remarks: <input type="checkbox"/> New Order	Order Signature: <input type="checkbox"/> New Order



March 11, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: McManus 30050105.0006
Pace Project No.: 92524618

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: McManus 30050105.0006

Pace Project No.: 92524618

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: McManus 30050105.0006
Pace Project No.: 92524618

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524618001	VAP-15-W (15-17)	Water	02/26/21 14:34	02/27/21 12:45
92524618002	VAP-15-W (20-22)	Water	02/26/21 14:45	02/27/21 12:45
92524618003	VAP-15-W (26-28)	Water	02/26/21 15:10	02/27/21 12:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: McManus 30050105.0006
 Pace Project No.: 92524618

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524618001	VAP-15-W (15-17)	EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	MJP	1
92524618002	VAP-15-W (20-22)	EPA 9060A	JLH	5
		EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
92524618003	VAP-15-W (26-28)	SM 4500-P E-2011	MJP	1
		EPA 9060A	JLH	5
		EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
EPA 300.0 Rev 2.1 1993	JLH	4		
SM 4500-P E-2011	MJP	1		
EPA 9060A	JLH	5		

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus 30050105.0006

Pace Project No.: 92524618

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524618001	VAP-15-W (15-17)					
EPA 6010D	Calcium	183	mg/L	1.0	03/02/21 06:24	
EPA 6010D	Iron	0.51	mg/L	0.50	03/02/21 06:24	
EPA 6010D	Magnesium	496	mg/L	1.0	03/02/21 06:24	
EPA 6010D	Manganese	0.20	mg/L	0.050	03/02/21 06:24	
EPA 6010D	Potassium	150	mg/L	50.0	03/02/21 06:24	
EPA 6010D	Sodium	4480	mg/L	500	03/02/21 16:28	
EPA 6010D	Calcium, Dissolved	174	mg/L	1.0	03/04/21 03:39	
EPA 6010D	Magnesium, Dissolved	459	mg/L	1.0	03/04/21 03:39	
EPA 6010D	Manganese, Dissolved	0.19	mg/L	0.050	03/04/21 03:39	
EPA 6010D	Potassium, Dissolved	140	mg/L	50.0	03/04/21 03:39	
EPA 6010D	Sodium, Dissolved	4210	mg/L	500	03/02/21 17:14	
EPA 6020B	Arsenic	0.018J	mg/L	0.10	03/01/21 17:09	D3
EPA 6020B	Boron	1.3J	mg/L	5.0	03/01/21 17:09	D3
EPA 6020B	Arsenic, Dissolved	0.0095J	mg/L	0.10	03/01/21 15:06	D3
EPA 6020B	Boron, Dissolved	1.7J	mg/L	5.0	03/01/21 15:06	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	298	mg/L	5.0	03/01/21 20:20	
SM 2320B-2011	Alkalinity, Total as CaCO3	298	mg/L	5.0	03/01/21 20:20	
SM 2540C-2011	Total Dissolved Solids	16300	mg/L	2500	03/01/21 19:03	
SM 4500-S2D-2011	Sulfide	38.3	mg/L	10.0	03/02/21 17:40	
SM 5210B-2011	BOD, 5 day	19000	mg/L	2.0	03/05/21 05:30	R6
EPA 300.0 Rev 2.1 1993	Chloride	7190	mg/L	100	02/27/21 17:56	
EPA 300.0 Rev 2.1 1993	Sulfate	855	mg/L	100	02/27/21 17:56	
SM 4500-P E-2011	Orthophosphate as P	1.1	mg/L	0.25	02/27/21 16:11	
EPA 9060A	Total Organic Carbon	11.4	mg/L	1.0	03/02/21 05:40	
EPA 9060A	Total Organic Carbon	11.5	mg/L	1.0	03/02/21 05:40	
EPA 9060A	Total Organic Carbon	11.8	mg/L	1.0	03/02/21 05:40	
EPA 9060A	Total Organic Carbon	11.8	mg/L	1.0	03/02/21 05:40	
EPA 9060A	Mean Total Organic Carbon	11.6	mg/L	1.0	03/02/21 05:40	
92524618002	VAP-15-W (20-22)					
EPA 6010D	Calcium	259	mg/L	1.0	03/02/21 06:27	
EPA 6010D	Iron	2.6	mg/L	0.50	03/02/21 06:27	
EPA 6010D	Magnesium	606	mg/L	1.0	03/02/21 06:27	
EPA 6010D	Manganese	0.32	mg/L	0.050	03/02/21 06:27	
EPA 6010D	Potassium	164	mg/L	50.0	03/02/21 06:27	
EPA 6010D	Sodium	4300	mg/L	500	03/02/21 16:32	
EPA 6010D	Calcium, Dissolved	244	mg/L	1.0	03/04/21 03:43	
EPA 6010D	Magnesium, Dissolved	572	mg/L	1.0	03/04/21 03:43	
EPA 6010D	Manganese, Dissolved	0.29	mg/L	0.050	03/04/21 03:43	
EPA 6010D	Potassium, Dissolved	151	mg/L	50.0	03/04/21 03:43	
EPA 6010D	Sodium, Dissolved	4040	mg/L	500	03/02/21 17:17	
EPA 6020B	Boron	1.2J	mg/L	5.0	03/01/21 17:13	D3
EPA 6020B	Boron, Dissolved	1.3J	mg/L	5.0	03/01/21 15:11	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	525	mg/L	5.0	03/01/21 20:29	
SM 2320B-2011	Alkalinity, Total as CaCO3	525	mg/L	5.0	03/01/21 20:29	
SM 2540C-2011	Total Dissolved Solids	16300	mg/L	2500	03/01/21 19:03	
SM 4500-S2D-2011	Sulfide	60.9	mg/L	10.0	03/02/21 17:40	
SM 5210B-2011	BOD, 5 day	364	mg/L	2.0	03/05/21 05:34	R6

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus 30050105.0006

Pace Project No.: 92524618

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524618002	VAP-15-W (20-22)					
EPA 300.0 Rev 2.1 1993	Chloride	7130	mg/L	100	02/27/21 18:24	
EPA 300.0 Rev 2.1 1993	Sulfate	706	mg/L	100	02/27/21 18:24	
SM 4500-P E-2011	Orthophosphate as P	0.48	mg/L	0.25	02/27/21 16:12	
EPA 9060A	Total Organic Carbon	9.4	mg/L	1.0	03/02/21 05:59	
EPA 9060A	Total Organic Carbon	9.3	mg/L	1.0	03/02/21 05:59	
EPA 9060A	Total Organic Carbon	9.5	mg/L	1.0	03/02/21 05:59	
EPA 9060A	Total Organic Carbon	9.6	mg/L	1.0	03/02/21 05:59	
EPA 9060A	Mean Total Organic Carbon	9.5	mg/L	1.0	03/02/21 05:59	
92524618003	VAP-15-W (26-28)					
EPA 6010D	Calcium	199	mg/L	1.0	03/02/21 06:31	
EPA 6010D	Iron	1.5	mg/L	0.50	03/02/21 06:31	
EPA 6010D	Magnesium	386	mg/L	1.0	03/02/21 06:31	
EPA 6010D	Manganese	0.22	mg/L	0.050	03/02/21 06:31	
EPA 6010D	Potassium	116	mg/L	50.0	03/02/21 06:31	
EPA 6010D	Sodium	3410	mg/L	500	03/02/21 16:35	
EPA 6010D	Calcium, Dissolved	216	mg/L	1.0	03/04/21 16:42	
EPA 6010D	Magnesium, Dissolved	414	mg/L	1.0	03/04/21 16:42	
EPA 6010D	Manganese, Dissolved	0.23	mg/L	0.050	03/04/21 16:42	
EPA 6010D	Potassium, Dissolved	115	mg/L	50.0	03/04/21 16:42	
EPA 6010D	Sodium, Dissolved	3180	mg/L	500	03/02/21 17:20	
EPA 6020B	Arsenic	0.057J	mg/L	0.10	03/01/21 17:18	D3
EPA 6020B	Boron	1.0J	mg/L	5.0	03/01/21 17:18	D3
EPA 6020B	Arsenic, Dissolved	0.035J	mg/L	0.10	03/01/21 15:15	D3
EPA 6020B	Boron, Dissolved	1.4J	mg/L	5.0	03/01/21 15:15	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	498	mg/L	5.0	03/01/21 20:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	498	mg/L	5.0	03/01/21 20:41	
SM 2540C-2011	Total Dissolved Solids	12400	mg/L	2500	03/01/21 19:03	
SM 4500-S2D-2011	Sulfide	39.7	mg/L	10.0	03/02/21 16:09	
SM 5210B-2011	BOD, 5 day	194	mg/L	2.0	03/05/21 05:38	R6
EPA 300.0 Rev 2.1 1993	Chloride	5630	mg/L	100	02/27/21 18:53	M6
EPA 300.0 Rev 2.1 1993	Sulfate	540	mg/L	100	02/27/21 18:53	M6
SM 4500-P E-2011	Orthophosphate as P	0.63	mg/L	0.25	02/27/21 16:13	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	03/02/21 06:17	
EPA 9060A	Total Organic Carbon	7.3	mg/L	1.0	03/02/21 06:17	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	03/02/21 06:17	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	03/02/21 06:17	
EPA 9060A	Mean Total Organic Carbon	7.4	mg/L	1.0	03/02/21 06:17	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (15-17) **Lab ID: 92524618001** Collected: 02/26/21 14:34 Received: 02/27/21 12:45 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	183	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:24	7440-70-2	
Iron	0.51	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:24	7439-89-6	
Magnesium	496	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:24	7439-95-4	
Manganese	0.20	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:24	7439-96-5	
Potassium	150	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:24	7440-09-7	
Sodium	4480	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:28	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	174	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:39	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:39	7439-89-6	
Magnesium, Dissolved	459	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:39	7439-95-4	
Manganese, Dissolved	0.19	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:39	7439-96-5	
Potassium, Dissolved	140	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:39	7440-09-7	
Sodium, Dissolved	4210	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:14	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.018J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:09	7440-38-2	D3
Boron	1.3J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:09	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.0095J	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:06	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:06	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	298	mg/L	5.0	5.0	1		03/01/21 20:20		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:20		
Alkalinity, Total as CaCO3	298	mg/L	5.0	5.0	1		03/01/21 20:20		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	16300	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	38.3	mg/L	10.0	5.0	100		03/02/21 17:40	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	19000	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:30		R6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (15-17) **Lab ID: 92524618001** Collected: 02/26/21 14:34 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7190	mg/L	100	60.0	100		02/27/21 17:56	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 17:41	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 17:56	14797-65-0	D3
Sulfate	855	mg/L	100	50.0	100		02/27/21 17:56	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.1	mg/L	0.25	0.059	5		02/27/21 16:11		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	11.4	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Total Organic Carbon	11.5	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Total Organic Carbon	11.8	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Total Organic Carbon	11.8	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	
Mean Total Organic Carbon	11.6	mg/L	1.0	0.50	1		03/02/21 05:40	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (20-22)	Lab ID: 92524618002	Collected: 02/26/21 14:45	Received: 02/27/21 12:45	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	259	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:27	7440-70-2	
Iron	2.6	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:27	7439-89-6	
Magnesium	606	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:27	7439-95-4	
Manganese	0.32	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:27	7439-96-5	
Potassium	164	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:27	7440-09-7	
Sodium	4300	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:32	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	244	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:43	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:43	7439-89-6	
Magnesium, Dissolved	572	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:43	7439-95-4	
Manganese, Dissolved	0.29	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:43	7439-96-5	
Potassium, Dissolved	151	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:43	7440-09-7	
Sodium, Dissolved	4040	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:17	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:13	7440-38-2	D3
Boron	1.2J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:13	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:11	7440-38-2	D3
Boron, Dissolved	1.3J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:11	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	525	mg/L	5.0	5.0	1		03/01/21 20:29		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:29		
Alkalinity, Total as CaCO3	525	mg/L	5.0	5.0	1		03/01/21 20:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	16300	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	60.9	mg/L	10.0	5.0	100		03/02/21 17:40	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	364	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:34		R6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (20-22) **Lab ID: 92524618002** Collected: 02/26/21 14:45 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7130	mg/L	100	60.0	100		02/27/21 18:24	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 18:10	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 18:24	14797-65-0	D3
Sulfate	706	mg/L	100	50.0	100		02/27/21 18:24	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.48	mg/L	0.25	0.059	5		02/27/21 16:12		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	9.4	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Total Organic Carbon	9.3	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Total Organic Carbon	9.5	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Total Organic Carbon	9.6	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	
Mean Total Organic Carbon	9.5	mg/L	1.0	0.50	1		03/02/21 05:59	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (26-28) **Lab ID: 92524618003** Collected: 02/26/21 15:10 Received: 02/27/21 12:45 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	199	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:31	7440-70-2	
Iron	1.5	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:31	7439-89-6	
Magnesium	386	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:31	7439-95-4	
Manganese	0.22	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:31	7439-96-5	
Potassium	116	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:31	7440-09-7	
Sodium	3410	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:35	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	216	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 16:42	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 16:42	7439-89-6	
Magnesium, Dissolved	414	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 16:42	7439-95-4	
Manganese, Dissolved	0.23	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 16:42	7439-96-5	
Potassium, Dissolved	115	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 16:42	7440-09-7	
Sodium, Dissolved	3180	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:20	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.057J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:18	7440-38-2	D3
Boron	1.0J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:18	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.035J	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:15	7440-38-2	D3
Boron, Dissolved	1.4J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:15	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	498	mg/L	5.0	5.0	1		03/01/21 20:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:41		
Alkalinity, Total as CaCO3	498	mg/L	5.0	5.0	1		03/01/21 20:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	12400	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	39.7	mg/L	10.0	5.0	100		03/02/21 16:09	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	194	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:38		R6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: McManus 30050105.0006

Pace Project No.: 92524618

Sample: VAP-15-W (26-28) **Lab ID: 92524618003** Collected: 02/26/21 15:10 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5630	mg/L	100	60.0	100		02/27/21 18:53	16887-00-6	M6
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 18:39	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 18:53	14797-65-0	D3,M6
Sulfate	540	mg/L	100	50.0	100		02/27/21 18:53	14808-79-8	M6
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.63	mg/L	0.25	0.059	5		02/27/21 16:13		
Total Organic Carbon,Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	
Mean Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 06:17	7440-44-0	

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QUALITY CONTROL DATA

Project: McManus 30050105.0006

Pace Project No.: 92524618

QC Batch:	603201	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3178184 Matrix: Water

Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/02/21 15:53	
Iron	mg/L	ND	0.050	0.042	03/02/21 15:53	
Magnesium	mg/L	ND	0.10	0.068	03/02/21 05:02	
Manganese	mg/L	ND	0.0050	0.0034	03/02/21 15:53	
Potassium	mg/L	ND	5.0	3.0	03/02/21 15:53	
Sodium	mg/L	ND	5.0	0.61	03/02/21 15:53	

LABORATORY CONTROL SAMPLE: 3178185

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.2	104	80-120	
Iron	mg/L	5	5.2	104	80-120	
Magnesium	mg/L	5	5.3	107	80-120	
Manganese	mg/L	0.5	0.54	107	80-120	
Potassium	mg/L	5	5.4	109	80-120	
Sodium	mg/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178186 3178187

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Calcium	mg/L	111	5	5	107	124	-68	270	75-125	15	20 M6
Iron	mg/L	3.1	5	5	5.1	5.9	39	55	75-125	15	20 M6
Magnesium	mg/L	282	5	5	298	308	320	524	75-125	3	20 M6
Manganese	mg/L	0.11	0.5	0.5	0.52	0.59	82	97	75-125	14	20
Potassium	mg/L	101	5	5	98.6	113	-42	240	75-125	13	20 M6
Sodium	mg/L	2970	5	5	3010	3070	780	2060	75-125	2	20 M6

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QUALITY CONTROL DATA

Project: McManus 30050105.0006

Pace Project No.: 92524618

QC Batch:	603568	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET Filtered Diss.
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3179709 Matrix: Water

Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/04/21 03:23	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/04/21 03:23	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/04/21 03:23	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/04/21 03:23	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/04/21 03:23	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/04/21 03:23	

LABORATORY CONTROL SAMPLE: 3179710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.8	95	80-120	
Iron, Dissolved	mg/L	5	4.7	94	80-120	
Magnesium, Dissolved	mg/L	5	5.1	103	80-120	
Manganese, Dissolved	mg/L	0.5	0.49	98	80-120	
Potassium, Dissolved	mg/L	5	4.9J	99	80-120	
Sodium, Dissolved	mg/L	5	4.8J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179711 3179712

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92524617002 Result	Spike Conc.	Spike Conc.	Result							Result
Calcium, Dissolved	mg/L	222	5	5	213	228	-186	112	75-125	7	20	M6
Iron, Dissolved	mg/L	ND	5	5	4.4	4.7	85	92	75-125	7	20	
Magnesium, Dissolved	mg/L	643	5	5	616	638	-528	-106	75-125	3	20	M6
Manganese, Dissolved	mg/L	0.32	0.5	0.5	0.75	0.80	86	96	75-125	6	20	
Potassium, Dissolved	mg/L	164	5	5	160	172	-80	144	75-125	7	20	M6
Sodium, Dissolved	mg/L	5070	5	5	4870	4940	-3960	-2600	75-125	1	20	M6

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QUALITY CONTROL DATA

Project: McManus 30050105.0006

Pace Project No.: 92524618

QC Batch: 603195 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3178129 Matrix: Water

Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/01/21 16:13	
Boron	mg/L	ND	0.050	0.0085	03/01/21 16:13	

LABORATORY CONTROL SAMPLE: 3178130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	102	80-120	
Boron	mg/L	0.05	0.048J	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178131 3178132

Parameter	Units	92524617001		3178131		3178132		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Arsenic	mg/L	0.0092J	0.01	0.01	0.023J	0.016J	134	68	75-125	20	M6
Boron	mg/L	ND	0.05	0.05	0.92J	ND	174	-102	75-125	20	M6

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QUALITY CONTROL DATA

Project: McManus 30050105.0006
 Pace Project No.: 92524618

QC Batch: 603157 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3177984 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0010	0.000087	03/01/21 14:17	
Boron, Dissolved	mg/L	ND	0.050	0.0085	03/01/21 14:17	

LABORATORY CONTROL SAMPLE: 3177985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0096	96	80-120	
Boron, Dissolved	mg/L	0.05	0.044J	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177986 3177987

Parameter	Units	92524617001		3177987		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Arsenic, Dissolved	mg/L	ND	0.01	0.01	0.012J	0.010J	62	49	75-125		20	M6	
Boron, Dissolved	mg/L	1.2J	0.05	0.05	1.1J	1.1J	-179	-141	75-125		20	M6	

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QUALITY CONTROL DATA

Project: McManus 30050105.0006
 Pace Project No.: 92524618

QC Batch: 603230 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3178334 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	

LABORATORY CONTROL SAMPLE: 3178335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178336 3178337

Parameter	Units	92524425001		3178336		3178337		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Alkalinity, Total as CaCO3	mg/L	212	50	50	256	258	88	93	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178340 3178341

Parameter	Units	92524458002		3178340		3178341		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Alkalinity, Total as CaCO3	mg/L	309	50	50	363	360	108	101	80-120	1	25

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QUALITY CONTROL DATA

Project: McManus 30050105.0006
 Pace Project No.: 92524618

QC Batch: 603382 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: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3179110 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/01/21 19:02	

LABORATORY CONTROL SAMPLE: 3179111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	266	106	90-110	

SAMPLE DUPLICATE: 3179112

Parameter	Units	92524617001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10700	10600	1	25	

SAMPLE DUPLICATE: 3179113

Parameter	Units	92523800006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	285	275	4	25	

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QUALITY CONTROL DATA

Project: McManus 30050105.0006
 Pace Project No.: 92524618

QC Batch: 603512 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: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3179455 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	03/02/21 15:50	

LABORATORY CONTROL SAMPLE: 3179456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.42	84	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179457 3179458

Parameter	Units	3179457		3179458		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92524530002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Sulfide	mg/L	ND	0.5	0.5	0.52	0.52	104	104	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179459 3179460

Parameter	Units	3179459		3179460		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		35614611001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Sulfide	mg/L	0.40	0.5	0.5	0.91	0.91	101	102	80-120	0	10	

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QUALITY CONTROL DATA

Project: McManus 30050105.0006
 Pace Project No.: 92524618

QC Batch: 603132 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: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3177918 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/05/21 03:03	

LABORATORY CONTROL SAMPLE: 3177920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	84.6-115	

SAMPLE DUPLICATE: 3177921

Parameter	Units	92524407001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	222	210	6	25	

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QUALITY CONTROL DATA

Project: McManus 30050105.0006

Pace Project No.: 92524618

QC Batch:	603129	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3177904 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/27/21 14:48	
Nitrate as N	mg/L	ND	0.10	0.060	02/27/21 14:48	
Nitrite as N	mg/L	ND	0.10	0.050	02/27/21 14:48	
Sulfate	mg/L	ND	1.0	0.50	02/27/21 14:48	

LABORATORY CONTROL SAMPLE: 3177905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.7	97	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	50	49.4	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177906 3177907

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524618003 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	5630	50	50	5540	5580	-180	-100	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.5	2.5	98	99	90-110	1	10
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	48	52	90-110		10 D3,M6
Sulfate	mg/L	540	50	50	576	581	72	82	90-110	1	10 M6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McManus 30050105.0006
 Pace Project No.: 92524618

QC Batch: 603131 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: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3177914 Matrix: Water
 Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/27/21 16:06	

LABORATORY CONTROL SAMPLE & LCSD: 3177915 3177916

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Orthophosphate as P	mg/L	0.25	0.25	0.25	99	99	49-145	0	10	

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QUALITY CONTROL DATA

Project: McManus 30050105.0006

Pace Project No.: 92524618

QC Batch: 603153 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524618001, 92524618002, 92524618003

METHOD BLANK: 3177969 Matrix: Water

Associated Lab Samples: 92524618001, 92524618002, 92524618003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	

LABORATORY CONTROL SAMPLE: 3177970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.9	100	75-125	
Total Organic Carbon	mg/L	25	23.2	93	75-125	
Total Organic Carbon	mg/L	25	24.4	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177971 3177972

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523998001 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	264	25	25	285	280	81	60	75-125	2	25	M6	
Total Organic Carbon	mg/L	261	25	25	283	278	90	71	75-125	2	25	M6	
Total Organic Carbon	mg/L	271	25	25	289	282	71	44	75-125	2	25	M6	
Total Organic Carbon	mg/L	258	25	25	280	276	87	74	75-125	1	25	M6	
Total Organic Carbon	mg/L	268	25	25	287	282	76	52	75-125	2	25	M6	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177973 3177974

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	9.3	25	25	34.9	34.8	102	102	75-125	0	25		
Total Organic Carbon	mg/L	9.1	25	25	34.7	34.8	102	103	75-125	0	25		
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.8	102	102	75-125	0	25		
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.5	102	101	75-125	1	25		
Total Organic Carbon	mg/L	9.4	25	25	34.9	35.0	102	103	75-125	0	25		

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: McManus 30050105.0006

Pace Project No.: 92524618

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.

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

R6 The RPD between valid sample dilutions exceeded 30%.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McManus 30050105.0006

Pace Project No.: 92524618

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524618001	VAP-15-W (15-17)	EPA 3010A	603201	EPA 6010D	603275
92524618002	VAP-15-W (20-22)	EPA 3010A	603201	EPA 6010D	603275
92524618003	VAP-15-W (26-28)	EPA 3010A	603201	EPA 6010D	603275
92524618001	VAP-15-W (15-17)	EPA 3010A	603568	EPA 6010D	603578
92524618002	VAP-15-W (20-22)	EPA 3010A	603568	EPA 6010D	603578
92524618003	VAP-15-W (26-28)	EPA 3010A	603568	EPA 6010D	603578
92524618001	VAP-15-W (15-17)	EPA 3010A	603195	EPA 6020B	603270
92524618002	VAP-15-W (20-22)	EPA 3010A	603195	EPA 6020B	603270
92524618003	VAP-15-W (26-28)	EPA 3010A	603195	EPA 6020B	603270
92524618001	VAP-15-W (15-17)	EPA 3010A	603157	EPA 6020B	603159
92524618002	VAP-15-W (20-22)	EPA 3010A	603157	EPA 6020B	603159
92524618003	VAP-15-W (26-28)	EPA 3010A	603157	EPA 6020B	603159
92524618001	VAP-15-W (15-17)	SM 2320B-2011	603230		
92524618002	VAP-15-W (20-22)	SM 2320B-2011	603230		
92524618003	VAP-15-W (26-28)	SM 2320B-2011	603230		
92524618001	VAP-15-W (15-17)	SM 2540C-2011	603382		
92524618002	VAP-15-W (20-22)	SM 2540C-2011	603382		
92524618003	VAP-15-W (26-28)	SM 2540C-2011	603382		
92524618001	VAP-15-W (15-17)	SM 4500-S2D-2011	603512		
92524618002	VAP-15-W (20-22)	SM 4500-S2D-2011	603512		
92524618003	VAP-15-W (26-28)	SM 4500-S2D-2011	603512		
92524618001	VAP-15-W (15-17)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524618002	VAP-15-W (20-22)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524618003	VAP-15-W (26-28)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524618001	VAP-15-W (15-17)	EPA 300.0 Rev 2.1 1993	603129		
92524618002	VAP-15-W (20-22)	EPA 300.0 Rev 2.1 1993	603129		
92524618003	VAP-15-W (26-28)	EPA 300.0 Rev 2.1 1993	603129		
92524618001	VAP-15-W (15-17)	SM 4500-P E-2011	603131		
92524618002	VAP-15-W (20-22)	SM 4500-P E-2011	603131		
92524618003	VAP-15-W (26-28)	SM 4500-P E-2011	603131		
92524618001	VAP-15-W (15-17)	EPA 9060A	603153		
92524618002	VAP-15-W (20-22)	EPA 9060A	603153		
92524618003	VAP-15-W (26-28)	EPA 9060A	603153		

REPORT OF LABORATORY ANALYSIS

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Job Name: **M477-00000**
 Location: **Area 370**
 Date: **9-19-05-2284**
 Client: **30050105.0000h**
 Project: **30050105.0000h**

Parameter	Method	Frequency	Unit	Notes
TOTAL METALS	C	1		
DISSOLVED METALS	C	1		
ALKALINITY	C	1		
CHLORIDE	C	1		
SULFIDE	C	1		
AMMONIA	C	1		
PHOSPHATE	C	1		
TOC	C	1		
BOD	C	1		
TDS	C	1		

Sample ID	Collection Date	Type	Notes
WAP-15-W (15-10)	9/20/05	W	
WAP-15-W (15-23)	9/20/05	W	
WAP-15-W (15-28)	9/20/05	W	

Sample ID	Method	Frequency	Unit	Notes
WAP-15-W (15-10)	C	1		
WAP-15-W (15-23)	C	1		
WAP-15-W (15-28)	C	1		

PREPARATION BY: [Signature]
KEYS:
 1. 45 ml Vial
 2. 1 L Bottle
 3. 200 ml Bottle
 4. 500 ml Bottle
 5. 1000 ml Bottle
 6. Other: **Asst/Pls**
 7. Other: **Asst/Pls**
 8. Other: **Asst/Pls**
 9. Other: **Asst/Pls**
 10. Other: **Asst/Pls**
 11. Other: **Asst/Pls**
 12. Other: **Asst/Pls**
 13. Other: **Asst/Pls**
 14. Other: **Asst/Pls**
 15. Other: **Asst/Pls**

Sample ID	Collection Date	Type	Notes	Method	Frequency	Unit	Notes
WAP-15-W (15-10)	9/20/05	W		C	1		
WAP-15-W (15-23)	9/20/05	W		C	1		
WAP-15-W (15-28)	9/20/05	W		C	1		

Special Instructions: **Metal: As, Fe, Mn, Mg, Co, Ni, K, O**
Disturbance: **Disturbance metals are field blank**
Total/Disurbed As are to be analyzed on 24 TAT

Prepared By: [Signature]
Received By: [Signature]
Method: **ANVA**
Frequency: **1/30**
Unit: **1/30**

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name: Accadis Project #:

Courier: FedEx UPS USPS Client
 Commercial Pace Other: _____

Name/Initials Person Examining Contents: M/AR AR

Custody Seal Present? Yes No Seal Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer: IR Gun ID: 93-7071 Type of Ice: Dry Blue Pure

Biological Tissue Present? Yes No N/A

Cooler Temp: 4.4 Correction Factor: Add/Subtract (°C) 0
 Cooler Temp Corrected (°C): 4.4

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 map)?
 Yes No

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

		Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Short Hold Time Analysis (<72 hr.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Correct Containers Used? -Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Dissolved analysis: Samples Field Filtered?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>Dissolved Metals</u>
Sample Labels Match CDC? -Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Headspace in VOA Vials (>1.5mL)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10.
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	

COMMENTS/SAMPLE DISCREPANCY Field Data Required? Yes No

_____ Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRP Review: _____ Date: _____



Document Name:
Sample Condition Upon Receipt (SCUR)

Document No.:
F-CAR-03-003 Rev.07

Document Revised: October 18, 2020
Page 2 of 2

Issuing Authority:
Pace Analytical Quality Office

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

Project #

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRG/8015 (water) DPC, 11Hg

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

Brand	BP00-125 ml, Plastic Unpreserved (N/A) (C1)	BP00-250 ml, Plastic Unpreserved (N/A)	BP00-500 ml, Plastic Unpreserved (N/A)	BP00-1 liter Plastic Unpreserved (N/A)	BP00-125 ml, Plastic HDPE (pre + 2) (C1)	BP00-250 ml, Plastic HDPE (pre + 2)	BP00-125 ml, Plastic 26 Acetate B. Wash (D9)	BP00-125 ml, Plastic Wash (pre + 2) (C1)	W000-Wide-mouthed Glass Jar Unpreserved	AG10-1 liter Amber Unpreserved (N/A) (D-1)	AG10-1 liter Amber HD (pre + 2)	AG00-250 ml, Amber Unpreserved (N/A) (D-1)	AG10-1 liter Amber HDPE (pre + 2)	AG00-250 ml, Amber v2004 (pre + 2)	AG0000(M)-250 ml, Amber v2004 (N/A)(D-1)	D000-50 ml, VOA HD (N/A)	V00T-50 ml, VOA Wash (N/A)	V00Y-50 ml, VOA Log (N/A)	D00P-50 ml, VOA (BP04) (N/A)	V00A (5 vials per bag) 500 ml (N/A)	V00B (3 vials per bag) 175ml/150 ml (N/A)	SP0T-225 ml, Sorbic Plastic (N/A - 66)	SP0T-250 ml, Sorbic Plastic (N/A - 66)	
1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
6	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
7	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
8	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
9	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
10	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
12	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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



March 05, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS 30050105.00006
Pace Project No.: 92524458

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 26, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

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: MCMANUS 30050105.00006
Pace Project No.: 92524458

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524458001	VAP-26-W (8-10)	Water	02/24/21 16:45	02/26/21 11:10
92524458002	VAP-26-W (26-28)	Water	02/25/21 07:05	02/26/21 11:10
92524458003	VAP-DUP02-W (2-25-21)	Water	02/25/21 00:00	02/26/21 11:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Lab ID	Sample ID	Method	Analysts	Analytes Reported		
92524458001	VAP-26-W (8-10)	EPA 6010D	DS, KQ	6		
		EPA 6010D	KQ, SH1	6		
		EPA 6020B	JOR	2		
		EPA 6020B	BG2	2		
		SM 2320B-2011	ECH	3		
		SM 2540C-2011	RED	1		
		SM 4500-S2D-2011	NAL	1		
		SM 5210B-2011	NFW	1		
		EPA 300.0 Rev 2.1 1993	JLH	4		
		SM 4500-P E-2011	JP1	1		
		EPA 9060A	JLH	5		
		92524458002	VAP-26-W (26-28)	EPA 6010D	KQ	6
				EPA 6010D	KQ	6
EPA 6020B	JOR			2		
EPA 6020B	BG2			2		
SM 2320B-2011	ECH			3		
SM 2540C-2011	RED			1		
SM 4500-S2D-2011	NAL			1		
SM 5210B-2011	NFW			1		
EPA 300.0 Rev 2.1 1993	JLH			4		
SM 4500-P E-2011	JP1			1		
EPA 9060A	JLH			5		
92524458003	VAP-DUP02-W (2-25-21)			EPA 6010D	KQ	6
				EPA 6010D	KQ, SH1	6
		EPA 6020B	BG2	2		
		EPA 6020B	BG2	2		
		SM 2320B-2011	ECH	3		
		SM 2540C-2011	RED	1		
		SM 4500-S2D-2011	NAL	1		
		SM 5210B-2011	NFW	1		
		EPA 300.0 Rev 2.1 1993	JLH	4		
		SM 4500-P E-2011	JP1	1		
		EPA 9060A	JLH	5		

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524458001	VAP-26-W (8-10)					
EPA 6010D	Calcium	222	mg/L	1.0	02/27/21 20:09	
EPA 6010D	Iron	3.0	mg/L	0.50	02/27/21 20:09	
EPA 6010D	Magnesium	671	mg/L	1.0	02/27/21 20:09	
EPA 6010D	Manganese	0.12	mg/L	0.050	02/27/21 20:09	
EPA 6010D	Potassium	175	mg/L	50.0	02/27/21 20:09	
EPA 6010D	Sodium	5140	mg/L	500	03/01/21 20:20	
EPA 6010D	Calcium, Dissolved	218	mg/L	1.0	03/01/21 18:26	
EPA 6010D	Iron, Dissolved	2.5	mg/L	0.050	03/01/21 01:44	
EPA 6010D	Magnesium, Dissolved	654	mg/L	1.0	03/01/21 18:26	
EPA 6010D	Manganese, Dissolved	0.098	mg/L	0.0050	03/01/21 01:44	
EPA 6010D	Potassium, Dissolved	172	mg/L	50.0	03/01/21 18:26	
EPA 6010D	Sodium, Dissolved	4360	mg/L	500	03/02/21 18:01	
EPA 6020B	Boron	1.6J	mg/L	2.5	02/28/21 21:51	D3
EPA 6020B	Boron, Dissolved	1.7J	mg/L	5.0	03/01/21 12:51	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	96.2	mg/L	5.0	03/01/21 18:41	
SM 2320B-2011	Alkalinity, Total as CaCO3	96.2	mg/L	5.0	03/01/21 18:41	
SM 2540C-2011	Total Dissolved Solids	18500	mg/L	2500	02/26/21 18:19	MW
EPA 300.0 Rev 2.1 1993	Chloride	8740	mg/L	100	02/26/21 14:48	
EPA 300.0 Rev 2.1 1993	Sulfate	1210	mg/L	100	02/26/21 14:48	
SM 4500-P E-2011	Orthophosphate as P	0.44	mg/L	0.25	02/27/21 04:31	H1
EPA 9060A	Total Organic Carbon	6.3	mg/L	1.0	02/28/21 23:42	
EPA 9060A	Total Organic Carbon	6.1	mg/L	1.0	02/28/21 23:42	
EPA 9060A	Total Organic Carbon	6.2	mg/L	1.0	02/28/21 23:42	
EPA 9060A	Total Organic Carbon	6.1	mg/L	1.0	02/28/21 23:42	
EPA 9060A	Mean Total Organic Carbon	6.2	mg/L	1.0	02/28/21 23:42	
92524458002	VAP-26-W (26-28)					
EPA 6010D	Calcium	23.5	mg/L	1.0	03/01/21 20:23	
EPA 6010D	Iron	1.6	mg/L	0.50	03/01/21 20:23	
EPA 6010D	Magnesium	68.8	mg/L	1.0	03/01/21 20:23	
EPA 6010D	Manganese	0.043J	mg/L	0.050	03/01/21 20:23	
EPA 6010D	Potassium	68.1	mg/L	50.0	03/01/21 20:23	
EPA 6010D	Sodium	656	mg/L	50.0	03/01/21 20:23	M6
EPA 6010D	Calcium, Dissolved	21.0	mg/L	0.10	03/01/21 00:54	
EPA 6010D	Magnesium, Dissolved	57.3	mg/L	0.10	03/01/21 00:54	
EPA 6010D	Manganese, Dissolved	0.036	mg/L	0.0050	03/01/21 00:54	B
EPA 6010D	Potassium, Dissolved	63.8	mg/L	50.0	03/01/21 17:44	M6
EPA 6010D	Sodium, Dissolved	622	mg/L	50.0	03/01/21 17:44	M6
EPA 6020B	Boron	0.81J	mg/L	2.5	02/28/21 21:56	D3,M6
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	309	mg/L	5.0	03/01/21 18:51	
SM 2320B-2011	Alkalinity, Total as CaCO3	309	mg/L	5.0	03/01/21 18:51	
SM 2540C-2011	Total Dissolved Solids	2330	mg/L	250	02/26/21 18:20	
SM 4500-S2D-2011	Sulfide	36.8	mg/L	5.0	03/02/21 16:37	M6
SM 5210B-2011	BOD, 5 day	25.1	mg/L	2.0	03/04/21 01:43	B2
EPA 300.0 Rev 2.1 1993	Chloride	971	mg/L	100	02/26/21 15:16	M6
EPA 300.0 Rev 2.1 1993	Sulfate	4.8	mg/L	1.0	02/26/21 15:02	
SM 4500-P E-2011	Orthophosphate as P	0.85	mg/L	0.25	02/27/21 04:32	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/01/21 00:00	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524458002	VAP-26-W (26-28)					
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/01/21 00:00	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/01/21 00:00	
EPA 9060A	Total Organic Carbon	7.8	mg/L	1.0	03/01/21 00:00	
EPA 9060A	Mean Total Organic Carbon	7.7	mg/L	1.0	03/01/21 00:00	
92524458003	VAP-DUP02-W (2-25-21)					
EPA 6010D	Calcium	23.4	mg/L	1.0	03/01/21 20:43	
EPA 6010D	Iron	2.9	mg/L	0.50	03/01/21 20:43	
EPA 6010D	Magnesium	67.9	mg/L	1.0	03/01/21 20:43	
EPA 6010D	Manganese	0.052	mg/L	0.050	03/01/21 20:43	
EPA 6010D	Potassium	66.8	mg/L	50.0	03/01/21 20:43	
EPA 6010D	Sodium	649	mg/L	50.0	03/01/21 20:43	
EPA 6010D	Calcium, Dissolved	21.4	mg/L	0.10	03/01/21 01:47	
EPA 6010D	Iron, Dissolved	0.24	mg/L	0.050	03/01/21 01:47	
EPA 6010D	Magnesium, Dissolved	59.2	mg/L	0.10	03/01/21 01:47	
EPA 6010D	Manganese, Dissolved	0.031	mg/L	0.0050	03/01/21 01:47	B
EPA 6010D	Potassium, Dissolved	63.8	mg/L	25.0	03/01/21 18:36	
EPA 6010D	Sodium, Dissolved	584	mg/L	500	03/02/21 18:04	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	327	mg/L	5.0	03/01/21 19:19	
SM 2320B-2011	Alkalinity, Total as CaCO3	327	mg/L	5.0	03/01/21 19:19	
SM 2540C-2011	Total Dissolved Solids	2240	mg/L	250	02/26/21 18:20	
SM 4500-S2D-2011	Sulfide	39.5	mg/L	10.0	03/02/21 16:39	
SM 5210B-2011	BOD, 5 day	25.4	mg/L	2.0	03/04/21 01:44	B2,H2
EPA 300.0 Rev 2.1 1993	Chloride	979	mg/L	100	02/26/21 16:11	
EPA 300.0 Rev 2.1 1993	Sulfate	4.7	mg/L	1.0	02/26/21 15:57	
SM 4500-P E-2011	Orthophosphate as P	0.63	mg/L	0.25	02/27/21 04:31	H1
EPA 9060A	Total Organic Carbon	7.2	mg/L	1.0	03/01/21 18:27	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	03/01/21 18:27	
EPA 9060A	Total Organic Carbon	7.5	mg/L	1.0	03/01/21 18:27	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	03/01/21 18:27	
EPA 9060A	Mean Total Organic Carbon	7.4	mg/L	1.0	03/01/21 18:27	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-26-W (8-10) **Lab ID: 92524458001** Collected: 02/24/21 16:45 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	222	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 20:09	7440-70-2	
Iron	3.0	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 20:09	7439-89-6	
Magnesium	671	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 20:09	7439-95-4	
Manganese	0.12	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 20:09	7439-96-5	
Potassium	175	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 20:09	7440-09-7	
Sodium	5140	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 20:20	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	218	mg/L	1.0	0.94	10	02/28/21 16:17	03/01/21 18:26	7440-70-2	
Iron, Dissolved	2.5	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:44	7439-89-6	
Magnesium, Dissolved	654	mg/L	1.0	0.68	10	02/28/21 16:17	03/01/21 18:26	7439-95-4	
Manganese, Dissolved	0.098	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:44	7439-96-5	
Potassium, Dissolved	172	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 18:26	7440-09-7	
Sodium, Dissolved	4360	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 18:01	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:51	7440-38-2	D3
Boron	1.6J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:51	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:51	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:51	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	96.2	mg/L	5.0	5.0	1		03/01/21 18:41		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:41		
Alkalinity, Total as CaCO3	96.2	mg/L	5.0	5.0	1		03/01/21 18:41		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	18500	mg/L	2500	2500	1		02/26/21 18:19		MW
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		03/02/21 16:29	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	02/27/21 04:40	03/04/21 02:26		B2,H2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-26-W (8-10) **Lab ID: 92524458001** Collected: 02/24/21 16:45 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8740	mg/L	100	60.0	100		02/26/21 14:48	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 14:34	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 14:34	14797-65-0	
Sulfate	1210	mg/L	100	50.0	100		02/26/21 14:48	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.44	mg/L	0.25	0.059	5		02/27/21 04:31		H1
Total Organic Carbon,Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.3	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Total Organic Carbon	6.1	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Total Organic Carbon	6.2	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Total Organic Carbon	6.1	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	
Mean Total Organic Carbon	6.2	mg/L	1.0	0.50	1		02/28/21 23:42	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

Sample: VAP-26-W (26-28) Lab ID: 92524458002 Collected: 02/25/21 07:05 Received: 02/26/21 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	23.5	mg/L	1.0	0.94	10	02/27/21 01:37	03/01/21 20:23	7440-70-2	
Iron	1.6	mg/L	0.50	0.42	10	02/27/21 01:37	03/01/21 20:23	7439-89-6	
Magnesium	68.8	mg/L	1.0	0.68	10	02/27/21 01:37	03/01/21 20:23	7439-95-4	
Manganese	0.043J	mg/L	0.050	0.034	10	02/27/21 01:37	03/01/21 20:23	7439-96-5	
Potassium	68.1	mg/L	50.0	30.4	10	02/27/21 01:37	03/01/21 20:23	7440-09-7	
Sodium	656	mg/L	50.0	6.1	10	02/27/21 01:37	03/01/21 20:23	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	21.0	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 00:54	7440-70-2	
Iron, Dissolved	ND	mg/L	0.50	0.42	10	02/28/21 16:17	03/01/21 17:44	7439-89-6	M6, R1
Magnesium, Dissolved	57.3	mg/L	0.10	0.068	1	02/28/21 16:17	03/01/21 00:54	7439-95-4	
Manganese, Dissolved	0.036	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 00:54	7439-96-5	B
Potassium, Dissolved	63.8	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 17:44	7440-09-7	M6
Sodium, Dissolved	622	mg/L	50.0	6.1	10	02/28/21 16:17	03/01/21 17:44	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:56	7440-38-2	D3
Boron	0.81J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:56	7440-42-8	D3, M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:55	7440-38-2	D3, M6
Boron, Dissolved	ND	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:55	7440-42-8	D3, M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	309	mg/L	5.0	5.0	1		03/01/21 18:51		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:51		
Alkalinity, Total as CaCO3	309	mg/L	5.0	5.0	1		03/01/21 18:51		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	2330	mg/L	250	250	1		02/26/21 18:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	36.8	mg/L	5.0	2.5	50		03/02/21 16:37	18496-25-8	M6
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	25.1	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:43		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-26-W (26-28) **Lab ID: 92524458002** Collected: 02/25/21 07:05 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	971	mg/L	100	60.0	100		02/26/21 15:16	16887-00-6	M6
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 15:02	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 15:02	14797-65-0	M1
Sulfate	4.8	mg/L	1.0	0.50	1		02/26/21 15:02	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.85	mg/L	0.25	0.059	5		02/27/21 04:32		
Total Organic Carbon,Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	
Mean Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/01/21 00:00	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

Sample: VAP-DUP02-W (2-25-21) Lab ID: 92524458003 Collected: 02/25/21 00:00 Received: 02/26/21 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	23.4	mg/L	1.0	0.94	10	02/27/21 01:37	03/01/21 20:43	7440-70-2	
Iron	2.9	mg/L	0.50	0.42	10	02/27/21 01:37	03/01/21 20:43	7439-89-6	
Magnesium	67.9	mg/L	1.0	0.68	10	02/27/21 01:37	03/01/21 20:43	7439-95-4	
Manganese	0.052	mg/L	0.050	0.034	10	02/27/21 01:37	03/01/21 20:43	7439-96-5	
Potassium	66.8	mg/L	50.0	30.4	10	02/27/21 01:37	03/01/21 20:43	7440-09-7	
Sodium	649	mg/L	50.0	6.1	10	02/27/21 01:37	03/01/21 20:43	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	21.4	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 01:47	7440-70-2	
Iron, Dissolved	0.24	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:47	7439-89-6	
Magnesium, Dissolved	59.2	mg/L	0.10	0.068	1	02/28/21 16:17	03/01/21 01:47	7439-95-4	
Manganese, Dissolved	0.031	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:47	7439-96-5	B
Potassium, Dissolved	63.8	mg/L	25.0	15.2	5	02/28/21 16:17	03/01/21 18:36	7440-09-7	
Sodium, Dissolved	584	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 18:04	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.10	0.0087	100	02/27/21 01:32	03/01/21 12:14	7440-38-2	D3
Boron	ND	mg/L	5.0	0.85	100	02/27/21 01:32	03/01/21 12:14	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:59	7440-38-2	D3
Boron, Dissolved	ND	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:59	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	327	mg/L	5.0	5.0	1		03/01/21 19:19		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:19		
Alkalinity, Total as CaCO3	327	mg/L	5.0	5.0	1		03/01/21 19:19		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	2240	mg/L	250	250	1		02/26/21 18:20		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	39.5	mg/L	10.0	5.0	100		03/02/21 16:39	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	25.4	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:44		B2, H2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Sample: VAP-DUP02-W (2-25-21) **Lab ID: 92524458003** Collected: 02/25/21 00:00 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	979	mg/L	100	60.0	100		02/26/21 16:11	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 15:57	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 15:57	14797-65-0	
Sulfate	4.7	mg/L	1.0	0.50	1		02/26/21 15:57	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.63	mg/L	0.25	0.059	5		02/27/21 04:31		H1
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	
Mean Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/01/21 18:27	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch: 603057 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177656 Matrix: Water

Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/01/21 19:41	
Iron	mg/L	ND	0.050	0.042	03/01/21 19:41	
Magnesium	mg/L	ND	0.10	0.068	03/01/21 19:41	
Manganese	mg/L	ND	0.0050	0.0034	03/01/21 19:41	
Potassium	mg/L	ND	5.0	3.0	03/01/21 19:41	
Sodium	mg/L	ND	5.0	0.61	03/01/21 19:41	

LABORATORY CONTROL SAMPLE: 3177657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	102	80-120	
Iron	mg/L	5	5.1	102	80-120	
Magnesium	mg/L	5	5.2	105	80-120	
Manganese	mg/L	0.5	0.51	101	80-120	
Potassium	mg/L	5	5.1	102	80-120	
Sodium	mg/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177658 3177659

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		92524458002	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Calcium	mg/L	23.5	5	5	29.1	28.7	111	104	75-125	1	20		
Iron	mg/L	1.6	5	5	6.7	6.6	103	100	75-125	2	20		
Magnesium	mg/L	68.8	5	5	73.3	74.6	90	116	75-125	2	20		
Manganese	mg/L	0.043J	0.5	0.5	0.55	0.55	102	102	75-125	0	20		
Potassium	mg/L	68.1	5	5	72.8	73.0	93	98	75-125	0	20		
Sodium	mg/L	656	5	5	666	661	196	106	75-125	1	20	M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch: 603011 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET Filtered Diss.
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177320 Matrix: Water

Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/02/21 13:07	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/02/21 13:07	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/01/21 17:38	
Manganese, Dissolved	mg/L	0.0047J	0.0050	0.0034	03/01/21 17:38	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/01/21 17:38	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/01/21 17:38	

LABORATORY CONTROL SAMPLE: 3177321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.9	97	80-120	
Iron, Dissolved	mg/L	5	4.9	97	80-120	
Magnesium, Dissolved	mg/L	5	4.9	97	80-120	
Manganese, Dissolved	mg/L	0.5	0.47	94	80-120	
Potassium, Dissolved	mg/L	5	4.8J	95	80-120	
Sodium, Dissolved	mg/L	5	4.8J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177322 3177323

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike Conc.	Result	Spike Conc.	Result							
Calcium, Dissolved	mg/L	21.0	5	5	25.6	25.2	92	86	75-125	1	20	
Iron, Dissolved	mg/L	ND	5	5	7.3	5.1	141	96	75-125	36	20	M6, R1
Magnesium, Dissolved	mg/L	57.3	5	5	62.9	62.8	111	111	75-125	0	20	
Manganese, Dissolved	mg/L	0.036	0.5	0.5	0.45	0.45	83	82	75-125	1	20	
Potassium, Dissolved	mg/L	63.8	5	5	66.1	67.7	47	78	75-125	2	20	M6
Sodium, Dissolved	mg/L	622	5	5	605	616	-350	-120	75-125	2	20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch: 603022 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177388 Matrix: Water

Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/28/21 20:38	
Boron	mg/L	ND	0.025	0.0062	02/28/21 20:38	

LABORATORY CONTROL SAMPLE: 3177389

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	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177390 3177391

Parameter	Units	92524458002		3177391		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Arsenic	mg/L	ND	0.01	0.01	0.0096J	0.010	88	96	75-125	20	
Boron	mg/L	0.81J	0.05	0.05	0.95J	0.83J	277	48	75-125	20 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch: 603012 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177326 Matrix: Water

Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0010	0.000087	03/01/21 11:57	
Boron, Dissolved	mg/L	ND	0.050	0.0085	03/01/21 11:57	

LABORATORY CONTROL SAMPLE: 3177327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0096	96	80-120	
Boron, Dissolved	mg/L	0.05	0.045J	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177328 3177329

Parameter	Units	92524458002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	ND	0.01	0.01	ND	0.0094J	73	91	75-125		20	M6
Boron, Dissolved	mg/L	ND	0.05	0.05	ND	ND	-369	-74	75-125		20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch: 603230 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3178334 Matrix: Water
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	

LABORATORY CONTROL SAMPLE: 3178335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178336 3178337

Parameter	Units	92524425001		3178337		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Alkalinity, Total as CaCO3	mg/L	212	50	256	50	88	93	80-120	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178340 3178341

Parameter	Units	92524458002		3178341		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Alkalinity, Total as CaCO3	mg/L	309	50	363	50	108	101	80-120	1	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

QC Batch: 603013 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: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177334 Matrix: Water
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/26/21 18:18	

LABORATORY CONTROL SAMPLE: 3177335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	248	99	90-110	

SAMPLE DUPLICATE: 3177336

Parameter	Units	92524425001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13900	12500	11	25	

SAMPLE DUPLICATE: 3177597

Parameter	Units	92524458002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2330	2090	11	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

QC Batch: 603514 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: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3179465 Matrix: Water
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	03/02/21 16:23	

LABORATORY CONTROL SAMPLE: 3179466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.44	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179467 3179468

Parameter	Units	92524097006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfide	mg/L	ND	0.5	0.5	0.50	0.50	100	100	80-120	0	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179477 3179478

Parameter	Units	92524458002 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Sulfide	mg/L	36.8	0.5	0.5	34.3	34.4	-501	-483	80-120	0	10	M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch:	603073	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: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177707 Matrix: Water
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/04/21 01:07	

LABORATORY CONTROL SAMPLE: 3177709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	84.6-115	

SAMPLE DUPLICATE: 3177710

Parameter	Units	92524430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	195	189	3	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch:	602986	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177123 Matrix: Water
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/26/21 11:43	
Nitrate as N	mg/L	ND	0.10	0.060	02/26/21 11:43	
Nitrite as N	mg/L	ND	0.10	0.050	02/26/21 11:43	
Sulfate	mg/L	ND	1.0	0.50	02/26/21 11:43	

LABORATORY CONTROL SAMPLE: 3177124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Nitrate as N	mg/L	2.5	2.5	100	90-110	
Nitrite as N	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	51.9	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177125 3177126

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	971	50	50	1010	1040	86	133	90-110	2	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.6	2.6	103	105	90-110	2	10
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M1
Sulfate	mg/L	4.8	50	50	58.0	59.0	106	108	90-110	2	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177127 3177128

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425004	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	2580	50	50	2700	2650	236	141	90-110	2	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.6	2.7	104	106	90-110	2	10
Nitrite as N	mg/L	ND	2.5	2.5	1.6	1.5	65	62	90-110	5	10 M1
Sulfate	mg/L	384	50	50	473	464	177	160	90-110	2	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524458

QC Batch: 603072 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: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177701 Matrix: Water
 Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/27/21 04:29	

LABORATORY CONTROL SAMPLE: 3177702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.26	103	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177703 3177704

Parameter	Units	92524458002		3177703		3177704		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Result	MSD Result	MS Result	MSD Result				
Orthophosphate as P	mg/L	0.85	1.2	1.2	2.2	2.2	105	105	90-110	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177705 3177706

Parameter	Units	92524425004		3177705		3177706		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Result	MSD Result	MS Result	MSD Result				
Orthophosphate as P	mg/L	0.33	1.2	1.2	1.5	1.5	97	97	90-110	0	10 H1

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

QC Batch: 603152 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524458001, 92524458002, 92524458003

METHOD BLANK: 3177963 Matrix: Water

Associated Lab Samples: 92524458001, 92524458002, 92524458003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	

LABORATORY CONTROL SAMPLE: 3177964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.7	99	75-125	
Total Organic Carbon	mg/L	25	23.7	95	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177965 3177966

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523018011 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	1.0	25	25	25	26.0	26.3	100	101	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.0	26.5	100	102	75-125	2	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.3	26.5	102	103	75-125	1	25	
Total Organic Carbon	mg/L	1.6	25	25	25	25.8	25.6	97	96	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.0	26.5	101	103	75-125	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177967 3177968

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	7.7	25	25	25	32.6	33.1	100	102	75-125	2	25	
Total Organic Carbon	mg/L	7.7	25	25	25	32.8	33.2	100	102	75-125	1	25	
Total Organic Carbon	mg/L	7.8	25	25	25	33.1	33.1	101	101	75-125	0	25	
Total Organic Carbon	mg/L	7.7	25	25	25	31.6	33.0	96	101	75-125	4	25	
Total Organic Carbon	mg/L	7.7	25	25	25	33.0	33.3	101	103	75-125	1	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS 30050105.00006
Pace Project No.: 92524458

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
TNTC - Too Numerous To Count
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.
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.
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.
H2 Extraction or preparation conducted outside EPA method holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
MW Due to matrix interference, achieving a constant weight is not possible.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006

Pace Project No.: 92524458

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524458001	VAP-26-W (8-10)	EPA 3010A	603057	EPA 6010D	603096
92524458002	VAP-26-W (26-28)	EPA 3010A	603057	EPA 6010D	603096
92524458003	VAP-DUP02-W (2-25-21)	EPA 3010A	603057	EPA 6010D	603096
92524458001	VAP-26-W (8-10)	EPA 3010A	603011	EPA 6010D	603155
92524458002	VAP-26-W (26-28)	EPA 3010A	603011	EPA 6010D	603155
92524458003	VAP-DUP02-W (2-25-21)	EPA 3010A	603011	EPA 6010D	603155
92524458001	VAP-26-W (8-10)	EPA 3010A	603022	EPA 6020B	603097
92524458002	VAP-26-W (26-28)	EPA 3010A	603022	EPA 6020B	603097
92524458003	VAP-DUP02-W (2-25-21)	EPA 3010A	603022	EPA 6020B	603097
92524458001	VAP-26-W (8-10)	EPA 3010A	603012	EPA 6020B	603156
92524458002	VAP-26-W (26-28)	EPA 3010A	603012	EPA 6020B	603156
92524458003	VAP-DUP02-W (2-25-21)	EPA 3010A	603012	EPA 6020B	603156
92524458001	VAP-26-W (8-10)	SM 2320B-2011	603230		
92524458002	VAP-26-W (26-28)	SM 2320B-2011	603230		
92524458003	VAP-DUP02-W (2-25-21)	SM 2320B-2011	603230		
92524458001	VAP-26-W (8-10)	SM 2540C-2011	603013		
92524458002	VAP-26-W (26-28)	SM 2540C-2011	603013		
92524458003	VAP-DUP02-W (2-25-21)	SM 2540C-2011	603013		
92524458001	VAP-26-W (8-10)	SM 4500-S2D-2011	603514		
92524458002	VAP-26-W (26-28)	SM 4500-S2D-2011	603514		
92524458003	VAP-DUP02-W (2-25-21)	SM 4500-S2D-2011	603514		
92524458001	VAP-26-W (8-10)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524458002	VAP-26-W (26-28)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524458003	VAP-DUP02-W (2-25-21)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524458001	VAP-26-W (8-10)	EPA 300.0 Rev 2.1 1993	602986		
92524458002	VAP-26-W (26-28)	EPA 300.0 Rev 2.1 1993	602986		
92524458003	VAP-DUP02-W (2-25-21)	EPA 300.0 Rev 2.1 1993	602986		
92524458001	VAP-26-W (8-10)	SM 4500-P E-2011	603072		
92524458002	VAP-26-W (26-28)	SM 4500-P E-2011	603072		
92524458003	VAP-DUP02-W (2-25-21)	SM 4500-P E-2011	603072		
92524458001	VAP-26-W (8-10)	EPA 9060A	603152		
92524458002	VAP-26-W (26-28)	EPA 9060A	603152		
92524458003	VAP-DUP02-W (2-25-21)	EPA 9060A	603152		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

Arcadis

Project #: **WO# : 92524458**

Courier: Commercial Fed Ex UPS USPS Other Client



92524458

Contody Seal Present? Yes No Seal Intact? Yes No

Date/Initial Person Examining Contents *DH 1-20-21*

Packing Material: Bubble Wrap Bubble Bags News Other

Biological Tissue Growth?

Yes No N/A

Thermometer: *937021* Type of Use: Direct Indirect None

Cooler Temp: *1.6* Correction Factor: Add/Subtract (°C) *0*

Temp should be above freezing to 6°C

Samples out of temp criteria. Samples on ice, cooling process for logist

Cooler Temp Corrected (°C) *1.6*

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 Israel and Puerto Rico)? Yes No

Comments/Discrepancy:

Checklist Item	Yes	No	N/A	Priority
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
Samples Aired within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
Short Hold Time Analysis (<12 hr)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
Rush Turn Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4
Sufficient Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
-Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7
Disinfect analysis: Samples Field Filtered?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8
Sample Label's Match COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9
Includes Date/Time/ID/Analysis Method	<i>WT</i>			
Headspace in VOA Vial (D-I Screen)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Trip Blank Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11
Trip Blank Custody Seal Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRF Review: _____ Date: _____



Document Name:
 Sample Condition Upon Receipt (SCUR)
 Document No.:
 F-048-C2-003-Rev 07

Document Revised: October 28, 2020
 Page 2 of 3
 Issuing Authority:
 Pace Carolina Quality Office

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

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRD/RODS (water) DOC, LUG

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

Project #

WO# : 92524458

PR: KLH1

Due Date: 03/01/21

CLIENT: GR-CR Power

Row #	Sample Description	1	2	3	4	5	6	7	8	9	10	11	12
1	BP01-125 ml Plastic Unpreserved (N/A) (C-1)												
2	BP01-125 ml Plastic Unpreserved (N/A)												
3	BP01-125 ml Plastic Unpreserved (N/A)												
4	BP01-125 ml Plastic Unpreserved (N/A)												
5	BP01-125 ml Plastic Unpreserved (N/A)												
6	BP01-125 ml Plastic Unpreserved (N/A)												
7	BP01-125 ml Plastic Unpreserved (N/A)												
8	BP01-125 ml Plastic Unpreserved (N/A)												
9	BP01-125 ml Plastic Unpreserved (N/A)												
10	BP01-125 ml Plastic Unpreserved (N/A)												
11	BP01-125 ml Plastic Unpreserved (N/A)												
12	BP01-125 ml Plastic Unpreserved (N/A)												

pH Adjustment Log for Preserved Samples

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

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



OR

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

LAB WORK ORDER # 026005

Project: 919-415-2281

Client: 5110 WOOD PEAK RAMP

Station: 21603

Notes: Mathew Walsh @ arcadis.com

Parameter	Quantity	Unit	%F	G	E	E
Aluminum	1					
Calcium	1					
Chloride	3					
Copper	1					
Iron	1					
Lead	1					
Nickel	3					
Phosphorus	1					
Silver	1					
Sulfur	1					
Zinc	2					

PARAMETER ANALYSIS & METHOD

Parameter	Method	Notes
Volatile Solids	52.1	
Dissolved Solids	189.1	
Turbidity	21.5	
Calcium Hydroxide	16	
Sulfide	16	
Mercuric Chloride	16	
TBC	3	
BOD	1	
TDS	1	

REMARKS

Analysis by: [Signature]

Method: [Signature]

Notes: [Handwritten text]

Sample ID	Collection Date	Transfer Date	Analysis Date	Volatile Solids	Dissolved Solids	Turbidity	Calcium Hydroxide	Sulfide	Mercuric Chloride	TBC	BOD	TDS
VAP-26-w(8-10) 1st/2nd	8/10			X	X	X	X	X	X	X	X	X
VAP-26-w(26-28) 1st/2nd	7/23			X	X	X	X	X	X	X	X	X
VAP-26-w(26-28) 3rd				X	X	X	X	X	X	X	X	X
VAP-26-w(26-28) 4th				X	X	X	X	X	X	X	X	X

Special Instructions: MAT THIS IS AS FR. M., RY. CO., M., K., B. DISPERSED METHOD AND PLATE METHOD.

* TO THE AND DISPERSED AS ARE TO BE ANALYZED IN 24 HOUR TEST

Project: 919-415-2281

Client: 5110 WOOD PEAK RAMP

Station: 21603

Notes: Mathew Walsh @ arcadis.com

Analysis by: [Signature]

Method: [Signature]

Notes: [Handwritten text]

Analysis by: [Signature]

Method: [Signature]

Notes: [Handwritten text]



March 10, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS 30050105.00006
Pace Project No.: 92524429

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 26, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

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 30050105.00006

Pace Project No.: 92524429

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524429001	VAP-26-W (34-36)	Water	02/25/21 08:10	02/26/21 11:10
92524429002	VAP-26-W (11-13)	Water	02/25/21 10:30	02/26/21 11:10
92524429003	VAP-32-W (5-10)	Water	02/25/21 11:17	02/26/21 11:10
92524429004	VAP-32-W (28-30)	Water	02/25/21 12:03	02/26/21 11:10

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524429001	VAP-26-W (34-36)	EPA 6010D	DS, KQ	6
		EPA 6010D	KQ	6
		EPA 6020B	JOR	2
		EPA 6020B	BG2	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	JP1	1
92524429002	VAP-26-W (11-13)	EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	BG2	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
92524429003	VAP-32-W (5-10)	SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	KQ	6
		EPA 6020B	JOR	2
		EPA 6020B	BG2	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
92524429004	VAP-32-W (28-30)	EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	BG2	2

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5

PASI-A = Pace Analytical Services - Asheville

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524429001	VAP-26-W (34-36)					
EPA 6010D	Calcium	103	mg/L	1.0	02/27/21 19:49	
EPA 6010D	Iron	5.0	mg/L	0.50	02/27/21 19:49	
EPA 6010D	Magnesium	190	mg/L	1.0	02/27/21 19:49	
EPA 6010D	Manganese	0.083	mg/L	0.050	02/27/21 19:49	
EPA 6010D	Potassium	82.0	mg/L	50.0	02/27/21 19:49	
EPA 6010D	Sodium	1830	mg/L	500	03/01/21 20:07	
EPA 6010D	Calcium, Dissolved	94.2	mg/L	0.10	03/01/21 01:17	
EPA 6010D	Iron, Dissolved	1.2J	mg/L	1.2	03/01/21 18:13	
EPA 6010D	Magnesium, Dissolved	192	mg/L	2.5	03/01/21 18:13	
EPA 6010D	Manganese, Dissolved	0.049	mg/L	0.0050	03/01/21 01:17	
EPA 6010D	Potassium, Dissolved	80.3J	mg/L	125	03/01/21 18:13	
EPA 6010D	Sodium, Dissolved	1780	mg/L	125	03/01/21 18:13	
EPA 6020B	Boron	1.2J	mg/L	2.5	02/28/21 21:21	D3
EPA 6020B	Boron, Dissolved	1.2J	mg/L	5.0	03/01/21 12:26	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	326	mg/L	5.0	03/01/21 17:54	
SM 2320B-2011	Alkalinity, Total as CaCO3	326	mg/L	5.0	03/01/21 17:54	
SM 2540C-2011	Total Dissolved Solids	6670	mg/L	833	02/26/21 18:19	
SM 4500-S2D-2011	Sulfide	1.8	mg/L	1.0	03/02/21 17:41	
EPA 300.0 Rev 2.1 1993	Chloride	2940	mg/L	100	02/26/21 17:34	
EPA 300.0 Rev 2.1 1993	Sulfate	329	mg/L	100	02/26/21 17:34	
SM 4500-P E-2011	Orthophosphate as P	0.30	mg/L	0.25	02/27/21 04:33	
EPA 9060A	Total Organic Carbon	4.7	mg/L	1.0	02/28/21 22:30	
EPA 9060A	Total Organic Carbon	4.5	mg/L	1.0	02/28/21 22:30	
EPA 9060A	Total Organic Carbon	4.5	mg/L	1.0	02/28/21 22:30	
EPA 9060A	Total Organic Carbon	4.5	mg/L	1.0	02/28/21 22:30	
EPA 9060A	Mean Total Organic Carbon	4.5	mg/L	1.0	02/28/21 22:30	
92524429002	VAP-26-W (11-13)					
EPA 6010D	Calcium	139	mg/L	1.0	02/27/21 19:52	
EPA 6010D	Iron	0.12	mg/L	0.050	03/08/21 23:45	
EPA 6010D	Magnesium	386	mg/L	1.0	02/27/21 19:52	
EPA 6010D	Manganese	0.15	mg/L	0.050	02/27/21 19:52	
EPA 6010D	Potassium	136	mg/L	50.0	02/27/21 19:52	
EPA 6010D	Sodium	3010	mg/L	250	03/01/21 20:10	
EPA 6010D	Calcium, Dissolved	133	mg/L	5.0	03/01/21 18:16	
EPA 6010D	Iron, Dissolved	4.2	mg/L	0.50	03/09/21 17:48	
EPA 6010D	Magnesium, Dissolved	373	mg/L	5.0	03/01/21 18:16	
EPA 6010D	Manganese, Dissolved	0.13	mg/L	0.0050	03/01/21 01:21	
EPA 6010D	Sodium, Dissolved	2770	mg/L	250	03/01/21 18:16	
EPA 6020B	Boron	1.4J	mg/L	2.5	02/28/21 21:25	D3
EPA 6020B	Boron, Dissolved	1.6J	mg/L	5.0	03/01/21 12:38	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	434	mg/L	5.0	03/01/21 18:03	
SM 2320B-2011	Alkalinity, Total as CaCO3	434	mg/L	5.0	03/01/21 18:03	
SM 2540C-2011	Total Dissolved Solids	11000	mg/L	1250	02/26/21 18:19	MW
SM 4500-S2D-2011	Sulfide	54.5	mg/L	10.0	03/02/21 16:35	
SM 5210B-2011	BOD, 5 day	100	mg/L	2.0	03/04/21 01:36	B2
EPA 300.0 Rev 2.1 1993	Chloride	5330	mg/L	100	02/26/21 18:02	
EPA 300.0 Rev 2.1 1993	Sulfate	194	mg/L	100	02/26/21 18:02	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524429002	VAP-26-W (11-13)					
SM 4500-P E-2011	Orthophosphate as P	1.6	mg/L	0.25	02/27/21 04:34	
EPA 9060A	Total Organic Carbon	18.0	mg/L	1.0	02/28/21 22:48	
EPA 9060A	Total Organic Carbon	18.4	mg/L	1.0	02/28/21 22:48	
EPA 9060A	Total Organic Carbon	18.8	mg/L	1.0	02/28/21 22:48	
EPA 9060A	Total Organic Carbon	18.8	mg/L	1.0	02/28/21 22:48	
EPA 9060A	Mean Total Organic Carbon	18.5	mg/L	1.0	02/28/21 22:48	
92524429003	VAP-32-W (5-10)					
EPA 6010D	Calcium	170	mg/L	1.0	02/27/21 19:56	
EPA 6010D	Iron	1.5	mg/L	0.50	02/27/21 19:56	
EPA 6010D	Magnesium	495	mg/L	1.0	02/27/21 19:56	
EPA 6010D	Manganese	0.059	mg/L	0.050	02/27/21 19:56	
EPA 6010D	Potassium	142	mg/L	50.0	02/27/21 19:56	
EPA 6010D	Sodium	4050	mg/L	250	03/01/21 20:13	
EPA 6010D	Calcium, Dissolved	162	mg/L	5.0	03/01/21 18:20	
EPA 6010D	Iron, Dissolved	12.6	mg/L	2.5	03/01/21 18:20	
EPA 6010D	Magnesium, Dissolved	469	mg/L	5.0	03/01/21 18:20	
EPA 6010D	Manganese, Dissolved	0.052	mg/L	0.0050	03/01/21 01:24	
EPA 6010D	Sodium, Dissolved	3720	mg/L	250	03/01/21 18:20	
EPA 6020B	Boron	1.4J	mg/L	2.5	02/28/21 21:30	D3
EPA 6020B	Boron, Dissolved	1.7J	mg/L	5.0	03/01/21 12:42	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	133	mg/L	5.0	03/01/21 18:21	
SM 2320B-2011	Alkalinity, Total as CaCO3	133	mg/L	5.0	03/01/21 18:21	
SM 2540C-2011	Total Dissolved Solids	16900	mg/L	2500	02/26/21 18:19	
SM 4500-S2D-2011	Sulfide	0.11	mg/L	0.10	03/02/21 16:35	
EPA 300.0 Rev 2.1 1993	Chloride	6730	mg/L	100	02/26/21 18:29	
EPA 300.0 Rev 2.1 1993	Sulfate	920	mg/L	100	02/26/21 18:29	
SM 4500-P E-2011	Orthophosphate as P	0.20	mg/L	0.050	02/27/21 04:35	
EPA 9060A	Total Organic Carbon	7.0	mg/L	1.0	02/28/21 23:06	
EPA 9060A	Total Organic Carbon	6.8	mg/L	1.0	02/28/21 23:06	
EPA 9060A	Total Organic Carbon	6.9	mg/L	1.0	02/28/21 23:06	
EPA 9060A	Total Organic Carbon	6.8	mg/L	1.0	02/28/21 23:06	
EPA 9060A	Mean Total Organic Carbon	6.9	mg/L	1.0	02/28/21 23:06	
92524429004	VAP-32-W (28-30)					
EPA 6010D	Calcium	271	mg/L	1.0	02/27/21 19:59	
EPA 6010D	Iron	7.4	mg/L	0.50	02/27/21 19:59	
EPA 6010D	Magnesium	594	mg/L	1.0	02/27/21 19:59	
EPA 6010D	Manganese	0.39	mg/L	0.050	02/27/21 19:59	
EPA 6010D	Potassium	183	mg/L	50.0	02/27/21 19:59	
EPA 6010D	Sodium	4960	mg/L	500	03/01/21 20:17	
EPA 6010D	Calcium, Dissolved	235	mg/L	1.0	03/01/21 18:23	
EPA 6010D	Iron, Dissolved	0.21	mg/L	0.050	03/01/21 01:40	
EPA 6010D	Magnesium, Dissolved	522	mg/L	1.0	03/01/21 18:23	
EPA 6010D	Manganese, Dissolved	0.26	mg/L	0.0050	03/01/21 01:40	
EPA 6010D	Potassium, Dissolved	168	mg/L	50.0	03/01/21 18:23	
EPA 6010D	Sodium, Dissolved	4650	mg/L	500	03/02/21 17:58	
EPA 6020B	Arsenic	0.031	mg/L	0.010	02/28/21 21:47	D3

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524429004	VAP-32-W (28-30)					
EPA 6020B	Boron	1.9J	mg/L	2.5	02/28/21 21:47	D3
EPA 6020B	Arsenic, Dissolved	0.011J	mg/L	0.10	03/01/21 12:47	
EPA 6020B	Boron, Dissolved	2.2J	mg/L	5.0	03/01/21 12:47	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	481	mg/L	5.0	03/01/21 18:30	
SM 2320B-2011	Alkalinity, Total as CaCO3	481	mg/L	5.0	03/01/21 18:30	
SM 2540C-2011	Total Dissolved Solids	22000	mg/L	2500	02/26/21 18:19	
SM 4500-S2D-2011	Sulfide	29.8	mg/L	5.0	03/02/21 17:42	
EPA 300.0 Rev 2.1 1993	Chloride	8680	mg/L	100	02/26/21 18:57	
EPA 300.0 Rev 2.1 1993	Sulfate	1120	mg/L	100	02/26/21 18:57	
SM 4500-P E-2011	Orthophosphate as P	0.77	mg/L	0.25	02/27/21 04:35	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	02/28/21 23:24	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	02/28/21 23:24	
EPA 9060A	Total Organic Carbon	7.5	mg/L	1.0	02/28/21 23:24	
EPA 9060A	Total Organic Carbon	7.5	mg/L	1.0	02/28/21 23:24	
EPA 9060A	Mean Total Organic Carbon	7.5	mg/L	1.0	02/28/21 23:24	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

Sample: VAP-26-W (34-36)	Lab ID: 92524429001	Collected: 02/25/21 08:10	Received: 02/26/21 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	103	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:49	7440-70-2	
Iron	5.0	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:49	7439-89-6	
Magnesium	190	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:49	7439-95-4	
Manganese	0.083	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:49	7439-96-5	
Potassium	82.0	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:49	7440-09-7	
Sodium	1830	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 20:07	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	94.2	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 01:17	7440-70-2	
Iron, Dissolved	1.2J	mg/L	1.2	1.0	25	02/28/21 16:17	03/01/21 18:13	7439-89-6	
Magnesium, Dissolved	192	mg/L	2.5	1.7	25	02/28/21 16:17	03/01/21 18:13	7439-95-4	
Manganese, Dissolved	0.049	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:17	7439-96-5	
Potassium, Dissolved	80.3J	mg/L	125	76.0	25	02/28/21 16:17	03/01/21 18:13	7440-09-7	
Sodium, Dissolved	1780	mg/L	125	15.3	25	02/28/21 16:17	03/01/21 18:13	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:21	7440-38-2	D3
Boron	1.2J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:21	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:26	7440-38-2	D3
Boron, Dissolved	1.2J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:26	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	326	mg/L	5.0	5.0	1		03/01/21 17:54		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:54		
Alkalinity, Total as CaCO3	326	mg/L	5.0	5.0	1		03/01/21 17:54		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	6670	mg/L	833	833	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	1.8	mg/L	1.0	0.50	10		03/02/21 17:41	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	02/27/21 04:40	03/04/21 01:34		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-26-W (34-36) **Lab ID: 92524429001** Collected: 02/25/21 08:10 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	2940	mg/L	100	60.0	100		02/26/21 17:34	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 17:20	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 17:20	14797-65-0	
Sulfate	329	mg/L	100	50.0	100		02/26/21 17:34	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.30	mg/L	0.25	0.059	5		02/27/21 04:33		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	4.7	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	
Mean Total Organic Carbon	4.5	mg/L	1.0	0.50	1		02/28/21 22:30	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-26-W (11-13) **Lab ID: 92524429002** Collected: 02/25/21 10:30 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	139	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:52	7440-70-2	
Iron	0.12	mg/L	0.050	0.042	1	03/06/21 02:07	03/08/21 23:45	7439-89-6	
Magnesium	386	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:52	7439-95-4	
Manganese	0.15	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:52	7439-96-5	
Potassium	136	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:52	7440-09-7	
Sodium	3010	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:10	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	133	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:16	7440-70-2	
Iron, Dissolved	4.2	mg/L	0.50	0.42	10	03/09/21 10:30	03/09/21 17:48	7439-89-6	
Magnesium, Dissolved	373	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:16	7439-95-4	
Manganese, Dissolved	0.13	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:21	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:16	7440-09-7	
Sodium, Dissolved	2770	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:16	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:25	7440-38-2	D3
Boron	1.4J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:25	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:38	7440-38-2	D3
Boron, Dissolved	1.6J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:38	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	434	mg/L	5.0	5.0	1		03/01/21 18:03		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:03		
Alkalinity, Total as CaCO3	434	mg/L	5.0	5.0	1		03/01/21 18:03		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	11000	mg/L	1250	1250	1		02/26/21 18:19		MW
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	54.5	mg/L	10.0	5.0	100		03/02/21 16:35	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	100	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:36		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-26-W (11-13) **Lab ID: 92524429002** Collected: 02/25/21 10:30 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	5330	mg/L	100	60.0	100		02/26/21 18:02	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 17:48	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 17:48	14797-65-0	
Sulfate	194	mg/L	100	50.0	100		02/26/21 18:02	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	1.6	mg/L	0.25	0.059	5		02/27/21 04:34		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	18.0	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Total Organic Carbon	18.4	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Total Organic Carbon	18.8	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Total Organic Carbon	18.8	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	
Mean Total Organic Carbon	18.5	mg/L	1.0	0.50	1		02/28/21 22:48	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-32-W (5-10) **Lab ID: 92524429003** Collected: 02/25/21 11:17 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	170	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:56	7440-70-2	
Iron	1.5	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:56	7439-89-6	
Magnesium	495	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:56	7439-95-4	
Manganese	0.059	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:56	7439-96-5	
Potassium	142	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:56	7440-09-7	
Sodium	4050	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:13	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	162	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:20	7440-70-2	
Iron, Dissolved	12.6	mg/L	2.5	2.1	50	02/28/21 16:17	03/01/21 18:20	7439-89-6	
Magnesium, Dissolved	469	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:20	7439-95-4	
Manganese, Dissolved	0.052	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:24	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:20	7440-09-7	
Sodium, Dissolved	3720	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:20	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:30	7440-38-2	D3
Boron	1.4J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:30	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:42	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:42	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	133	mg/L	5.0	5.0	1		03/01/21 18:21		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:21		
Alkalinity, Total as CaCO3	133	mg/L	5.0	5.0	1		03/01/21 18:21		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	16900	mg/L	2500	2500	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	0.11	mg/L	0.10	0.050	1		03/02/21 16:35	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	02/27/21 04:40	03/04/21 01:38		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-32-W (5-10) **Lab ID: 92524429003** Collected: 02/25/21 11:17 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6730	mg/L	100	60.0	100		02/26/21 18:29	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 18:15	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 18:15	14797-65-0	
Sulfate	920	mg/L	100	50.0	100		02/26/21 18:29	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.20	mg/L	0.050	0.012	1		02/27/21 04:35		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.0	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Total Organic Carbon	6.8	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Total Organic Carbon	6.8	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	
Mean Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 23:06	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-32-W (28-30) **Lab ID: 92524429004** Collected: 02/25/21 12:03 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	271	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:59	7440-70-2	
Iron	7.4	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:59	7439-89-6	
Magnesium	594	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:59	7439-95-4	
Manganese	0.39	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:59	7439-96-5	
Potassium	183	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:59	7440-09-7	
Sodium	4960	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 20:17	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	235	mg/L	1.0	0.94	10	02/28/21 16:17	03/01/21 18:23	7440-70-2	
Iron, Dissolved	0.21	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:40	7439-89-6	
Magnesium, Dissolved	522	mg/L	1.0	0.68	10	02/28/21 16:17	03/01/21 18:23	7439-95-4	
Manganese, Dissolved	0.26	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:40	7439-96-5	
Potassium, Dissolved	168	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 18:23	7440-09-7	
Sodium, Dissolved	4650	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 17:58	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.031	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:47	7440-38-2	D3
Boron	1.9J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:47	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.011J	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:47	7440-38-2	
Boron, Dissolved	2.2J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:47	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	481	mg/L	5.0	5.0	1		03/01/21 18:30		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 18:30		
Alkalinity, Total as CaCO3	481	mg/L	5.0	5.0	1		03/01/21 18:30		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	22000	mg/L	2500	2500	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	29.8	mg/L	5.0	2.5	50		03/02/21 17:42	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	02/27/21 04:40	03/04/21 01:39		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Sample: VAP-32-W (28-30) **Lab ID: 92524429004** Collected: 02/25/21 12:03 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8680	mg/L	100	60.0	100		02/26/21 18:57	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 18:43	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 18:43	14797-65-0	
Sulfate	1120	mg/L	100	50.0	100		02/26/21 18:57	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.77	mg/L	0.25	0.059	5		02/27/21 04:35		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	
Mean Total Organic Carbon	7.5	mg/L	1.0	0.50	1		02/28/21 23:24	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 603057 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177656 Matrix: Water

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/01/21 19:41	
Iron	mg/L	ND	0.050	0.042	03/01/21 19:41	
Magnesium	mg/L	ND	0.10	0.068	03/01/21 19:41	
Manganese	mg/L	ND	0.0050	0.0034	03/01/21 19:41	
Potassium	mg/L	ND	5.0	3.0	03/01/21 19:41	
Sodium	mg/L	ND	5.0	0.61	03/01/21 19:41	

LABORATORY CONTROL SAMPLE: 3177657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	102	80-120	
Iron	mg/L	5	5.1	102	80-120	
Magnesium	mg/L	5	5.2	105	80-120	
Manganese	mg/L	0.5	0.51	101	80-120	
Potassium	mg/L	5	5.1	102	80-120	
Sodium	mg/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177658 3177659

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result	% Rec	% Rec						
Calcium	mg/L	5	23.5	5	29.1	28.7	111	104	75-125	1	20		
Iron	mg/L	5	1.6	5	6.7	6.6	103	100	75-125	2	20		
Magnesium	mg/L	5	68.8	5	73.3	74.6	90	116	75-125	2	20		
Manganese	mg/L	0.5	0.043J	0.5	0.55	0.55	102	102	75-125	0	20		
Potassium	mg/L	5	68.1	5	72.8	73.0	93	98	75-125	0	20		
Sodium	mg/L	5	656	5	666	661	196	106	75-125	1	20	M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

QC Batch: 604726 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524429002

METHOD BLANK: 3186229 Matrix: Water
 Associated Lab Samples: 92524429002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	mg/L	ND	0.050	0.042	03/08/21 23:22	

LABORATORY CONTROL SAMPLE: 3186230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186231 3186232

Parameter	Units	3186231		3186232		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Iron	mg/L	2.3	5	5	7.4	7.5	102	104	75-125	1	20

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch:	603011	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET Filtered Diss.
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177320 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/02/21 13:07	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/02/21 13:07	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/01/21 17:38	
Manganese, Dissolved	mg/L	0.0047J	0.0050	0.0034	03/01/21 17:38	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/01/21 17:38	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/01/21 17:38	

LABORATORY CONTROL SAMPLE: 3177321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.9	97	80-120	
Iron, Dissolved	mg/L	5	4.9	97	80-120	
Magnesium, Dissolved	mg/L	5	4.9	97	80-120	
Manganese, Dissolved	mg/L	0.5	0.47	94	80-120	
Potassium, Dissolved	mg/L	5	4.8J	95	80-120	
Sodium, Dissolved	mg/L	5	4.8J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177322 3177323

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Result							Result
Calcium, Dissolved	mg/L	21.0	5	5	25.6	25.2	92	86	75-125	1	20
Iron, Dissolved	mg/L	ND	5	5	7.3	5.1	141	96	75-125	36	20 M6, R1
Magnesium, Dissolved	mg/L	57.3	5	5	62.9	62.8	111	111	75-125	0	20
Manganese, Dissolved	mg/L	0.036	0.5	0.5	0.45	0.45	83	82	75-125	1	20
Potassium, Dissolved	mg/L	63.8	5	5	66.1	67.7	47	78	75-125	2	20 M6
Sodium, Dissolved	mg/L	622	5	5	605	616	-350	-120	75-125	2	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 605173

Analysis Method: EPA 6010D

QC Batch Method: EPA 3010A

Analysis Description: 6010 MET Filtered Diss.

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524429002

METHOD BLANK: 3188175

Matrix: Water

Associated Lab Samples: 92524429002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	mg/L	ND	0.050	0.042	03/09/21 17:18	

LABORATORY CONTROL SAMPLE: 3188176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3188177 3188178

Parameter	Units	3188177		3188178		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Iron, Dissolved	mg/L	4.0	5	5	5.0	5.2	20	23	75-125	3	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 603022 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177388 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/28/21 20:38	
Boron	mg/L	ND	0.025	0.0062	02/28/21 20:38	

LABORATORY CONTROL SAMPLE: 3177389

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	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177390 3177391

Parameter	Units	92524458002		3177391		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	ND	0.01	0.01	0.0096J	0.010	88	96	75-125	20	
Boron	mg/L	0.81J	0.05	0.05	0.95J	0.83J	277	48	75-125	20 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 603012 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177326 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0010	0.000087	03/01/21 11:57	
Boron, Dissolved	mg/L	ND	0.050	0.0085	03/01/21 11:57	

LABORATORY CONTROL SAMPLE: 3177327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0096	96	80-120	
Boron, Dissolved	mg/L	0.05	0.045J	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177328 3177329

Parameter	Units	92524458002		3177329		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic, Dissolved	mg/L	ND	0.01	ND	0.0094J	73	91	75-125		20	M6
Boron, Dissolved	mg/L	ND	0.05	ND	ND	-369	-74	75-125		20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

QC Batch: 603230 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3178334 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	

LABORATORY CONTROL SAMPLE: 3178335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178336 3178337

Parameter	Units	92524425001		3178337		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	212	50	50	256	258	88	93	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178340 3178341

Parameter	Units	92524458002		3178341		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	309	50	50	363	360	108	101	80-120	1	25

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

QC Batch: 603013 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: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177334 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/26/21 18:18	

LABORATORY CONTROL SAMPLE: 3177335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	248	99	90-110	

SAMPLE DUPLICATE: 3177336

Parameter	Units	92524425001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13900	12500	11	25	

SAMPLE DUPLICATE: 3177597

Parameter	Units	92524458002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2330	2090	11	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 603514 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: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3179465 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	03/02/21 16:23	

LABORATORY CONTROL SAMPLE: 3179466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.44	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179467 3179468

Parameter	Units	92524097006		MS		MSD		% Rec		Max		Qual	
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD		RPD
Sulfide	mg/L	ND	0.5	0.5	0.5	0.5	0.50	0.50	100	100	80-120	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179477 3179478

Parameter	Units	92524458002		MS		MSD		% Rec		Max		Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Sulfide	mg/L	36.8	0.5	0.5	0.5	34.3	34.4	-501	-483	80-120	0	10 M6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 603073 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: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177707 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/04/21 01:07	

LABORATORY CONTROL SAMPLE: 3177709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	84.6-115	

SAMPLE DUPLICATE: 3177710

Parameter	Units	92524430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	195	189	3	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 602986 Analysis Method: EPA 300.0 Rev 2.1 1993
 QC Batch Method: EPA 300.0 Rev 2.1 1993 Analysis Description: 300.0 IC Anions
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177123 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/26/21 11:43	
Nitrate as N	mg/L	ND	0.10	0.060	02/26/21 11:43	
Nitrite as N	mg/L	ND	0.10	0.050	02/26/21 11:43	
Sulfate	mg/L	ND	1.0	0.50	02/26/21 11:43	

LABORATORY CONTROL SAMPLE: 3177124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Nitrate as N	mg/L	2.5	2.5	100	90-110	
Nitrite as N	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	51.9	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177125 3177126

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	971	50	50	1010	1040	86	133	90-110	2	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.6	2.6	103	105	90-110	2	10
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M1
Sulfate	mg/L	4.8	50	50	58.0	59.0	106	108	90-110	2	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177127 3177128

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425004 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	2580	50	50	2700	2650	236	141	90-110	2	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.6	2.7	104	106	90-110	2	10
Nitrite as N	mg/L	ND	2.5	2.5	1.6	1.5	65	62	90-110	5	10 M1
Sulfate	mg/L	384	50	50	473	464	177	160	90-110	2	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524429

QC Batch: 603072 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: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177701 Matrix: Water
 Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/27/21 04:29	

LABORATORY CONTROL SAMPLE: 3177702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.26	103	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177703 3177704

Parameter	Units	92524458002		3177703		3177704		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Orthophosphate as P	mg/L	0.85	1.2	1.2	2.2	2.2	105	105	90-110	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177705 3177706

Parameter	Units	92524425004		3177705		3177706		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result				
Orthophosphate as P	mg/L	0.33	1.2	1.2	1.5	1.5	97	97	90-110	0	10 H1

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

QC Batch: 603152 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

METHOD BLANK: 3177963 Matrix: Water

Associated Lab Samples: 92524429001, 92524429002, 92524429003, 92524429004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	

LABORATORY CONTROL SAMPLE: 3177964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.7	99	75-125	
Total Organic Carbon	mg/L	25	23.7	95	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177965 3177966

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523018011 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	1.0	25	25	25	26.0	26.3	100	101	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.0	26.5	100	102	75-125	2	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.3	26.5	102	103	75-125	1	25	
Total Organic Carbon	mg/L	1.6	25	25	25	25.8	25.6	97	96	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.0	26.5	101	103	75-125	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177967 3177968

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	7.7	25	25	25	32.6	33.1	100	102	75-125	2	25	
Total Organic Carbon	mg/L	7.7	25	25	25	32.8	33.2	100	102	75-125	1	25	
Total Organic Carbon	mg/L	7.8	25	25	25	33.1	33.1	101	101	75-125	0	25	
Total Organic Carbon	mg/L	7.7	25	25	25	31.6	33.0	96	101	75-125	4	25	
Total Organic Carbon	mg/L	7.7	25	25	25	33.0	33.3	101	103	75-125	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MCMANUS 30050105.00006
Pace Project No.: 92524429

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.

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.

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

MW Due to matrix interference, achieving a constant weight is not possible.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006

Pace Project No.: 92524429

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524429001	VAP-26-W (34-36)	EPA 3010A	603057	EPA 6010D	603096
92524429002	VAP-26-W (11-13)	EPA 3010A	603057	EPA 6010D	603096
92524429002	VAP-26-W (11-13)	EPA 3010A	604726	EPA 6010D	604748
92524429003	VAP-32-W (5-10)	EPA 3010A	603057	EPA 6010D	603096
92524429004	VAP-32-W (28-30)	EPA 3010A	603057	EPA 6010D	603096
92524429001	VAP-26-W (34-36)	EPA 3010A	603011	EPA 6010D	603155
92524429002	VAP-26-W (11-13)	EPA 3010A	603011	EPA 6010D	603155
92524429002	VAP-26-W (11-13)	EPA 3010A	605173	EPA 6010D	605184
92524429003	VAP-32-W (5-10)	EPA 3010A	603011	EPA 6010D	603155
92524429004	VAP-32-W (28-30)	EPA 3010A	603011	EPA 6010D	603155
92524429001	VAP-26-W (34-36)	EPA 3010A	603022	EPA 6020B	603097
92524429002	VAP-26-W (11-13)	EPA 3010A	603022	EPA 6020B	603097
92524429003	VAP-32-W (5-10)	EPA 3010A	603022	EPA 6020B	603097
92524429004	VAP-32-W (28-30)	EPA 3010A	603022	EPA 6020B	603097
92524429001	VAP-26-W (34-36)	EPA 3010A	603012	EPA 6020B	603156
92524429002	VAP-26-W (11-13)	EPA 3010A	603012	EPA 6020B	603156
92524429003	VAP-32-W (5-10)	EPA 3010A	603012	EPA 6020B	603156
92524429004	VAP-32-W (28-30)	EPA 3010A	603012	EPA 6020B	603156
92524429001	VAP-26-W (34-36)	SM 2320B-2011	603230		
92524429002	VAP-26-W (11-13)	SM 2320B-2011	603230		
92524429003	VAP-32-W (5-10)	SM 2320B-2011	603230		
92524429004	VAP-32-W (28-30)	SM 2320B-2011	603230		
92524429001	VAP-26-W (34-36)	SM 2540C-2011	603013		
92524429002	VAP-26-W (11-13)	SM 2540C-2011	603013		
92524429003	VAP-32-W (5-10)	SM 2540C-2011	603013		
92524429004	VAP-32-W (28-30)	SM 2540C-2011	603013		
92524429001	VAP-26-W (34-36)	SM 4500-S2D-2011	603514		
92524429002	VAP-26-W (11-13)	SM 4500-S2D-2011	603514		
92524429003	VAP-32-W (5-10)	SM 4500-S2D-2011	603514		
92524429004	VAP-32-W (28-30)	SM 4500-S2D-2011	603514		
92524429001	VAP-26-W (34-36)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524429002	VAP-26-W (11-13)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524429003	VAP-32-W (5-10)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524429004	VAP-32-W (28-30)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524429001	VAP-26-W (34-36)	EPA 300.0 Rev 2.1 1993	602986		
92524429002	VAP-26-W (11-13)	EPA 300.0 Rev 2.1 1993	602986		
92524429003	VAP-32-W (5-10)	EPA 300.0 Rev 2.1 1993	602986		
92524429004	VAP-32-W (28-30)	EPA 300.0 Rev 2.1 1993	602986		
92524429001	VAP-26-W (34-36)	SM 4500-P E-2011	603072		
92524429002	VAP-26-W (11-13)	SM 4500-P E-2011	603072		
92524429003	VAP-32-W (5-10)	SM 4500-P E-2011	603072		
92524429004	VAP-32-W (28-30)	SM 4500-P E-2011	603072		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006
Pace Project No.: 92524429

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524429001	VAP-26-W (34-36)	EPA 9060A	603152		
92524429002	VAP-26-W (11-13)	EPA 9060A	603152		
92524429003	VAP-32-W (5-10)	EPA 9060A	603152		
92524429004	VAP-32-W (28-30)	EPA 9060A	603152		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition
Open Box/Bag

Client Name: Arcadis

Project #: **WO#: 92524429**

Courier: Commercial Fed Ex UPS USPS Client Other _____



Box/Initials Peron Examining Contents: WCB-01/PC

Custody Seal Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other _____

Biological Tissue Present? Yes No N/A

Thermometer? In Use ID: 931071 Type of Ice: Dry Blue None

Cooler Temp: 3.7 Correction Factor: Add/Subtract (°C) 0

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

Cooler Temp Corrected (°C) 3.7

USDA Regulated Soil (No, water sample)

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

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

			Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (cTR In)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2/1	
Disposed analysis: Samples Field Filtered?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2/1	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
-Includes Date/Time/ID/Analysis Metric	<u>W</u>		
Headspace in VOA Vials (S-Bags)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Top Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Top Blank Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

SCUR NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____

Date: _____

Project Manager SRP Review: _____

Date: _____



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

Project #

W0# : 92524429

Exception: VOA, Coliform, TDC, Oil and Grease, DRO/ROTS (water) DOC, LLP

PR: KLR1

Due Date: 03/01/21

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

CLIENT: GR-GR Power

Row #	Container	1	2	3	4	5	6	7	8	9	10	11	12
	BF40-500 ml Plastic Unpreserved (N/A) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
	BF40-500 ml Plastic Unpreserved (N/A)	2	2	2	2								
	BF50-500 ml Plastic Unpreserved (N/A)	1	1	1	1								
	BF110-1 liter Plastic Unpreserved (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	BF40-125 ml Plastic N15004 (pH + 2) (D-1)	2	2	2	2								
	BF50-125 ml Plastic N15003 (pH + 2)	2	2	2	2								
	BF40-125 ml Plastic 2% Acetate & NaOH (D-9)	/	/	/	/	/	/	/	/	/	/	/	/
	BF40-125 ml Plastic N15014 (pH + 12) (D-3)	/	/	/	/	/	/	/	/	/	/	/	/
	WV50-Water-mounted Glass Jar Unpreserved	/	/	/	/	/	/	/	/	/	/	/	/
	A6200-1 liter Amber Unpreserved (N/A) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
	A6200-1 liter Amber HCl (pH + 2)	/	/	/	/	/	/	/	/	/	/	/	/
	A6200-200 ml Amber Unpreserved (N/A) (D-1)	/	/	/	/	/	/	/	/	/	/	/	/
	A6200-1 liter Amber N15004 (pH + 2)	/	/	/	/	/	/	/	/	/	/	/	/
	A6200-125 ml Amber N15004 (pH + 2)	/	/	/	/	/	/	/	/	/	/	/	/
	A6200(200) 200 ml Amber N15003 (N/A)(D-1)	/	/	/	/	/	/	/	/	/	/	/	/
	D6200-40 ml VOA HCl (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	V6200-40 ml VOA N15003 (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	V6200-40 ml VOA 2% (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	D6200-40 ml VOA N15004 (N/A)	3	3	3	3								
	V6200 (9 vials per kit)-5015 3% (N/A)												
	V6200 (3 vials per kit)-5015/5016 (N/A)												
	6200-125 ml Amber Plastic (pH + 14)												
	6200-125 ml Amber Plastic (pH + 14)												
	6200-125 ml Amber Plastic (pH + 14)												
	GN												
	BF40-200 ml Plastic (N15003) (D-1)(D-2)	/	/	/	/	/	/	/	/	/	/	/	/
	A6200-100 ml Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	V6200-20 ml Neutralization vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/
	D6200-40 ml Amber Unpreserved vials (N/A)	/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

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

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

ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Sample ID	Collection Date	Type of Sample	PARAMETER ANALYSIS & METHOD										REMARKS		
			Chloride	Copper	Iron	Lead	Mercury	Nickel	Phosphate	TOC	TOC	TOC			
MAP-16-10 (5-10) 2/25/21	11:12	X W													
MAP-26-10 (11-13) 2/25/21	10:30	X W													
MAP-32-10 (28-30) 2/25/21	10:30	X W													
MAP-26-10 (34-36) 2/25/21	11:10	X W													
MAP-26-10 (11-13) 2/25/21	10:30	X W													
MAP-32-10 (5-10) 2/25/21	11:12	X W													
MAP-32-10 (28-30) 2/25/21	10:30	X W													

PREPARED BY: AS, FG, MA, MY, CO, NY, K, D
 DISCOVERED METALS AND SWILL \$1.16
 TO MY DISCOVERER: AS - YES TO BE ANALYZED ON 24 7/21

Client Name: **PACE**

Project Name: **Greenville Ford**

Site Name: **FALEX**

Order Number: **1730**

Lab Order Number: **1730**

Analyst: **PRE/AVL**

Client Contact: **22621 1110**



March 10, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: MCMANUS 30050105.00006
Pace Project No.: 92524425

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 26, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

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 30050105.00006

Pace Project No.: 92524425

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524425001	VAP-32-W (22-24)	Water	02/25/21 12:20	02/26/21 11:10
92524425002	VAP-18-W (21-23)	Water	02/25/21 14:07	02/26/21 11:10
92524425003	VAP-18-W (26-28)	Water	02/25/21 14:25	02/26/21 11:10
92524425004	VAP-18-W (5-10)	Water	02/25/21 14:52	02/26/21 11:10

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524425001	VAP-32-W (22-24)	EPA 6010D	DS, KQ	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	BG2	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	JP1	1
92524425002	VAP-18-W (21-23)	EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
92524425003	VAP-18-W (26-28)	SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	KQ, SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
92524425004	VAP-18-W (5-10)	EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5
		EPA 6010D	DS, KQ	6
		EPA 6010D	KQ	6
		EPA 6020B	JOR	2
		EPA 6020B	BG2	2

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SAMPLE ANALYTE COUNT

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	JP1	1
		EPA 9060A	JLH	5

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524425001	VAP-32-W (22-24)					
EPA 6010D	Calcium	207	mg/L	1.0	02/27/21 19:36	
EPA 6010D	Iron	2.7	mg/L	0.50	02/27/21 19:36	
EPA 6010D	Magnesium	547	mg/L	1.0	02/27/21 19:36	
EPA 6010D	Manganese	0.30	mg/L	0.050	02/27/21 19:36	
EPA 6010D	Potassium	190	mg/L	50.0	02/27/21 19:36	
EPA 6010D	Sodium	5000	mg/L	500	03/01/21 19:48	
EPA 6010D	Calcium, Dissolved	194	mg/L	1.0	03/01/21 18:39	
EPA 6010D	Iron, Dissolved	0.69	mg/L	0.050	03/01/21 01:51	
EPA 6010D	Magnesium, Dissolved	538	mg/L	1.0	03/01/21 18:39	
EPA 6010D	Manganese, Dissolved	0.24	mg/L	0.0050	03/01/21 01:51	
EPA 6010D	Potassium, Dissolved	182	mg/L	50.0	03/01/21 18:39	
EPA 6010D	Sodium, Dissolved	4380	mg/L	500	03/02/21 18:08	
EPA 6020B	Arsenic	0.019	mg/L	0.010	02/28/21 20:46	D3
EPA 6020B	Boron	1.9J	mg/L	2.5	02/28/21 20:46	D3
EPA 6020B	Arsenic, Dissolved	0.014J	mg/L	0.10	03/01/21 12:18	
EPA 6020B	Boron, Dissolved	2.1J	mg/L	5.0	03/01/21 12:18	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	212	mg/L	5.0	03/01/21 16:56	
SM 2320B-2011	Alkalinity, Total as CaCO3	212	mg/L	5.0	03/01/21 16:56	
SM 2540C-2011	Total Dissolved Solids	13900	mg/L	2500	02/26/21 18:18	
SM 4500-S2D-2011	Sulfide	9.0	mg/L	5.0	03/02/21 16:30	
SM 5210B-2011	BOD, 5 day	160	mg/L	2.0	03/04/21 01:24	B2
EPA 300.0 Rev 2.1 1993	Chloride	8570	mg/L	100	02/26/21 19:52	
EPA 300.0 Rev 2.1 1993	Sulfate	1200	mg/L	100	02/26/21 19:52	
SM 4500-P E-2011	Orthophosphate as P	0.53	mg/L	0.25	02/27/21 04:36	
EPA 9060A	Total Organic Carbon	6.9	mg/L	1.0	02/28/21 20:40	
EPA 9060A	Total Organic Carbon	6.8	mg/L	1.0	02/28/21 20:40	
EPA 9060A	Total Organic Carbon	6.9	mg/L	1.0	02/28/21 20:40	
EPA 9060A	Total Organic Carbon	6.9	mg/L	1.0	02/28/21 20:40	
EPA 9060A	Mean Total Organic Carbon	6.9	mg/L	1.0	02/28/21 20:40	
92524425002	VAP-18-W (21-23)					
EPA 6010D	Calcium	171	mg/L	1.0	02/27/21 19:39	
EPA 6010D	Iron	2.3	mg/L	0.050	03/08/21 23:28	
EPA 6010D	Magnesium	440	mg/L	1.0	02/27/21 19:39	
EPA 6010D	Manganese	0.23	mg/L	0.050	02/27/21 19:39	
EPA 6010D	Potassium	153	mg/L	50.0	02/27/21 19:39	
EPA 6010D	Sodium	3770	mg/L	500	03/01/21 19:51	
EPA 6010D	Calcium, Dissolved	173	mg/L	5.0	03/01/21 18:03	
EPA 6010D	Iron, Dissolved	4.0	mg/L	0.50	03/09/21 17:25	M6
EPA 6010D	Magnesium, Dissolved	439	mg/L	5.0	03/01/21 18:03	
EPA 6010D	Manganese, Dissolved	0.19	mg/L	0.0050	03/01/21 01:07	
EPA 6010D	Sodium, Dissolved	3560	mg/L	250	03/01/21 18:03	
EPA 6020B	Boron	1.3J	mg/L	2.5	02/28/21 20:51	D3
EPA 6020B	Boron, Dissolved	1.2J	mg/L	2.5	02/28/21 23:53	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	259	mg/L	5.0	03/01/21 17:23	
SM 2320B-2011	Alkalinity, Total as CaCO3	259	mg/L	5.0	03/01/21 17:23	
SM 2540C-2011	Total Dissolved Solids	10900	mg/L	2500	02/26/21 18:18	
SM 4500-S2D-2011	Sulfide	25.3	mg/L	5.0	03/02/21 17:41	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524425002	VAP-18-W (21-23)					
SM 5210B-2011	BOD, 5 day	40.0	mg/L	2.0	03/04/21 01:26	B2
EPA 300.0 Rev 2.1 1993	Chloride	6300	mg/L	100	02/26/21 20:20	
EPA 300.0 Rev 2.1 1993	Sulfate	765	mg/L	100	02/26/21 20:20	
SM 4500-P E-2011	Orthophosphate as P	0.49	mg/L	0.25	02/27/21 04:36	
EPA 9060A	Total Organic Carbon	8.5	mg/L	1.0	02/28/21 20:58	
EPA 9060A	Total Organic Carbon	8.2	mg/L	1.0	02/28/21 20:58	
EPA 9060A	Total Organic Carbon	8.4	mg/L	1.0	02/28/21 20:58	
EPA 9060A	Total Organic Carbon	8.5	mg/L	1.0	02/28/21 20:58	
EPA 9060A	Mean Total Organic Carbon	8.4	mg/L	1.0	02/28/21 20:58	
92524425003	VAP-18-W (26-28)					
EPA 6010D	Calcium	143	mg/L	1.0	02/27/21 19:43	
EPA 6010D	Iron	0.54	mg/L	0.050	03/08/21 23:42	
EPA 6010D	Magnesium	296	mg/L	1.0	02/27/21 19:43	
EPA 6010D	Manganese	0.15	mg/L	0.050	02/27/21 19:43	
EPA 6010D	Potassium	105	mg/L	50.0	02/27/21 19:43	
EPA 6010D	Sodium	2280	mg/L	250	03/01/21 20:00	
EPA 6010D	Calcium, Dissolved	142	mg/L	5.0	03/01/21 18:07	
EPA 6010D	Iron, Dissolved	4.9	mg/L	0.50	03/09/21 17:38	
EPA 6010D	Magnesium, Dissolved	291	mg/L	5.0	03/01/21 18:07	
EPA 6010D	Manganese, Dissolved	0.13	mg/L	0.0050	03/01/21 01:11	
EPA 6010D	Sodium, Dissolved	2160	mg/L	250	03/01/21 18:07	
EPA 6020B	Boron	1.2J	mg/L	2.5	02/28/21 20:55	D3
EPA 6020B	Boron, Dissolved	0.82J	mg/L	2.5	02/28/21 23:57	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	483	mg/L	5.0	03/01/21 17:34	
SM 2320B-2011	Alkalinity, Total as CaCO3	483	mg/L	5.0	03/01/21 17:34	
SM 2540C-2011	Total Dissolved Solids	8450	mg/L	1250	02/26/21 18:19	
SM 4500-S2D-2011	Sulfide	35.1	mg/L	5.0	03/02/21 17:42	
SM 5210B-2011	BOD, 5 day	20.0	mg/L	2.0	03/04/21 01:30	B2
EPA 300.0 Rev 2.1 1993	Chloride	3960	mg/L	100	02/26/21 20:48	
EPA 300.0 Rev 2.1 1993	Sulfate	334	mg/L	100	02/26/21 20:48	
SM 4500-P E-2011	Orthophosphate as P	0.64	mg/L	0.25	02/27/21 04:37	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	02/28/21 21:53	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	02/28/21 21:53	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	02/28/21 21:53	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	02/28/21 21:53	
EPA 9060A	Mean Total Organic Carbon	7.6	mg/L	1.0	02/28/21 21:53	
92524425004	VAP-18-W (5-10)					
EPA 6010D	Calcium	48.7	mg/L	1.0	02/27/21 19:46	
EPA 6010D	Iron	1.9	mg/L	0.50	02/27/21 19:46	
EPA 6010D	Magnesium	157	mg/L	1.0	02/27/21 19:46	
EPA 6010D	Manganese	0.037J	mg/L	0.050	02/27/21 19:46	
EPA 6010D	Potassium	77.2	mg/L	50.0	02/27/21 19:46	
EPA 6010D	Sodium	1750	mg/L	250	03/01/21 20:04	
EPA 6010D	Calcium, Dissolved	43.3	mg/L	0.10	03/01/21 01:14	
EPA 6010D	Magnesium, Dissolved	151	mg/L	2.0	03/01/21 18:10	
EPA 6010D	Manganese, Dissolved	0.027	mg/L	0.0050	03/01/21 01:14	B

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524425004	VAP-18-W (5-10)					
EPA 6010D	Potassium, Dissolved	73.4J	mg/L	100	03/01/21 18:10	
EPA 6010D	Sodium, Dissolved	1610	mg/L	100	03/01/21 18:10	
EPA 6020B	Boron	1.5J	mg/L	2.5	02/28/21 21:17	D3
EPA 6020B	Boron, Dissolved	1.4J	mg/L	5.0	03/01/21 12:22	
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	148	mg/L	5.0	03/01/21 17:44	
SM 2320B-2011	Alkalinity, Total as CaCO3	148	mg/L	5.0	03/01/21 17:44	
SM 2540C-2011	Total Dissolved Solids	6800	mg/L	833	02/26/21 18:19	
EPA 300.0 Rev 2.1 1993	Chloride	2580	mg/L	100	02/26/21 21:15	M6
EPA 300.0 Rev 2.1 1993	Sulfate	384	mg/L	100	02/26/21 21:15	M6
SM 4500-P E-2011	Orthophosphate as P	0.33	mg/L	0.25	02/27/21 04:38	H1
EPA 9060A	Total Organic Carbon	14.1	mg/L	1.0	02/28/21 22:11	
EPA 9060A	Total Organic Carbon	13.8	mg/L	1.0	02/28/21 22:11	
EPA 9060A	Total Organic Carbon	13.7	mg/L	1.0	02/28/21 22:11	
EPA 9060A	Total Organic Carbon	13.8	mg/L	1.0	02/28/21 22:11	
EPA 9060A	Mean Total Organic Carbon	13.8	mg/L	1.0	02/28/21 22:11	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

Sample: VAP-32-W (22-24) Lab ID: 92524425001 Collected: 02/25/21 12:20 Received: 02/26/21 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	207	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:36	7440-70-2	
Iron	2.7	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:36	7439-89-6	
Magnesium	547	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:36	7439-95-4	
Manganese	0.30	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:36	7439-96-5	
Potassium	190	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:36	7440-09-7	
Sodium	5000	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 19:48	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	194	mg/L	1.0	0.94	10	02/28/21 16:17	03/01/21 18:39	7440-70-2	
Iron, Dissolved	0.69	mg/L	0.050	0.042	1	02/28/21 16:17	03/01/21 01:51	7439-89-6	
Magnesium, Dissolved	538	mg/L	1.0	0.68	10	02/28/21 16:17	03/01/21 18:39	7439-95-4	
Manganese, Dissolved	0.24	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:51	7439-96-5	
Potassium, Dissolved	182	mg/L	50.0	30.4	10	02/28/21 16:17	03/01/21 18:39	7440-09-7	
Sodium, Dissolved	4380	mg/L	500	61.1	100	02/28/21 16:17	03/02/21 18:08	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.019	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 20:46	7440-38-2	D3
Boron	1.9J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 20:46	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	0.014J	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:18	7440-38-2	
Boron, Dissolved	2.1J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:18	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	212	mg/L	5.0	5.0	1		03/01/21 16:56		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 16:56		
Alkalinity, Total as CaCO3	212	mg/L	5.0	5.0	1		03/01/21 16:56		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	13900	mg/L	2500	2500	1		02/26/21 18:18		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	9.0	mg/L	5.0	2.5	50		03/02/21 16:30	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	160	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:24		B2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-32-W (22-24) **Lab ID: 92524425001** Collected: 02/25/21 12:20 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8570	mg/L	100	60.0	100		02/26/21 19:52	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 19:38	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 19:38	14797-65-0	
Sulfate	1200	mg/L	100	50.0	100		02/26/21 19:52	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.53	mg/L	0.25	0.059	5		02/27/21 04:36		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Total Organic Carbon	6.8	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	
Mean Total Organic Carbon	6.9	mg/L	1.0	0.50	1		02/28/21 20:40	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

Sample: VAP-18-W (21-23) Lab ID: 92524425002 Collected: 02/25/21 14:07 Received: 02/26/21 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	171	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:39	7440-70-2	
Iron	2.3	mg/L	0.050	0.042	1	03/06/21 02:07	03/08/21 23:28	7439-89-6	
Magnesium	440	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:39	7439-95-4	
Manganese	0.23	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:39	7439-96-5	
Potassium	153	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:39	7440-09-7	
Sodium	3770	mg/L	500	61.1	100	02/27/21 01:37	03/01/21 19:51	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	173	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:03	7440-70-2	
Iron, Dissolved	4.0	mg/L	0.50	0.42	10	03/09/21 10:30	03/09/21 17:25	7439-89-6	M6
Magnesium, Dissolved	439	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:03	7439-95-4	
Manganese, Dissolved	0.19	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:07	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:03	7440-09-7	
Sodium, Dissolved	3560	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:03	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 20:51	7440-38-2	D3
Boron	1.3J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 20:51	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/28/21 16:17	02/28/21 23:53	7440-38-2	D3
Boron, Dissolved	1.2J	mg/L	2.5	0.62	100	02/28/21 16:17	02/28/21 23:53	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	259	mg/L	5.0	5.0	1		03/01/21 17:23		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:23		
Alkalinity, Total as CaCO3	259	mg/L	5.0	5.0	1		03/01/21 17:23		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	10900	mg/L	2500	2500	1		02/26/21 18:18		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	25.3	mg/L	5.0	2.5	50		03/02/21 17:41	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	40.0	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:26		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (21-23) **Lab ID: 92524425002** Collected: 02/25/21 14:07 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	6300	mg/L	100	60.0	100		02/26/21 20:20	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 20:06	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 20:06	14797-65-0	
Sulfate	765	mg/L	100	50.0	100		02/26/21 20:20	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.49	mg/L	0.25	0.059	5		02/27/21 04:36		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	8.5	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Total Organic Carbon	8.2	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Total Organic Carbon	8.4	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Total Organic Carbon	8.5	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	
Mean Total Organic Carbon	8.4	mg/L	1.0	0.50	1		02/28/21 20:58	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

Sample: VAP-18-W (26-28) Lab ID: 92524425003 Collected: 02/25/21 14:25 Received: 02/26/21 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	143	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:43	7440-70-2	
Iron	0.54	mg/L	0.050	0.042	1	03/06/21 02:07	03/08/21 23:42	7439-89-6	
Magnesium	296	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:43	7439-95-4	
Manganese	0.15	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:43	7439-96-5	
Potassium	105	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:43	7440-09-7	
Sodium	2280	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:00	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	142	mg/L	5.0	4.7	50	02/28/21 16:17	03/01/21 18:07	7440-70-2	
Iron, Dissolved	4.9	mg/L	0.50	0.42	10	03/09/21 10:30	03/09/21 17:38	7439-89-6	
Magnesium, Dissolved	291	mg/L	5.0	3.4	50	02/28/21 16:17	03/01/21 18:07	7439-95-4	
Manganese, Dissolved	0.13	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:11	7439-96-5	
Potassium, Dissolved	ND	mg/L	250	152	50	02/28/21 16:17	03/01/21 18:07	7440-09-7	
Sodium, Dissolved	2160	mg/L	250	30.5	50	02/28/21 16:17	03/01/21 18:07	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 20:55	7440-38-2	D3
Boron	1.2J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 20:55	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.010	0.0087	100	02/28/21 16:17	02/28/21 23:57	7440-38-2	D3
Boron, Dissolved	0.82J	mg/L	2.5	0.62	100	02/28/21 16:17	02/28/21 23:57	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	483	mg/L	5.0	5.0	1		03/01/21 17:34		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:34		
Alkalinity, Total as CaCO3	483	mg/L	5.0	5.0	1		03/01/21 17:34		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	8450	mg/L	1250	1250	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	35.1	mg/L	5.0	2.5	50		03/02/21 17:42	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	20.0	mg/L	2.0	2.0	1	02/27/21 04:40	03/04/21 01:30		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (26-28) **Lab ID: 92524425003** Collected: 02/25/21 14:25 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	3960	mg/L	100	60.0	100		02/26/21 20:48	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 20:34	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 20:34	14797-65-0	
Sulfate	334	mg/L	100	50.0	100		02/26/21 20:48	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.64	mg/L	0.25	0.059	5		02/27/21 04:37		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	
Mean Total Organic Carbon	7.6	mg/L	1.0	0.50	1		02/28/21 21:53	7440-44-0	

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (5-10) **Lab ID: 92524425004** Collected: 02/25/21 14:52 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium	48.7	mg/L	1.0	0.94	10	02/27/21 01:37	02/27/21 19:46	7440-70-2	
Iron	1.9	mg/L	0.50	0.42	10	02/27/21 01:37	02/27/21 19:46	7439-89-6	
Magnesium	157	mg/L	1.0	0.68	10	02/27/21 01:37	02/27/21 19:46	7439-95-4	
Manganese	0.037J	mg/L	0.050	0.034	10	02/27/21 01:37	02/27/21 19:46	7439-96-5	
Potassium	77.2	mg/L	50.0	30.4	10	02/27/21 01:37	02/27/21 19:46	7440-09-7	
Sodium	1750	mg/L	250	30.5	50	02/27/21 01:37	03/01/21 20:04	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	43.3	mg/L	0.10	0.094	1	02/28/21 16:17	03/01/21 01:14	7440-70-2	
Iron, Dissolved	ND	mg/L	1.0	0.83	20	02/28/21 16:17	03/01/21 18:10	7439-89-6	
Magnesium, Dissolved	151	mg/L	2.0	1.4	20	02/28/21 16:17	03/01/21 18:10	7439-95-4	
Manganese, Dissolved	0.027	mg/L	0.0050	0.0034	1	02/28/21 16:17	03/01/21 01:14	7439-96-5	B
Potassium, Dissolved	73.4J	mg/L	100	60.8	20	02/28/21 16:17	03/01/21 18:10	7440-09-7	
Sodium, Dissolved	1610	mg/L	100	12.2	20	02/28/21 16:17	03/01/21 18:10	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.010	0.0087	100	02/27/21 01:32	02/28/21 21:17	7440-38-2	D3
Boron	1.5J	mg/L	2.5	0.62	100	02/27/21 01:32	02/28/21 21:17	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 16:17	03/01/21 12:22	7440-38-2	D3
Boron, Dissolved	1.4J	mg/L	5.0	0.85	100	02/28/21 16:17	03/01/21 12:22	7440-42-8	
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	148	mg/L	5.0	5.0	1		03/01/21 17:44		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 17:44		
Alkalinity, Total as CaCO3	148	mg/L	5.0	5.0	1		03/01/21 17:44		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	6800	mg/L	833	833	1		02/26/21 18:19		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	ND	mg/L	0.10	0.050	1		03/02/21 16:33	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	02/27/21 04:40	03/04/21 01:31		B2

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ANALYTICAL RESULTS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Sample: VAP-18-W (5-10) **Lab ID: 92524425004** Collected: 02/25/21 14:52 Received: 02/26/21 11:10 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	2580	mg/L	100	60.0	100		02/26/21 21:15	16887-00-6	M6
Nitrate as N	ND	mg/L	0.10	0.060	1		02/26/21 21:01	14797-55-8	
Nitrite as N	ND	mg/L	0.10	0.050	1		02/26/21 21:01	14797-65-0	M1
Sulfate	384	mg/L	100	50.0	100		02/26/21 21:15	14808-79-8	M6
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.33	mg/L	0.25	0.059	5		02/27/21 04:38		H1
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	14.1	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Total Organic Carbon	13.8	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Total Organic Carbon	13.7	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Total Organic Carbon	13.8	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	
Mean Total Organic Carbon	13.8	mg/L	1.0	0.50	1		02/28/21 22:11	7440-44-0	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

QC Batch: 603057 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177656 Matrix: Water

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/01/21 19:41	
Iron	mg/L	ND	0.050	0.042	03/01/21 19:41	
Magnesium	mg/L	ND	0.10	0.068	03/01/21 19:41	
Manganese	mg/L	ND	0.0050	0.0034	03/01/21 19:41	
Potassium	mg/L	ND	5.0	3.0	03/01/21 19:41	
Sodium	mg/L	ND	5.0	0.61	03/01/21 19:41	

LABORATORY CONTROL SAMPLE: 3177657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.1	102	80-120	
Iron	mg/L	5	5.1	102	80-120	
Magnesium	mg/L	5	5.2	105	80-120	
Manganese	mg/L	0.5	0.51	101	80-120	
Potassium	mg/L	5	5.1	102	80-120	
Sodium	mg/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177658 3177659

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result	% Rec	% Rec						
Calcium	mg/L	5	23.5	5	29.1	28.7	111	104	75-125	1	20		
Iron	mg/L	5	1.6	5	6.7	6.6	103	100	75-125	2	20		
Magnesium	mg/L	5	68.8	5	73.3	74.6	90	116	75-125	2	20		
Manganese	mg/L	0.5	0.043J	0.5	0.55	0.55	102	102	75-125	0	20		
Potassium	mg/L	5	68.1	5	72.8	73.0	93	98	75-125	0	20		
Sodium	mg/L	5	656	5	666	661	196	106	75-125	1	20	M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 604726 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524425002, 92524425003

METHOD BLANK: 3186229 Matrix: Water
 Associated Lab Samples: 92524425002, 92524425003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron	mg/L	ND	0.050	0.042	03/08/21 23:22	

LABORATORY CONTROL SAMPLE: 3186230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	mg/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3186231 3186232

Parameter	Units	3186231		3186232		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Iron	mg/L	2.3	5	5	7.4	7.5	102	104	75-125	1	20

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

QC Batch: 603011 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET Filtered Diss.
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177320 Matrix: Water

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/02/21 13:07	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/02/21 13:07	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/01/21 17:38	
Manganese, Dissolved	mg/L	0.0047J	0.0050	0.0034	03/01/21 17:38	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/01/21 17:38	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/01/21 17:38	

LABORATORY CONTROL SAMPLE: 3177321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.9	97	80-120	
Iron, Dissolved	mg/L	5	4.9	97	80-120	
Magnesium, Dissolved	mg/L	5	4.9	97	80-120	
Manganese, Dissolved	mg/L	0.5	0.47	94	80-120	
Potassium, Dissolved	mg/L	5	4.8J	95	80-120	
Sodium, Dissolved	mg/L	5	4.8J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177322 3177323

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Result						
Calcium, Dissolved	mg/L	21.0	5	5	25.6	25.2	92	86	75-125	1	20
Iron, Dissolved	mg/L	ND	5	5	7.3	5.1	141	96	75-125	36	20 M6, R1
Magnesium, Dissolved	mg/L	57.3	5	5	62.9	62.8	111	111	75-125	0	20
Manganese, Dissolved	mg/L	0.036	0.5	0.5	0.45	0.45	83	82	75-125	1	20
Potassium, Dissolved	mg/L	63.8	5	5	66.1	67.7	47	78	75-125	2	20 M6
Sodium, Dissolved	mg/L	622	5	5	605	616	-350	-120	75-125	2	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

QC Batch: 605173	Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A	Analysis Description: 6010 MET Filtered Diss.
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524425002, 92524425003

METHOD BLANK: 3188175 Matrix: Water

Associated Lab Samples: 92524425002, 92524425003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Dissolved	mg/L	ND	0.050	0.042	03/09/21 17:18	

LABORATORY CONTROL SAMPLE: 3188176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	mg/L	5	5.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3188177 3188178

Parameter	Units	3188177		3188178		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Iron, Dissolved	mg/L	4.0	5	5	5.0	5.2	20	23	75-125	3	20 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 603022 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177388 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.00010	0.000087	02/28/21 20:38	
Boron	mg/L	ND	0.025	0.0062	02/28/21 20:38	

LABORATORY CONTROL SAMPLE: 3177389

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	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177390 3177391

Parameter	Units	92524458002		3177391		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Arsenic	mg/L	ND	0.01	0.01	0.0096J	0.010	88	96	75-125	20	
Boron	mg/L	0.81J	0.05	0.05	0.95J	0.83J	277	48	75-125	20 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 603012 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177326 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	mg/L	ND	0.0010	0.000087	03/01/21 11:57	
Boron, Dissolved	mg/L	ND	0.050	0.0085	03/01/21 11:57	

LABORATORY CONTROL SAMPLE: 3177327

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	mg/L	0.01	0.0096	96	80-120	
Boron, Dissolved	mg/L	0.05	0.045J	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177328 3177329

Parameter	Units	92524458002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	ND	0.01	0.01	ND	0.0094J	73	91	75-125		20	M6
Boron, Dissolved	mg/L	ND	0.05	0.05	ND	ND	-369	-74	75-125		20	M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

QC Batch: 603230 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3178334 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	

LABORATORY CONTROL SAMPLE: 3178335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178336 3178337

Parameter	Units	92524425001		3178336		3178337		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Alkalinity, Total as CaCO3	mg/L	212	50	50	256	258	88	93	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178340 3178341

Parameter	Units	92524458002		3178340		3178341		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec				
Alkalinity, Total as CaCO3	mg/L	309	50	50	363	360	108	101	80-120	1	25

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 603013 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: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177334 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/26/21 18:18	

LABORATORY CONTROL SAMPLE: 3177335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	248	99	90-110	

SAMPLE DUPLICATE: 3177336

Parameter	Units	92524425001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	13900	12500	11	25	

SAMPLE DUPLICATE: 3177597

Parameter	Units	92524458002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2330	2090	11	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 603514 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: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3179465 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	03/02/21 16:23	

LABORATORY CONTROL SAMPLE: 3179466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.44	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179467 3179468

Parameter	Units	92524097006		3179467		3179468		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	ND	ND	0.5	0.5	0.50	0.50	100	100	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179477 3179478

Parameter	Units	92524458002		3179477		3179478		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	36.8	36.8	0.5	0.5	34.3	34.4	-501	-483	80-120	0	10 M6	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 603073 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: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177707 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/04/21 01:07	

LABORATORY CONTROL SAMPLE: 3177709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	84.6-115	

SAMPLE DUPLICATE: 3177710

Parameter	Units	92524430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	195	189	3	25	

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

QC Batch:	602986	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177123 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/26/21 11:43	
Nitrate as N	mg/L	ND	0.10	0.060	02/26/21 11:43	
Nitrite as N	mg/L	ND	0.10	0.050	02/26/21 11:43	
Sulfate	mg/L	ND	1.0	0.50	02/26/21 11:43	

LABORATORY CONTROL SAMPLE: 3177124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.7	101	90-110	
Nitrate as N	mg/L	2.5	2.5	100	90-110	
Nitrite as N	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	51.9	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177125 3177126

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	971	50	50	1010	1040	86	133	90-110	2	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.6	2.6	103	105	90-110	2	10
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10 M1
Sulfate	mg/L	4.8	50	50	58.0	59.0	106	108	90-110	2	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177127 3177128

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524425004 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	2580	50	50	2700	2650	236	141	90-110	2	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.6	2.7	104	106	90-110	2	10
Nitrite as N	mg/L	ND	2.5	2.5	1.6	1.5	65	62	90-110	5	10 M1
Sulfate	mg/L	384	50	50	473	464	177	160	90-110	2	10 M6

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006
 Pace Project No.: 92524425

QC Batch: 603072 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: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177701 Matrix: Water
 Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/27/21 04:29	

LABORATORY CONTROL SAMPLE: 3177702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.25	0.26	103	49-145	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177703 3177704

Parameter	Units	92524458002		3177703		3177704		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Orthophosphate as P	mg/L	0.85	1.2	1.2	1.2	2.2	2.2	105	105	90-110	0	10

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177705 3177706

Parameter	Units	92524425004		3177705		3177706		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result					
Orthophosphate as P	mg/L	0.33	1.2	1.2	1.2	1.5	1.5	97	97	90-110	0	10 H1

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QUALITY CONTROL DATA

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

QC Batch: 603152 Analysis Method: EPA 9060A
 QC Batch Method: EPA 9060A Analysis Description: 9060 TOC, AVL
 Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

METHOD BLANK: 3177963 Matrix: Water

Associated Lab Samples: 92524425001, 92524425002, 92524425003, 92524425004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/28/21 18:24	

LABORATORY CONTROL SAMPLE: 3177964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.1	96	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	24.7	99	75-125	
Total Organic Carbon	mg/L	25	23.7	95	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177965 3177966

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523018011 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	1.0	25	25	25	26.0	26.3	100	101	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.0	26.5	100	102	75-125	2	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.3	26.5	102	103	75-125	1	25	
Total Organic Carbon	mg/L	1.6	25	25	25	25.8	25.6	97	96	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25	26.0	26.5	101	103	75-125	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177967 3177968

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524458002 Result	Spike Conc.	Spike Conc.	Conc.								
Mean Total Organic Carbon	mg/L	7.7	25	25	25	32.6	33.1	100	102	75-125	2	25	
Total Organic Carbon	mg/L	7.7	25	25	25	32.8	33.2	100	102	75-125	1	25	
Total Organic Carbon	mg/L	7.8	25	25	25	33.1	33.1	101	101	75-125	0	25	
Total Organic Carbon	mg/L	7.7	25	25	25	31.6	33.0	96	101	75-125	4	25	
Total Organic Carbon	mg/L	7.7	25	25	25	33.0	33.3	101	103	75-125	1	25	

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QUALIFIERS

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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.

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.

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

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524425001	VAP-32-W (22-24)	EPA 3010A	603057	EPA 6010D	603096
92524425002	VAP-18-W (21-23)	EPA 3010A	603057	EPA 6010D	603096
92524425002	VAP-18-W (21-23)	EPA 3010A	604726	EPA 6010D	604748
92524425003	VAP-18-W (26-28)	EPA 3010A	603057	EPA 6010D	603096
92524425003	VAP-18-W (26-28)	EPA 3010A	604726	EPA 6010D	604748
92524425004	VAP-18-W (5-10)	EPA 3010A	603057	EPA 6010D	603096
92524425001	VAP-32-W (22-24)	EPA 3010A	603011	EPA 6010D	603155
92524425002	VAP-18-W (21-23)	EPA 3010A	603011	EPA 6010D	603155
92524425002	VAP-18-W (21-23)	EPA 3010A	605173	EPA 6010D	605184
92524425003	VAP-18-W (26-28)	EPA 3010A	603011	EPA 6010D	603155
92524425003	VAP-18-W (26-28)	EPA 3010A	605173	EPA 6010D	605184
92524425004	VAP-18-W (5-10)	EPA 3010A	603011	EPA 6010D	603155
92524425001	VAP-32-W (22-24)	EPA 3010A	603022	EPA 6020B	603097
92524425002	VAP-18-W (21-23)	EPA 3010A	603022	EPA 6020B	603097
92524425003	VAP-18-W (26-28)	EPA 3010A	603022	EPA 6020B	603097
92524425004	VAP-18-W (5-10)	EPA 3010A	603022	EPA 6020B	603097
92524425001	VAP-32-W (22-24)	EPA 3010A	603012	EPA 6020B	603156
92524425002	VAP-18-W (21-23)	EPA 3010A	603012	EPA 6020B	603156
92524425003	VAP-18-W (26-28)	EPA 3010A	603012	EPA 6020B	603156
92524425004	VAP-18-W (5-10)	EPA 3010A	603012	EPA 6020B	603156
92524425001	VAP-32-W (22-24)	SM 2320B-2011	603230		
92524425002	VAP-18-W (21-23)	SM 2320B-2011	603230		
92524425003	VAP-18-W (26-28)	SM 2320B-2011	603230		
92524425004	VAP-18-W (5-10)	SM 2320B-2011	603230		
92524425001	VAP-32-W (22-24)	SM 2540C-2011	603013		
92524425002	VAP-18-W (21-23)	SM 2540C-2011	603013		
92524425003	VAP-18-W (26-28)	SM 2540C-2011	603013		
92524425004	VAP-18-W (5-10)	SM 2540C-2011	603013		
92524425001	VAP-32-W (22-24)	SM 4500-S2D-2011	603514		
92524425002	VAP-18-W (21-23)	SM 4500-S2D-2011	603514		
92524425003	VAP-18-W (26-28)	SM 4500-S2D-2011	603514		
92524425004	VAP-18-W (5-10)	SM 4500-S2D-2011	603514		
92524425001	VAP-32-W (22-24)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524425002	VAP-18-W (21-23)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524425003	VAP-18-W (26-28)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524425004	VAP-18-W (5-10)	SM 5210B-2011	603073	SM 5210B-2011	603106
92524425001	VAP-32-W (22-24)	EPA 300.0 Rev 2.1 1993	602986		
92524425002	VAP-18-W (21-23)	EPA 300.0 Rev 2.1 1993	602986		
92524425003	VAP-18-W (26-28)	EPA 300.0 Rev 2.1 1993	602986		
92524425004	VAP-18-W (5-10)	EPA 300.0 Rev 2.1 1993	602986		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MCMANUS 30050105.00006

Pace Project No.: 92524425

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524425001	VAP-32-W (22-24)	SM 4500-P E-2011	603072		
92524425002	VAP-18-W (21-23)	SM 4500-P E-2011	603072		
92524425003	VAP-18-W (26-28)	SM 4500-P E-2011	603072		
92524425004	VAP-18-W (5-10)	SM 4500-P E-2011	603072		
92524425001	VAP-32-W (22-24)	EPA 9060A	603152		
92524425002	VAP-18-W (21-23)	EPA 9060A	603152		
92524425003	VAP-18-W (26-28)	EPA 9060A	603152		
92524425004	VAP-18-W (5-10)	EPA 9060A	603152		

REPORT OF LABORATORY ANALYSIS

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Laboratory receiving samples:

Ashville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

Aveda's

Project #: **WO# : 92524425**

Courier: Fed Ex UPS USPS Client Other: _____



Date/Initial Person Examining Contents: 08/1-20-21

Custody Seal Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble bags None Other _____

Biological Threat Present?

Yes No N/A

Thermometer: 93T021 Type of Ice: Dry Blue None

Cooler Temp: 0.7 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 5°C

Sample out of temp criteria. Samples in ice, cooling process has begun.

Cooler Temp Corrected (°C): 0.7

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check map)?

Yes No

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

	Comments/Discrepancy			
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Short Hold Time Analysis (CT) for IT?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Batch Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	6.
-Pass Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Dispositional analysis: Samples held filtered?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Sample Labels: MMCh CDC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Includes Date/Time/ID/Analysis Number: <u>WNT</u>				
Headspace in VOA Vials (pH down)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Trip Blank Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	11.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

List ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SHF 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, DRB/DBD (water) DOC, LHM

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

Project #

WO# : 92524425

PR: KLM1

Due Date: 03/01/21

CLIENT: GR-GR Power

Sample ID	Container	1	2	3	4	5	6	7	8	9	10	11	12
8140-125 ml, Plastic Unpreserved (N/A) (2-1)													
8150-125 ml, Plastic Unpreserved (N/A)													
8160-125 ml, Plastic Unpreserved (N/A)													
8170-125 ml, Plastic Unpreserved (N/A)													
8180-125 ml, Plastic Unpreserved (N/A) (2-1)													
8190-125 ml, plastic unpreserved (N/A) (2)													
8240-125 ml, Plastic 2x Acetone & NaOCl (2-8)													
8240-125 ml, Plastic NaOCl (2-1) (2-1)													
WSPU, amber-washed Elan jar Unpreserved													
A220-1 180 ml Amber Unpreserved (N/A) (2-1)													
A220-1 180 ml Amber (N/A) (2-1)													
A230-1 180 ml Amber Unpreserved (N/A) (2-1)													
A230-1 180 ml Amber (N/A) (2-1)													
A240-1 180 ml Amber (N/A) (2-1)													
A240-1 180 ml Amber (N/A) (2-1)													
0080-40 ml VOA (N/A)													
V070-40 ml VOA Na2S2O5 (N/A)													
V080-40 ml VOA Low (N/A)													
D090-40 ml VOA (N/A)													
V040 (3 vials per bag) (N/A)													
V050 (3 vials per bag) (N/A)													
8270-125 ml Amber Plastic (N/A) (2-1)													
8280-125 ml Amber Plastic (N/A) (2-1)													
8290-125 ml Amber Plastic (N/A) (2-1)													
8300-125 ml Amber Plastic (N/A) (2-1)													
8310-125 ml Amber Plastic (N/A) (2-1)													
8320-125 ml Amber Plastic (N/A) (2-1)													
8330-125 ml Amber Plastic (N/A) (2-1)													
8340-125 ml Amber Plastic (N/A) (2-1)													
8350-125 ml Amber Plastic (N/A) (2-1)													
8360-125 ml Amber Plastic (N/A) (2-1)													
8370-125 ml Amber Plastic (N/A) (2-1)													
8380-125 ml Amber Plastic (N/A) (2-1)													
8390-125 ml Amber Plastic (N/A) (2-1)													
8400-125 ml Amber Plastic (N/A) (2-1)													
8410-125 ml Amber Plastic (N/A) (2-1)													
8420-125 ml Amber Plastic (N/A) (2-1)													
8430-125 ml Amber Plastic (N/A) (2-1)													
8440-125 ml Amber Plastic (N/A) (2-1)													
8450-125 ml Amber Plastic (N/A) (2-1)													
8460-125 ml Amber Plastic (N/A) (2-1)													
8470-125 ml Amber Plastic (N/A) (2-1)													
8480-125 ml Amber Plastic (N/A) (2-1)													
8490-125 ml Amber Plastic (N/A) (2-1)													
8500-125 ml Amber Plastic (N/A) (2-1)													

pH Adjustment Log for Preserved Samples

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

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

ID#

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page of

Lab Work Order # 6732425

WATER USE
 Account # 919-415-2284
 Use 350
 3500 WATER MATH EQU
 MATHS AT 23603 Math with account on
 3500 SOLIC. ACCOUNT

PARAMETER ANALYSIS & METHOD	C	C	S	S	F	F	G	B	B	D
TOTAL METALS										
DISSOLVED METALS										
ALKALINITY										
CLORIDE										
SULPHIDE										
NON-METALS ANALYSIS										
DETERMINATION										
KIT										
TOL										
BOD										
TDS										

Sample ID
 Date
 Time
 Temp
 Wind

LABORATORY ANALYSIS & METHOD

REMARKS

Sample ID	Date	Time	Temp	Wind	TOTAL METALS	DISSOLVED METALS	ALKALINITY	CLORIDE	SULPHIDE	NON-METALS ANALYSIS	DETERMINATION	KIT	TOL	BOD	TDS
VAF-19-W (21-23)	7/27/14	14:00			X	W									
VAF-18-W (26-28)	7/27/14	14:30			X	W									
VAF-18-W (5-10)	7/27/14	14:50			X	W									

Special instructions: Metals - As, Fe, Mn, Mg, Ca, Al, K, B
DISSOLVED METALS are Field Filter
TRIAL/OVERSIGHT AS you to be analyzed on 24 TAT

Operator: Patric
 Approved by: Patric
 Date: 7/27/14
 Time: 11:10



March 11, 2021

Ms. Lauren Petty
Southern Co. Services
42 Inverness Center Parkway
Birmingham, AL 35242

RE: Project: McManus 30050105.00006
Pace Project No.: 92524617

Dear Ms. Petty:

Enclosed are the analytical results for sample(s) received by the laboratory on February 27, 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

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: Joju Abraham, Georgia Power-CCR
Kathryn Farris
Geoffrey Gay, ARCADIS - Atlanta
Margaret Gentile, Arcadis
Kristen Jurinko
Charles Lawson, Arcadis
Bryan Mayeux
Kelley Sharpe, ARCADIS - Atlanta
Maribel Vital



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: McManus 30050105.00006

Pace Project No.: 92524617

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: McManus 30050105.00006

Pace Project No.: 92524617

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92524617001	VAP-29-W (5-10)	Water	02/26/21 10:59	02/27/21 12:45
92524617002	VAP-29-W (19-21)	Water	02/26/21 11:34	02/27/21 12:45
92524617003	VAP-29-W (24-26)	Water	02/26/21 12:15	02/27/21 12:45
92524617004	VAP-29-W (30-32)	Water	02/26/21 12:47	02/27/21 12:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: McManus 30050105.00006

Pace Project No.: 92524617

Lab ID	Sample ID	Method	Analysts	Analytes Reported
92524617001	VAP-29-W (5-10)	EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	MJP	1
92524617002	VAP-29-W (19-21)	EPA 9060A	JLH	5
		EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
92524617003	VAP-29-W (24-26)	SM 4500-P E-2011	MJP	1
		EPA 9060A	JLH	5
		EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
92524617004	VAP-29-W (30-32)	EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	MJP	1
		EPA 9060A	JLH	5
		EPA 6010D	KQ, SH1	6
		EPA 6010D	SH1	6
		EPA 6020B	JOR	2
		EPA 6020B	JOR	2

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: McManus 30050105.00006

Pace Project No.: 92524617

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 2320B-2011	ECH	3
		SM 2540C-2011	RED	1
		SM 4500-S2D-2011	NAL	1
		SM 5210B-2011	NFW	1
		EPA 300.0 Rev 2.1 1993	JLH	4
		SM 4500-P E-2011	MJP	1
		EPA 9060A	JLH	5

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus 30050105.00006

Pace Project No.: 92524617

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524617001	VAP-29-W (5-10)					
EPA 6010D	Calcium	111	mg/L	1.0	03/02/21 17:23	M6
EPA 6010D	Iron	3.1	mg/L	0.50	03/02/21 17:23	M6
EPA 6010D	Magnesium	282	mg/L	1.0	03/02/21 05:54	M6
EPA 6010D	Manganese	0.11	mg/L	0.050	03/02/21 17:23	
EPA 6010D	Potassium	101	mg/L	50.0	03/02/21 17:23	M6
EPA 6010D	Sodium	2970	mg/L	500	03/02/21 15:59	M6
EPA 6010D	Calcium, Dissolved	116	mg/L	1.0	03/02/21 18:03	
EPA 6010D	Iron, Dissolved	0.73	mg/L	0.50	03/02/21 18:03	
EPA 6010D	Magnesium, Dissolved	303	mg/L	10.0	03/02/21 16:57	
EPA 6010D	Manganese, Dissolved	0.091	mg/L	0.050	03/02/21 18:03	
EPA 6010D	Potassium, Dissolved	105	mg/L	50.0	03/02/21 18:03	
EPA 6010D	Sodium, Dissolved	2840	mg/L	500	03/02/21 16:57	
EPA 6020B	Arsenic	0.0092J	mg/L	0.10	03/01/21 16:21	D3,M6
EPA 6020B	Boron, Dissolved	1.2J	mg/L	5.0	03/01/21 14:25	D3,M6
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	03/01/21 19:29	
SM 2320B-2011	Alkalinity, Total as CaCO3	166	mg/L	5.0	03/01/21 19:29	
SM 2540C-2011	Total Dissolved Solids	10700	mg/L	1250	03/01/21 19:02	
SM 4500-S2D-2011	Sulfide	7.9	mg/L	5.0	03/02/21 17:44	
SM 5210B-2011	BOD, 5 day	276	mg/L	2.0	03/05/21 04:31	
EPA 300.0 Rev 2.1 1993	Chloride	4620	mg/L	100	02/27/21 15:32	
EPA 300.0 Rev 2.1 1993	Nitrate as N	0.067J	mg/L	0.10	02/27/21 15:17	
EPA 300.0 Rev 2.1 1993	Sulfate	656	mg/L	100	02/27/21 15:32	
SM 4500-P E-2011	Orthophosphate as P	0.20J	mg/L	0.25	02/27/21 16:08	
EPA 9060A	Total Organic Carbon	14.9	mg/L	1.0	03/02/21 03:48	
EPA 9060A	Total Organic Carbon	14.8	mg/L	1.0	03/02/21 03:48	
EPA 9060A	Total Organic Carbon	15.3	mg/L	1.0	03/02/21 03:48	
EPA 9060A	Total Organic Carbon	15.1	mg/L	1.0	03/02/21 03:48	
EPA 9060A	Mean Total Organic Carbon	15.0	mg/L	1.0	03/02/21 03:48	
92524617002	VAP-29-W (19-21)					
EPA 6010D	Calcium	230	mg/L	1.0	03/02/21 06:07	
EPA 6010D	Iron	0.66	mg/L	0.50	03/02/21 06:07	
EPA 6010D	Magnesium	623	mg/L	1.0	03/02/21 06:07	
EPA 6010D	Manganese	0.33	mg/L	0.050	03/02/21 06:07	
EPA 6010D	Sodium	4870	mg/L	500	03/02/21 16:12	
EPA 6010D	Calcium, Dissolved	222	mg/L	1.0	03/02/21 17:37	M6
EPA 6010D	Magnesium, Dissolved	643	mg/L	10.0	03/02/21 16:44	M6
EPA 6010D	Manganese, Dissolved	0.32	mg/L	0.050	03/02/21 17:37	
EPA 6010D	Potassium, Dissolved	164	mg/L	50.0	03/02/21 17:37	M6
EPA 6010D	Sodium, Dissolved	5070	mg/L	500	03/02/21 16:44	M6
EPA 6020B	Boron	1.3J	mg/L	5.0	03/01/21 16:57	D3
EPA 6020B	Boron, Dissolved	1.7J	mg/L	5.0	03/01/21 14:54	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	03/01/21 19:39	
SM 2320B-2011	Alkalinity, Total as CaCO3	166	mg/L	5.0	03/01/21 19:39	
SM 2540C-2011	Total Dissolved Solids	19900	mg/L	2500	03/01/21 19:02	
SM 4500-S2D-2011	Sulfide	19.1	mg/L	2.5	03/02/21 17:44	
SM 5210B-2011	BOD, 5 day	50700	mg/L	2.0	03/05/21 04:52	
EPA 300.0 Rev 2.1 1993	Chloride	8450	mg/L	100	02/27/21 16:00	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: McManus 30050105.00006

Pace Project No.: 92524617

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
92524617002	VAP-29-W (19-21)					
EPA 300.0 Rev 2.1 1993	Sulfate	1100	mg/L	100	02/27/21 16:00	
SM 4500-P E-2011	Orthophosphate as P	0.21J	mg/L	0.25	02/27/21 16:09	
EPA 9060A	Total Organic Carbon	7.2	mg/L	1.0	03/02/21 04:07	
EPA 9060A	Total Organic Carbon	7.2	mg/L	1.0	03/02/21 04:07	
EPA 9060A	Total Organic Carbon	7.4	mg/L	1.0	03/02/21 04:07	
EPA 9060A	Total Organic Carbon	7.5	mg/L	1.0	03/02/21 04:07	
EPA 9060A	Mean Total Organic Carbon	7.3	mg/L	1.0	03/02/21 04:07	
92524617003	VAP-29-W (24-26)					
EPA 6010D	Calcium	191	mg/L	1.0	03/02/21 06:17	
EPA 6010D	Iron	7.3	mg/L	0.50	03/02/21 06:17	
EPA 6010D	Magnesium	540	mg/L	1.0	03/02/21 06:17	
EPA 6010D	Manganese	0.38	mg/L	0.050	03/02/21 06:17	
EPA 6010D	Potassium	172	mg/L	50.0	03/02/21 06:17	
EPA 6010D	Sodium	5350	mg/L	500	03/02/21 16:15	
EPA 6010D	Calcium, Dissolved	195	mg/L	1.0	03/04/21 03:26	
EPA 6010D	Iron, Dissolved	0.90	mg/L	0.50	03/04/21 03:26	
EPA 6010D	Magnesium, Dissolved	544	mg/L	1.0	03/04/21 03:26	
EPA 6010D	Manganese, Dissolved	0.35	mg/L	0.050	03/04/21 03:26	
EPA 6010D	Potassium, Dissolved	171	mg/L	50.0	03/04/21 03:26	
EPA 6010D	Sodium, Dissolved	5120	mg/L	500	03/02/21 17:07	
EPA 6020B	Arsenic	0.010J	mg/L	0.10	03/01/21 17:01	D3
EPA 6020B	Boron	1.3J	mg/L	5.0	03/01/21 17:01	D3
EPA 6020B	Boron, Dissolved	1.9J	mg/L	5.0	03/01/21 14:58	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	173	mg/L	5.0	03/01/21 19:48	
SM 2320B-2011	Alkalinity, Total as CaCO3	173	mg/L	5.0	03/01/21 19:48	
SM 2540C-2011	Total Dissolved Solids	19900	mg/L	2500	03/01/21 19:02	
SM 4500-S2D-2011	Sulfide	19.2	mg/L	5.0	03/02/21 17:45	
SM 5210B-2011	BOD, 5 day	6420	mg/L	2.0	03/05/21 05:01	B2
EPA 300.0 Rev 2.1 1993	Chloride	8670	mg/L	100	02/27/21 16:29	
EPA 300.0 Rev 2.1 1993	Sulfate	1140	mg/L	100	02/27/21 16:29	
SM 4500-P E-2011	Orthophosphate as P	0.30	mg/L	0.25	02/27/21 16:10	
EPA 9060A	Total Organic Carbon	7.2	mg/L	1.0	03/02/21 05:03	
EPA 9060A	Total Organic Carbon	7.3	mg/L	1.0	03/02/21 05:03	
EPA 9060A	Total Organic Carbon	7.5	mg/L	1.0	03/02/21 05:03	
EPA 9060A	Total Organic Carbon	7.6	mg/L	1.0	03/02/21 05:03	
EPA 9060A	Mean Total Organic Carbon	7.4	mg/L	1.0	03/02/21 05:03	
92524617004	VAP-29-W (30-32)					
EPA 6010D	Calcium	218	mg/L	1.0	03/02/21 06:20	
EPA 6010D	Iron	2.9	mg/L	0.50	03/02/21 06:20	
EPA 6010D	Magnesium	565	mg/L	1.0	03/02/21 06:20	
EPA 6010D	Manganese	0.27	mg/L	0.050	03/02/21 06:20	
EPA 6010D	Potassium	141	mg/L	50.0	03/02/21 06:20	
EPA 6010D	Sodium	4400	mg/L	500	03/02/21 16:19	
EPA 6010D	Calcium, Dissolved	232	mg/L	1.0	03/04/21 03:29	
EPA 6010D	Iron, Dissolved	0.46J	mg/L	0.50	03/04/21 03:29	
EPA 6010D	Magnesium, Dissolved	575	mg/L	1.0	03/04/21 03:29	

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SUMMARY OF DETECTION

Project: McManus 30050105.00006

Pace Project No.: 92524617

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92524617004	VAP-29-W (30-32)					
EPA 6010D	Manganese, Dissolved	0.27	mg/L	0.050	03/04/21 03:29	
EPA 6010D	Potassium, Dissolved	145	mg/L	50.0	03/04/21 03:29	
EPA 6010D	Sodium, Dissolved	4180	mg/L	500	03/02/21 17:10	
EPA 6020B	Arsenic	0.016J	mg/L	0.10	03/01/21 17:05	D3
EPA 6020B	Boron	1.0J	mg/L	5.0	03/01/21 17:05	D3
EPA 6020B	Boron, Dissolved	1.2J	mg/L	5.0	03/01/21 15:02	D3
SM 2320B-2011	Alkalinity,Bicarbonate (CaCO3)	253	mg/L	5.0	03/01/21 20:10	
SM 2320B-2011	Alkalinity, Total as CaCO3	253	mg/L	5.0	03/01/21 20:10	
SM 2540C-2011	Total Dissolved Solids	17700	mg/L	2500	03/01/21 19:03	
SM 4500-S2D-2011	Sulfide	38.5	mg/L	10.0	03/02/21 17:40	
SM 5210B-2011	BOD, 5 day	990	mg/L	2.0	03/05/21 05:09	B2
EPA 300.0 Rev 2.1 1993	Chloride	7580	mg/L	100	02/27/21 16:58	
EPA 300.0 Rev 2.1 1993	Sulfate	889	mg/L	100	02/27/21 16:58	
SM 4500-P E-2011	Orthophosphate as P	0.45	mg/L	0.25	02/27/21 16:10	
EPA 9060A	Total Organic Carbon	7.8	mg/L	1.0	03/02/21 05:22	
EPA 9060A	Total Organic Carbon	7.7	mg/L	1.0	03/02/21 05:22	
EPA 9060A	Total Organic Carbon	8.0	mg/L	1.0	03/02/21 05:22	
EPA 9060A	Total Organic Carbon	7.9	mg/L	1.0	03/02/21 05:22	
EPA 9060A	Mean Total Organic Carbon	7.9	mg/L	1.0	03/02/21 05:22	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (5-10) **Lab ID: 92524617001** Collected: 02/26/21 10:59 Received: 02/27/21 12:45 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	111	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 17:23	7440-70-2	M6
Iron	3.1	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 17:23	7439-89-6	M6
Magnesium	282	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 05:54	7439-95-4	M6
Manganese	0.11	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 17:23	7439-96-5	
Potassium	101	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 17:23	7440-09-7	M6
Sodium	2970	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 15:59	7440-23-5	M6
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	116	mg/L	1.0	0.94	10	03/02/21 12:06	03/02/21 18:03	7440-70-2	
Iron, Dissolved	0.73	mg/L	0.50	0.42	10	03/02/21 12:06	03/02/21 18:03	7439-89-6	
Magnesium, Dissolved	303	mg/L	10.0	6.8	100	03/02/21 12:06	03/02/21 16:57	7439-95-4	
Manganese, Dissolved	0.091	mg/L	0.050	0.034	10	03/02/21 12:06	03/02/21 18:03	7439-96-5	
Potassium, Dissolved	105	mg/L	50.0	30.4	10	03/02/21 12:06	03/02/21 18:03	7440-09-7	
Sodium, Dissolved	2840	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 16:57	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.0092J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 16:21	7440-38-2	D3,M6
Boron	ND	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 16:21	7440-42-8	D3,M6
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 14:25	7440-38-2	D3,M6
Boron, Dissolved	1.2J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 14:25	7440-42-8	D3,M6
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	166	mg/L	5.0	5.0	1		03/01/21 19:29		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:29		
Alkalinity, Total as CaCO3	166	mg/L	5.0	5.0	1		03/01/21 19:29		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	10700	mg/L	1250	1250	1		03/01/21 19:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	7.9	mg/L	5.0	2.5	50		03/02/21 17:44	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	276	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 04:31		

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (5-10) **Lab ID: 92524617001** Collected: 02/26/21 10:59 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	4620	mg/L	100	60.0	100		02/27/21 15:32	16887-00-6	
Nitrate as N	0.067J	mg/L	0.10	0.060	1		02/27/21 15:17	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 15:32	14797-65-0	D3
Sulfate	656	mg/L	100	50.0	100		02/27/21 15:32	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.20J	mg/L	0.25	0.059	5		02/27/21 16:08		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	14.9	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Total Organic Carbon	14.8	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Total Organic Carbon	15.3	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Total Organic Carbon	15.1	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	
Mean Total Organic Carbon	15.0	mg/L	1.0	0.50	1		03/02/21 03:48	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006
 Pace Project No.: 92524617

Sample: VAP-29-W (19-21) Lab ID: 92524617002 Collected: 02/26/21 11:34 Received: 02/27/21 12:45 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	230	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:07	7440-70-2	
Iron	0.66	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:07	7439-89-6	
Magnesium	623	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:07	7439-95-4	
Manganese	0.33	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:07	7439-96-5	
Potassium	ND	mg/L	500	304	100	03/01/21 10:39	03/02/21 16:12	7440-09-7	
Sodium	4870	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:12	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	222	mg/L	1.0	0.94	10	03/02/21 12:06	03/02/21 17:37	7440-70-2	M6
Iron, Dissolved	ND	mg/L	0.50	0.42	10	03/02/21 12:06	03/02/21 17:37	7439-89-6	
Magnesium, Dissolved	643	mg/L	10.0	6.8	100	03/02/21 12:06	03/02/21 16:44	7439-95-4	M6
Manganese, Dissolved	0.32	mg/L	0.050	0.034	10	03/02/21 12:06	03/02/21 17:37	7439-96-5	
Potassium, Dissolved	164	mg/L	50.0	30.4	10	03/02/21 12:06	03/02/21 17:37	7440-09-7	M6
Sodium, Dissolved	5070	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 16:44	7440-23-5	M6
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	ND	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 16:57	7440-38-2	D3
Boron	1.3J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 16:57	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 14:54	7440-38-2	D3
Boron, Dissolved	1.7J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 14:54	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	166	mg/L	5.0	5.0	1		03/01/21 19:39		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:39		
Alkalinity, Total as CaCO3	166	mg/L	5.0	5.0	1		03/01/21 19:39		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	19900	mg/L	2500	2500	1		03/01/21 19:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	19.1	mg/L	2.5	1.2	25		03/02/21 17:44	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	50700	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 04:52		

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (19-21) **Lab ID: 92524617002** Collected: 02/26/21 11:34 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8450	mg/L	100	60.0	100		02/27/21 16:00	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 15:46	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 16:00	14797-65-0	D3
Sulfate	1100	mg/L	100	50.0	100		02/27/21 16:00	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.21J	mg/L	0.25	0.059	5		02/27/21 16:09		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	
Mean Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/02/21 04:07	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (24-26) **Lab ID: 92524617003** Collected: 02/26/21 12:15 Received: 02/27/21 12:45 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	191	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:17	7440-70-2	
Iron	7.3	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:17	7439-89-6	
Magnesium	540	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:17	7439-95-4	
Manganese	0.38	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:17	7439-96-5	
Potassium	172	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:17	7440-09-7	
Sodium	5350	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:15	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Calcium, Dissolved	195	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:26	7440-70-2	
Iron, Dissolved	0.90	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:26	7439-89-6	
Magnesium, Dissolved	544	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:26	7439-95-4	
Manganese, Dissolved	0.35	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:26	7439-96-5	
Potassium, Dissolved	171	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:26	7440-09-7	
Sodium, Dissolved	5120	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:07	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic	0.010J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:01	7440-38-2	D3
Boron	1.3J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:01	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 14:58	7440-38-2	D3
Boron, Dissolved	1.9J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 14:58	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011									
Pace Analytical Services - Asheville									
Alkalinity,Bicarbonate (CaCO3)	173	mg/L	5.0	5.0	1		03/01/21 19:48		
Alkalinity,Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 19:48		
Alkalinity, Total as CaCO3	173	mg/L	5.0	5.0	1		03/01/21 19:48		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Asheville									
Total Dissolved Solids	19900	mg/L	2500	2500	1		03/01/21 19:02		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011									
Pace Analytical Services - Asheville									
Sulfide	19.2	mg/L	5.0	2.5	50		03/02/21 17:45	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011									
Pace Analytical Services - Asheville									
BOD, 5 day	6420	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:01		B2

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (24-26) **Lab ID: 92524617003** Collected: 02/26/21 12:15 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	8670	mg/L	100	60.0	100		02/27/21 16:29	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 16:15	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 16:29	14797-65-0	D3
Sulfate	1140	mg/L	100	50.0	100		02/27/21 16:29	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.30	mg/L	0.25	0.059	5		02/27/21 16:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.2	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Total Organic Carbon	7.3	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Total Organic Carbon	7.5	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Total Organic Carbon	7.6	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	
Mean Total Organic Carbon	7.4	mg/L	1.0	0.50	1		03/02/21 05:03	7440-44-0	

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ANALYTICAL RESULTS

Project: McManus 30050105.00006
 Pace Project No.: 92524617

Sample: VAP-29-W (30-32) Lab ID: 92524617004 Collected: 02/26/21 12:47 Received: 02/27/21 12:45 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	218	mg/L	1.0	0.94	10	03/01/21 10:39	03/02/21 06:20	7440-70-2	
Iron	2.9	mg/L	0.50	0.42	10	03/01/21 10:39	03/02/21 06:20	7439-89-6	
Magnesium	565	mg/L	1.0	0.68	10	03/01/21 10:39	03/02/21 06:20	7439-95-4	
Manganese	0.27	mg/L	0.050	0.034	10	03/01/21 10:39	03/02/21 06:20	7439-96-5	
Potassium	141	mg/L	50.0	30.4	10	03/01/21 10:39	03/02/21 06:20	7440-09-7	
Sodium	4400	mg/L	500	61.1	100	03/01/21 10:39	03/02/21 16:19	7440-23-5	
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Calcium, Dissolved	232	mg/L	1.0	0.94	10	03/02/21 12:06	03/04/21 03:29	7440-70-2	
Iron, Dissolved	0.46J	mg/L	0.50	0.42	10	03/02/21 12:06	03/04/21 03:29	7439-89-6	
Magnesium, Dissolved	575	mg/L	1.0	0.68	10	03/02/21 12:06	03/04/21 03:29	7439-95-4	
Manganese, Dissolved	0.27	mg/L	0.050	0.034	10	03/02/21 12:06	03/04/21 03:29	7439-96-5	
Potassium, Dissolved	145	mg/L	50.0	30.4	10	03/02/21 12:06	03/04/21 03:29	7440-09-7	
Sodium, Dissolved	4180	mg/L	500	61.1	100	03/02/21 12:06	03/02/21 17:10	7440-23-5	
6020 MET ICPMS									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	0.016J	mg/L	0.10	0.0087	100	03/01/21 10:39	03/01/21 17:05	7440-38-2	D3
Boron	1.0J	mg/L	5.0	0.85	100	03/01/21 10:39	03/01/21 17:05	7440-42-8	D3
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic, Dissolved	ND	mg/L	0.10	0.0087	100	02/28/21 17:20	03/01/21 15:02	7440-38-2	D3
Boron, Dissolved	1.2J	mg/L	5.0	0.85	100	02/28/21 17:20	03/01/21 15:02	7440-42-8	D3
2320B Alkalinity									
Analytical Method: SM 2320B-2011 Pace Analytical Services - Asheville									
Alkalinity, Bicarbonate (CaCO3)	253	mg/L	5.0	5.0	1		03/01/21 20:10		
Alkalinity, Carbonate (CaCO3)	ND	mg/L	5.0	5.0	1		03/01/21 20:10		
Alkalinity, Total as CaCO3	253	mg/L	5.0	5.0	1		03/01/21 20:10		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville									
Total Dissolved Solids	17700	mg/L	2500	2500	1		03/01/21 19:03		
4500S2D Sulfide Water									
Analytical Method: SM 4500-S2D-2011 Pace Analytical Services - Asheville									
Sulfide	38.5	mg/L	10.0	5.0	100		03/02/21 17:40	18496-25-8	
5210B BOD, 5 day									
Analytical Method: SM 5210B-2011 Pace Analytical Services - Asheville									
BOD, 5 day	990	mg/L	2.0	2.0	1	02/28/21 04:02	03/05/21 05:09		B2

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ANALYTICAL RESULTS

Project: McManus 30050105.00006

Pace Project No.: 92524617

Sample: VAP-29-W (30-32) **Lab ID: 92524617004** Collected: 02/26/21 12:47 Received: 02/27/21 12:45 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
300.0 IC anions 48hr									
Analytical Method: EPA 300.0 Rev 2.1 1993									
Pace Analytical Services - Asheville									
Chloride	7580	mg/L	100	60.0	100		02/27/21 16:58	16887-00-6	
Nitrate as N	ND	mg/L	0.10	0.060	1		02/27/21 16:43	14797-55-8	
Nitrite as N	ND	mg/L	10.0	5.0	100		02/27/21 16:58	14797-65-0	D3
Sulfate	889	mg/L	100	50.0	100		02/27/21 16:58	14808-79-8	
SM4500P-E, Phosphate, Ortho									
Analytical Method: SM 4500-P E-2011									
Pace Analytical Services - Asheville									
Orthophosphate as P	0.45	mg/L	0.25	0.059	5		02/27/21 16:10		
Total Organic Carbon, Asheville									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	7.8	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Total Organic Carbon	7.7	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Total Organic Carbon	8.0	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	
Mean Total Organic Carbon	7.9	mg/L	1.0	0.50	1		03/02/21 05:22	7440-44-0	

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QUALITY CONTROL DATA

Project: McManus 30050105.00006

Pace Project No.: 92524617

QC Batch:	603201	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3178184 Matrix: Water

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	mg/L	ND	0.10	0.094	03/02/21 15:53	
Iron	mg/L	ND	0.050	0.042	03/02/21 15:53	
Magnesium	mg/L	ND	0.10	0.068	03/02/21 05:02	
Manganese	mg/L	ND	0.0050	0.0034	03/02/21 15:53	
Potassium	mg/L	ND	5.0	3.0	03/02/21 15:53	
Sodium	mg/L	ND	5.0	0.61	03/02/21 15:53	

LABORATORY CONTROL SAMPLE: 3178185

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	mg/L	5	5.2	104	80-120	
Iron	mg/L	5	5.2	104	80-120	
Magnesium	mg/L	5	5.3	107	80-120	
Manganese	mg/L	0.5	0.54	107	80-120	
Potassium	mg/L	5	5.4	109	80-120	
Sodium	mg/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178186 3178187

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Calcium	mg/L	111	5	5	107	124	-68	75-125	15	20	M6
Iron	mg/L	3.1	5	5	5.1	5.9	39	75-125	15	20	M6
Magnesium	mg/L	282	5	5	298	308	320	75-125	3	20	M6
Manganese	mg/L	0.11	0.5	0.5	0.52	0.59	82	75-125	14	20	
Potassium	mg/L	101	5	5	98.6	113	-42	75-125	13	20	M6
Sodium	mg/L	2970	5	5	3010	3070	780	75-125	2	20	M6

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QUALITY CONTROL DATA

Project: McManus 30050105.00006
 Pace Project No.: 92524617

QC Batch: 603568 Analysis Method: EPA 6010D
 QC Batch Method: EPA 3010A Analysis Description: 6010 MET Filtered Diss.
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3179709 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium, Dissolved	mg/L	ND	0.10	0.094	03/04/21 03:23	
Iron, Dissolved	mg/L	ND	0.050	0.042	03/04/21 03:23	
Magnesium, Dissolved	mg/L	ND	0.10	0.068	03/04/21 03:23	
Manganese, Dissolved	mg/L	ND	0.0050	0.0034	03/04/21 03:23	
Potassium, Dissolved	mg/L	ND	5.0	3.0	03/04/21 03:23	
Sodium, Dissolved	mg/L	ND	5.0	0.61	03/04/21 03:23	

LABORATORY CONTROL SAMPLE: 3179710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium, Dissolved	mg/L	5	4.8	95	80-120	
Iron, Dissolved	mg/L	5	4.7	94	80-120	
Magnesium, Dissolved	mg/L	5	5.1	103	80-120	
Manganese, Dissolved	mg/L	0.5	0.49	98	80-120	
Potassium, Dissolved	mg/L	5	4.9J	99	80-120	
Sodium, Dissolved	mg/L	5	4.8J	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179711 3179712

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		92524617002 Result	Spike Conc.	Spike Conc.	Result							
Calcium, Dissolved	mg/L	222	5	5	213	228	-186	112	75-125	7	20	M6
Iron, Dissolved	mg/L	ND	5	5	4.4	4.7	85	92	75-125	7	20	
Magnesium, Dissolved	mg/L	643	5	5	616	638	-528	-106	75-125	3	20	M6
Manganese, Dissolved	mg/L	0.32	0.5	0.5	0.75	0.80	86	96	75-125	6	20	
Potassium, Dissolved	mg/L	164	5	5	160	172	-80	144	75-125	7	20	M6
Sodium, Dissolved	mg/L	5070	5	5	4870	4940	-3960	-2600	75-125	1	20	M6

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QUALITY CONTROL DATA

Project: McManus 30050105.00006
 Pace Project No.: 92524617

QC Batch: 603195 Analysis Method: EPA 6020B
 QC Batch Method: EPA 3010A Analysis Description: 6020 MET
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3178129 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.0010	0.000087	03/01/21 16:13	
Boron	mg/L	ND	0.050	0.0085	03/01/21 16:13	

LABORATORY CONTROL SAMPLE: 3178130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	0.01	0.010	102	80-120	
Boron	mg/L	0.05	0.048J	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178131 3178132

Parameter	Units	3178131		3178132		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524617001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Arsenic	mg/L	0.0092J	0.01	0.01	0.023J	0.016J	134	68	75-125	20	M6
Boron	mg/L	ND	0.05	0.05	0.92J	ND	174	-102	75-125	20	M6

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QUALITY CONTROL DATA

Project: McManus 30050105.00006

Pace Project No.: 92524617

QC Batch: 603157 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3177984 Matrix: Water

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Table with 7 columns: Parameter, Units, Blank Result, Reporting Limit, MDL, Analyzed, Qualifiers. Rows for Arsenic, Dissolved and Boron, Dissolved.

LABORATORY CONTROL SAMPLE: 3177985

Table with 7 columns: Parameter, Units, Spike Conc., LCS Result, LCS % Rec, % Rec Limits, Qualifiers. Rows for Arsenic, Dissolved and Boron, Dissolved.

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177986 3177987

Table with 13 columns: Parameter, Units, 92524617001 Result, MS Spike Conc., MSD Spike Conc., MS Result, MSD Result, MS % Rec, MSD % Rec, % Rec Limits, RPD, Max RPD, Qual. Rows for Arsenic, Dissolved and Boron, Dissolved.

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QUALITY CONTROL DATA

Project: McManus 30050105.00006
 Pace Project No.: 92524617

QC Batch: 603230 Analysis Method: SM 2320B-2011
 QC Batch Method: SM 2320B-2011 Analysis Description: 2320B Alkalinity
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3178334 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	
Alkalinity,Carbonate (CaCO3)	mg/L	ND	5.0	5.0	03/01/21 16:46	

LABORATORY CONTROL SAMPLE: 3178335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	50	50.1	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178336 3178337

Parameter	Units	92524425001		3178337		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	212	50	50	256	258	88	93	80-120	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3178340 3178341

Parameter	Units	92524458002		3178341		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Alkalinity, Total as CaCO3	mg/L	309	50	50	363	360	108	101	80-120	1	25

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QUALITY CONTROL DATA

Project: McManus 30050105.00006
 Pace Project No.: 92524617

QC Batch: 603382 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: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3179110 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/01/21 19:02	

LABORATORY CONTROL SAMPLE: 3179111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	251	266	106	90-110	

SAMPLE DUPLICATE: 3179112

Parameter	Units	92524617001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	10700	10600	1	25	

SAMPLE DUPLICATE: 3179113

Parameter	Units	92523800006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	285	275	4	25	

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QUALITY CONTROL DATA

Project: McManus 30050105.00006
 Pace Project No.: 92524617

QC Batch: 603512 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: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3179455 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	0.050	03/02/21 15:50	

LABORATORY CONTROL SAMPLE: 3179456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	0.5	0.42	84	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179457 3179458

Parameter	Units	92524530002		3179457		3179458		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							MS % Rec	MSD % Rec
Sulfide	mg/L	ND	ND	0.5	0.5	0.52	0.52	104	104	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3179459 3179460

Parameter	Units	35614611001		3179459		3179460		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Sulfide	mg/L	0.40	0.40	0.5	0.5	0.91	0.91	101	102	80-120	0	10	

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QUALITY CONTROL DATA

Project: McManus 30050105.00006
 Pace Project No.: 92524617

QC Batch: 603132	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: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3177918 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	2.0	03/05/21 03:03	

LABORATORY CONTROL SAMPLE: 3177920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	84.6-115	

SAMPLE DUPLICATE: 3177921

Parameter	Units	92524407001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	222	210	6	25	

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QUALITY CONTROL DATA

Project: McManus 30050105.00006

Pace Project No.: 92524617

QC Batch:	603129	Analysis Method:	EPA 300.0 Rev 2.1 1993
QC Batch Method:	EPA 300.0 Rev 2.1 1993	Analysis Description:	300.0 IC Anions
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3177904 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/27/21 14:48	
Nitrate as N	mg/L	ND	0.10	0.060	02/27/21 14:48	
Nitrite as N	mg/L	ND	0.10	0.050	02/27/21 14:48	
Sulfate	mg/L	ND	1.0	0.50	02/27/21 14:48	

LABORATORY CONTROL SAMPLE: 3177905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.7	97	90-110	
Nitrate as N	mg/L	2.5	2.3	94	90-110	
Nitrite as N	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	50	49.4	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177906 3177907

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92524618003 Result	Spike Conc.	Spike Conc.	Result							Result
Chloride	mg/L	5630	50	50	5540	5580	-180	-100	90-110	1	10 M6
Nitrate as N	mg/L	ND	2.5	2.5	2.5	2.5	98	99	90-110	1	10
Nitrite as N	mg/L	ND	2.5	2.5	ND	ND	48	52	90-110		10 D3,M6
Sulfate	mg/L	540	50	50	576	581	72	82	90-110	1	10 M6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McManus 30050105.00006

Pace Project No.: 92524617

QC Batch: 603131 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: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3177914 Matrix: Water
 Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	0.012	02/27/21 16:06	

LABORATORY CONTROL SAMPLE & LCSD: 3177915 3177916

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Orthophosphate as P	mg/L	0.25	0.25	0.25	99	99	49-145	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: McManus 30050105.00006

Pace Project No.: 92524617

QC Batch:	603153	Analysis Method:	EPA 9060A
QC Batch Method:	EPA 9060A	Analysis Description:	9060 TOC, AVL
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

METHOD BLANK: 3177969 Matrix: Water

Associated Lab Samples: 92524617001, 92524617002, 92524617003, 92524617004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/02/21 22:12	

LABORATORY CONTROL SAMPLE: 3177970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.9	100	75-125	
Total Organic Carbon	mg/L	25	23.2	93	75-125	
Total Organic Carbon	mg/L	25	24.4	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177971 3177972

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523998001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Mean Total Organic Carbon	mg/L	264	25	25	285	280	81	60	75-125	2	25 M6
Total Organic Carbon	mg/L	261	25	25	283	278	90	71	75-125	2	25 M6
Total Organic Carbon	mg/L	271	25	25	289	282	71	44	75-125	2	25 M6
Total Organic Carbon	mg/L	258	25	25	280	276	87	74	75-125	1	25 M6
Total Organic Carbon	mg/L	268	25	25	287	282	76	52	75-125	2	25 M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3177973 3177974

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92523918001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Mean Total Organic Carbon	mg/L	9.3	25	25	34.9	34.8	102	102	75-125	0	25
Total Organic Carbon	mg/L	9.1	25	25	34.7	34.8	102	103	75-125	0	25
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.8	102	102	75-125	0	25
Total Organic Carbon	mg/L	9.4	25	25	35.0	34.5	102	101	75-125	1	25
Total Organic Carbon	mg/L	9.4	25	25	34.9	35.0	102	103	75-125	0	25

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: McManus 30050105.00006

Pace Project No.: 92524617

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.

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

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McManus 30050105.00006

Pace Project No.: 92524617

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92524617001	VAP-29-W (5-10)	EPA 3010A	603201	EPA 6010D	603275
92524617002	VAP-29-W (19-21)	EPA 3010A	603201	EPA 6010D	603275
92524617003	VAP-29-W (24-26)	EPA 3010A	603201	EPA 6010D	603275
92524617004	VAP-29-W (30-32)	EPA 3010A	603201	EPA 6010D	603275
92524617001	VAP-29-W (5-10)	EPA 3010A	603568	EPA 6010D	603578
92524617002	VAP-29-W (19-21)	EPA 3010A	603568	EPA 6010D	603578
92524617003	VAP-29-W (24-26)	EPA 3010A	603568	EPA 6010D	603578
92524617004	VAP-29-W (30-32)	EPA 3010A	603568	EPA 6010D	603578
92524617001	VAP-29-W (5-10)	EPA 3010A	603195	EPA 6020B	603270
92524617002	VAP-29-W (19-21)	EPA 3010A	603195	EPA 6020B	603270
92524617003	VAP-29-W (24-26)	EPA 3010A	603195	EPA 6020B	603270
92524617004	VAP-29-W (30-32)	EPA 3010A	603195	EPA 6020B	603270
92524617001	VAP-29-W (5-10)	EPA 3010A	603157	EPA 6020B	603159
92524617002	VAP-29-W (19-21)	EPA 3010A	603157	EPA 6020B	603159
92524617003	VAP-29-W (24-26)	EPA 3010A	603157	EPA 6020B	603159
92524617004	VAP-29-W (30-32)	EPA 3010A	603157	EPA 6020B	603159
92524617001	VAP-29-W (5-10)	SM 2320B-2011	603230		
92524617002	VAP-29-W (19-21)	SM 2320B-2011	603230		
92524617003	VAP-29-W (24-26)	SM 2320B-2011	603230		
92524617004	VAP-29-W (30-32)	SM 2320B-2011	603230		
92524617001	VAP-29-W (5-10)	SM 2540C-2011	603382		
92524617002	VAP-29-W (19-21)	SM 2540C-2011	603382		
92524617003	VAP-29-W (24-26)	SM 2540C-2011	603382		
92524617004	VAP-29-W (30-32)	SM 2540C-2011	603382		
92524617001	VAP-29-W (5-10)	SM 4500-S2D-2011	603512		
92524617002	VAP-29-W (19-21)	SM 4500-S2D-2011	603512		
92524617003	VAP-29-W (24-26)	SM 4500-S2D-2011	603512		
92524617004	VAP-29-W (30-32)	SM 4500-S2D-2011	603512		
92524617001	VAP-29-W (5-10)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524617002	VAP-29-W (19-21)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524617003	VAP-29-W (24-26)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524617004	VAP-29-W (30-32)	SM 5210B-2011	603132	SM 5210B-2011	603133
92524617001	VAP-29-W (5-10)	EPA 300.0 Rev 2.1 1993	603129		
92524617002	VAP-29-W (19-21)	EPA 300.0 Rev 2.1 1993	603129		
92524617003	VAP-29-W (24-26)	EPA 300.0 Rev 2.1 1993	603129		
92524617004	VAP-29-W (30-32)	EPA 300.0 Rev 2.1 1993	603129		
92524617001	VAP-29-W (5-10)	SM 4500-P E-2011	603131		
92524617002	VAP-29-W (19-21)	SM 4500-P E-2011	603131		
92524617003	VAP-29-W (24-26)	SM 4500-P E-2011	603131		
92524617004	VAP-29-W (30-32)	SM 4500-P E-2011	603131		
92524617001	VAP-29-W (5-10)	EPA 9060A	603153		
92524617002	VAP-29-W (19-21)	EPA 9060A	603153		
92524617003	VAP-29-W (24-26)	EPA 9060A	603153		
92524617004	VAP-29-W (30-32)	EPA 9060A	603153		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: McManus 30050105.00006
Pace Project No.: 92524617

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
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REPORT OF LABORATORY ANALYSIS

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CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Project Name: **WATER WOOD**
 Address: **5130 WATER BROOK DR**
 City: **STP 300**
 State: **919-405-2294**
 Client: **WATER WOOD**
 Project: **WATER WOOD**

Parameter	Request	C	S	C	R	F	G	E	E	E
Asbestos	1									
Lead	1									
Copper	1									
Zinc	1									
Iron	1									
Manganese	1									
Nickel	1									
Vanadium	1									
Chromium	1									
Selenium	1									
Barium	1									
Bismuth	1									
Antimony	1									
Mercury	1									
Molybdenum	1									
Cadmium	1									
Cobalt	1									
Strontium	1									
Yttrium	1									
Zirconium	1									
Barium	1									
Bismuth	1									
Antimony	1									
Mercury	1									
Molybdenum	1									
Cadmium	1									
Cobalt	1									
Strontium	1									
Yttrium	1									
Zirconium	1									

Sample ID	Collection Date	Type (1)	Matrix
VAP-29-W (5-10)	5/10/15	X	W
VAP-29-W (1-21)	1/21/15	X	W
VAP-29-W (4-26)	4/26/15	X	W
VAP-29-W (50-32)	5/32/15	X	W

PARAMETER ANALYSIS & METHOD

Parameter	Method	Kit	TOC	BOB	TDS
TOTAL METALS					
DISTURBED METALS					
PERMANENT METALS					
SULFIDE METALS					
DETRITUS METALS					
TOC					
BOB					
TDS					

PREPARATION BY: **ARCADIS**
 ANALYSIS BY: **ARCADIS**
 DATE: **5/10/15**

Sample ID	Collection Date	Type (1)	Matrix	Asbestos	Lead	Copper	Zinc	Iron	Manganese	Nickel	Vanadium	Chromium	Selenium	Barium	Bismuth	Antimony	Mercury	Molybdenum	Cadmium	Cobalt	Strontium	Yttrium	Zirconium	
VAP-29-W (5-10)	5/10/15	X	W																					
VAP-29-W (1-21)	1/21/15	X	W																					
VAP-29-W (4-26)	4/26/15	X	W																					
VAP-29-W (50-32)	5/32/15	X	W																					

Special Instructions/Comments: **ARCADIS AS FOR M, ONLY FOR M, K, G DISTURBED METALS ONLY FINAL RESULTS TOTAL DISTURBED AS ARE TO BE ANALYZED ON 24 TAT**

Client Name: **ARCADIS**
 Project Name: **WATER WOOD**
 Address: **5130 WATER BROOK DR**
 City: **STP 300**
 State: **919-405-2294**
 Client: **WATER WOOD**
 Project: **WATER WOOD**

Order Number: **17320**
 Order Date: **5/10/15**
 Order Time: **2:16**
 Order Status: **OPEN**
 Order Type: **LABORATORY**
 Order Description: **WATER WOOD - LABORATORY REQUEST WITH RESULTS**
 Order Reference: **YELLOW - Lab copy**
 Order Status: **OPEN - Requested by Arcadis**

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name: Arcadis Project #:

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other:

Custody Seal Present? Yes No Seals Intact? Yes No

Date/Initials Person Examining Contents: 2-27-21 AK

Packing Material: Bubble Wrap Bubble Bags None Other
 Thermowater: Yes No Other

Biological Storage Frozen? Yes No N/A

of Coolers: 93-7071 Type of Ice: Dry Other

Cooler Temp: 3.6 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): 3.6

USDA Regulated Soil (N/A, water sample)

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

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

			Comments/Discrepancy
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Short Hold Time Analysis (x72 hr.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Dissolved analysis: Samples Field Filtered?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	<u>Dissolved Metals</u>
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
Headspace in VOA vials (>1-6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCUR Review: _____ Date: _____

Project Manager SRJ Review: _____ Date: _____



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

document Revised: October 28, 2000
 Page 2 of 2
 Issuing Authority:
 Pace Carolina Quality Office

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

Project #

Exceptions: VOA, Coliforms, TDC, Oil and Grease, DRO/ROIS (water) DOC, UHg

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

Sample #	Container	1	2	3	4	5	6	7	8	9	10	11	12
BP00-120 ml, Plastic Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
BP00-250 ml, Plastic Unpreserved (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-500 ml, Plastic Unpreserved (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-1 liter Plastic Unpreserved (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-120 ml, Plastic HDPE (pH < 2) (D-)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-250 ml, plastic HDPE (pH < 2)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-500 ml, Plastic (2x Acetate & Acetic) (pH)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-120 ml, Plastic HDPE (pH < 2) (D-)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-250 ml, Plastic HDPE (pH < 2) (D-)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-Wide-mouthed Glass jar Unpreserved		/	/	/	/	/	/	/	/	/	/	/	/
AG00-1 liter Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AG00-1 liter Amber (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AG00-250 ml, Amber Unpreserved (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
AG00-1 liter Amber HDPE (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AG00-250 ml, Amber HDPE (pH < 2)		/	/	/	/	/	/	/	/	/	/	/	/
AG00-500 ml, Amber HDPE (N/A) (D-)		/	/	/	/	/	/	/	/	/	/	/	/
VO00-40 ml, VOA (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO00-40 ml, VOA Na2S2O3 (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO00-40 ml, VOA (N/A)		/	/	/	/	/	/	/	/	/	/	/	/
VO00-40 ml, VOA (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VO00 (8 vials per 100-1000 L) (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
V/Se (8 vials per 100-1000 L) (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SP00-120 ml, Sealed Plastic (N/A = 100)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SP00-250 ml, Sealed Plastic (N/A = 100)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SP00-500 ml, Sealed Plastic (N/A = 100)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BP00-250 ml, Plastic (pH < 2) (D-)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AG00-120 ml, Amber Unpreserved vials (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VO00-20 ml, Sealed vials (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VO00-40 ml, Amber Unpreserved vials (N/A)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

pH Adjustment Log for Preserved Samples

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

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

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

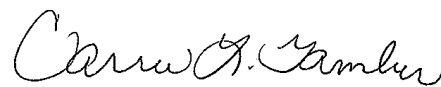
Laboratory Job ID: 180-117730-1

Client Project/Site: Plant McManus (AVS/SEM)

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Kathryn Farris



Authorized for release by:
5/4/2021 10:58:01 AM

Carrie Gamber, Senior Project Manager
(412)963-2428

Carrie.Gamber@Eurofinset.com

LINKS

Review your project
results through
Total Access

Have a Question?



Visit us at:

www.eurofinaus.com/ETv

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Job ID: 180-117730-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

CASE NARRATIVE

Client: ARCADIS U.S. Inc

Project: Plant McManus (AVS/SEM)

Report Number: 180-117730-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 03/02/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.8 C.

AVS/SEM

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS

Aluminum failed the recovery criteria high for the MS of sample SB-6-S(8-10)MS (180-117730-5) in batch 180-349774. Aluminum and Iron failed the recovery criteria high for the MSD of sample SB-6-S(8-10)MSD (180-117730-5) in batch 180-349774. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Aluminum failed the recovery criteria high for the MS of sample SB-6-S(27-29)MS (180-117730-7) in batch 180-350237. Aluminum and Iron failed the recovery criteria high for the MSD of sample SB-6-S(27-29)MSD (180-117730-7) in batch 180-350237.

TOTAL ORGANIC CARBON

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

PERCENT SOLIDS

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Laboratory: Eurofins TestAmerica, Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>	<u>Expiration Date</u>
Georgia	State	PA 02-00416	04-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

<u>Analysis Method</u>	<u>Prep Method</u>	<u>Matrix</u>	<u>Analyte</u>
2540G		Sediment	Percent Moisture
2540G		Sediment	Percent Solids
SEM		Sediment	SEM/AVS Ratio



Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-117730-1	SB-6-S(8-10)	Sediment	02/27/21 09:50	03/02/21 11:00	
180-117730-2	SB-6-S(15-17)	Sediment	02/27/21 10:00	03/02/21 11:00	
180-117730-3	SB-6-S(27-29)	Sediment	02/27/21 10:10	03/02/21 11:00	
180-117730-4	SB-6-S(33.5-35.5)	Sediment	02/27/21 10:23	03/02/21 11:00	
180-117730-5	SB-6-S(8-10)	Sediment	02/27/21 10:25	03/02/21 11:00	
180-117730-6	SB-6-S(15-17)	Sediment	02/27/21 10:30	03/02/21 11:00	
180-117730-7	SB-6-S(27-29)	Sediment	02/27/21 10:35	03/02/21 11:00	
180-117730-8	SB-6-S(33.5-35.5)	Sediment	02/27/21 10:40	03/02/21 11:00	
180-117730-9	SB-18-S(8-10)	Sediment	02/27/21 12:45	03/02/21 11:00	
180-117730-10	SB-18-S(21-23)	Sediment	02/27/21 12:50	03/02/21 11:00	
180-117730-11	SB-18-S(26-28)	Sediment	02/27/21 12:55	03/02/21 11:00	
180-117730-12	SB-18-S(8-10)	Sediment	02/27/21 14:20	03/02/21 11:00	
180-117730-13	SB-18-S(21-23)	Sediment	02/27/21 14:26	03/02/21 11:00	
180-117730-14	SB-18-S(26-28)	Sediment	02/27/21 14:35	03/02/21 11:00	
180-117730-15	SB-14-S(8-10)	Sediment	02/28/21 07:48	03/02/21 11:00	
180-117730-18	SB-14-S(29-31)	Sediment	02/28/21 08:15	03/02/21 11:00	
180-117730-19	SB-14-S(31-33)	Sediment	02/28/21 08:30	03/02/21 11:00	
180-117730-20	SB-14-S(8-10)	Sediment	02/28/21 08:45	03/02/21 11:00	
180-117730-21	SB-14-S(29-31)	Sediment	02/28/21 08:55	03/02/21 11:00	
180-117730-22	SB-14-S(31-33)	Sediment	02/28/21 09:10	03/02/21 11:00	
180-117730-23	SB-32-S(5-10)	Sediment	02/28/21 11:10	03/02/21 11:00	
180-117730-24	SB-32-S(5-10)	Sediment	02/28/21 11:15	03/02/21 11:00	
180-117730-25	SB-32-S(22-24)	Sediment	02/28/21 11:20	03/02/21 11:00	
180-117730-26	SB-32-S(28-30)	Sediment	02/28/21 11:22	03/02/21 11:00	
180-117730-27	SB-32-S(22-24)	Sediment	02/28/21 11:25	03/02/21 11:00	
180-117730-28	SB-32-S(28-30)	Sediment	02/28/21 11:40	03/02/21 11:00	
180-117730-29	SB-26-S(5-10)	Sediment	02/28/21 15:00	03/02/21 11:00	
180-117730-30	SB-26-S(11-13)	Sediment	02/28/21 15:20	03/02/21 11:00	
180-117730-31	SB-26-S(26-28)	Sediment	02/28/21 15:40	03/02/21 11:00	
180-117730-32	SB-26-S(34-36)	Sediment	02/28/21 15:50	03/02/21 11:00	
180-117730-33	SB-26-S(5-10)	Sediment	02/28/21 15:52	03/02/21 11:00	
180-117730-34	SB-26-S(11-13)	Sediment	02/28/21 15:54	03/02/21 11:00	
180-117730-35	SB-26-S(26-28)	Sediment	02/28/21 15:56	03/02/21 11:00	
180-117730-36	SB-26-S(34-36)	Sediment	02/28/21 15:58	03/02/21 11:00	

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
SEM	Metals, Simultaneously Extracted Metals (SEM)	EPA	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
EPA-Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL PIT
3050B	Preparation, Metals	SW846	TAL PIT
AVSSEM	Preparation, Acid Volatile Sulfide (AVS) and Simultaneously Extracted Metals (SE	EPA	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(8-10)

Lab Sample ID: 180-117730-1

Date Collected: 02/27/21 09:50

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(8-10)

Lab Sample ID: 180-117730-1

Date Collected: 02/27/21 09:50

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.02 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 12:25	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.02 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/10/21 21:38	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(15-17)

Lab Sample ID: 180-117730-2

Date Collected: 02/27/21 10:00

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(15-17)

Lab Sample ID: 180-117730-2

Date Collected: 02/27/21 10:00

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.03 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 12:56	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.03 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 00:14	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(27-29)

Lab Sample ID: 180-117730-3

Date Collected: 02/27/21 10:10

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(27-29)
Date Collected: 02/27/21 10:10
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-3
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT

Client Sample ID: SB-6-S(27-29)
Date Collected: 02/27/21 10:10
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-3
Matrix: Sediment
Percent Solids: 75.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.10 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:00	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.10 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 01:06	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(33.5-35.5)
Date Collected: 02/27/21 10:23
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-4
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(33.5-35.5)
Date Collected: 02/27/21 10:23
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-4
Matrix: Sediment
Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.04 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:05	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.04 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 01:58	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(8-10)
Date Collected: 02/27/21 10:25
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-5
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(8-10)

Lab Sample ID: 180-117730-5

Date Collected: 02/27/21 10:25

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 80.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 13:59	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 13:24	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-6-S(15-17)

Lab Sample ID: 180-117730-6

Date Collected: 02/27/21 10:30

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(15-17)

Lab Sample ID: 180-117730-6

Date Collected: 02/27/21 10:30

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:24	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 13:40	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-6-S(27-29)

Lab Sample ID: 180-117730-7

Date Collected: 02/27/21 10:35

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349300	03/12/21 19:06	KMM	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(27-29)

Lab Sample ID: 180-117730-7

Date Collected: 02/27/21 10:35

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	350053	03/19/21 13:42	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			350237	03/20/21 17:38	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1	18.35 mg	18.35 mg	349210	03/11/21 13:23	DLF	TAL PIT
Instrument ID: FLASHEA										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(33.5-35.5)
 Date Collected: 02/27/21 10:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-8
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-6-S(33.5-35.5)
 Date Collected: 02/27/21 10:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-8
 Matrix: Sediment
 Percent Solids: 77.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:28	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 15:04	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-18-S(8-10)
 Date Collected: 02/27/21 12:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-9
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-18-S(8-10)
 Date Collected: 02/27/21 12:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-9
 Matrix: Sediment
 Percent Solids: 79.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:31	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 15:26	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-18-S(21-23)
 Date Collected: 02/27/21 12:50
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-10
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-18-S(21-23)
Date Collected: 02/27/21 12:50
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-10
Matrix: Sediment
Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:35	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 15:43	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-18-S(26-28)
Date Collected: 02/27/21 12:55
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-11
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-18-S(26-28)
Date Collected: 02/27/21 12:55
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-11
Matrix: Sediment
Percent Solids: 69.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:39	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 16:00	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-18-S(8-10)
Date Collected: 02/27/21 14:20
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-12
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-18-S(8-10)
Date Collected: 02/27/21 14:20
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-12
Matrix: Sediment
Percent Solids: 78.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.05 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:09	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.05 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 02:50	CMR	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-18-S(21-23)
Date Collected: 02/27/21 14:26
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-13
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-18-S(21-23)
Date Collected: 02/27/21 14:26
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-13
Matrix: Sediment
Percent Solids: 82.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.04 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:14	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.04 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 03:42	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-18-S(26-28)
Date Collected: 02/27/21 14:35
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-14
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-18-S(26-28)
Date Collected: 02/27/21 14:35
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-14
Matrix: Sediment
Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.01 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:19	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.01 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 06:18	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(8-10)
Date Collected: 02/28/21 07:48
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-15
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(8-10)

Lab Sample ID: 180-117730-15

Date Collected: 02/28/21 07:48

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 75.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:42	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 16:17	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-14-S(29-31)

Lab Sample ID: 180-117730-18

Date Collected: 02/28/21 08:15

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(29-31)

Lab Sample ID: 180-117730-18

Date Collected: 02/28/21 08:15

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 72.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.09 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:23	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.09 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 07:11	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(31-33)

Lab Sample ID: 180-117730-19

Date Collected: 02/28/21 08:30

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(31-33)

Lab Sample ID: 180-117730-19

Date Collected: 02/28/21 08:30

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.00 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:37	RJG	TAL PIT
Instrument ID: C										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(31-33)
 Date Collected: 02/28/21 08:30
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-19
 Matrix: Sediment
 Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.00 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 08:03	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(8-10)
 Date Collected: 02/28/21 08:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-20
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(8-10)
 Date Collected: 02/28/21 08:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-20
 Matrix: Sediment
 Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.03 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:41	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.03 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 08:55	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(29-31)
 Date Collected: 02/28/21 08:55
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-21
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(29-31)
 Date Collected: 02/28/21 08:55
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-21
 Matrix: Sediment
 Percent Solids: 75.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:00	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 16:33	DLF	TAL PIT
Instrument ID: FLASHEA										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(31-33)
 Date Collected: 02/28/21 09:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-22
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-14-S(31-33)
 Date Collected: 02/28/21 09:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-22
 Matrix: Sediment
 Percent Solids: 80.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:04	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 17:07	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-23
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-23
 Matrix: Sediment
 Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:07	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 17:29	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:15
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-24
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(5-10)
Date Collected: 02/28/21 11:15
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-24
Matrix: Sediment
Percent Solids: 78.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			9.98 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:46	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			9.98 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 09:47	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(22-24)
Date Collected: 02/28/21 11:20
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-25
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(22-24)
Date Collected: 02/28/21 11:20
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-25
Matrix: Sediment
Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:11	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 17:46	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-32-S(28-30)
Date Collected: 02/28/21 11:22
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-26
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(28-30)
Date Collected: 02/28/21 11:22
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-26
Matrix: Sediment
Percent Solids: 81.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:14	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 18:08	DLF	TAL PIT
Instrument ID: FLASHEA										

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(22-24)
Date Collected: 02/28/21 11:25
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-27
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(22-24)
Date Collected: 02/28/21 11:25
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-27
Matrix: Sediment
Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			9.97 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:51	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			9.97 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 10:39	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(28-30)
Date Collected: 02/28/21 11:40
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-28
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-32-S(28-30)
Date Collected: 02/28/21 11:40
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-28
Matrix: Sediment
Percent Solids: 80.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.02 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 13:55	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.02 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 11:31	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(5-10)
Date Collected: 02/28/21 15:00
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-29
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(5-10)
 Date Collected: 02/28/21 15:00
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-29
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT

Client Sample ID: SB-26-S(5-10)
 Date Collected: 02/28/21 15:00
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-29
 Matrix: Sediment
 Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.04 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 14:00	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.04 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 12:23	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(11-13)
 Date Collected: 02/28/21 15:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-30
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(11-13)
 Date Collected: 02/28/21 15:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-30
 Matrix: Sediment
 Percent Solids: 50.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.02 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 14:04	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.02 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 13:15	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(26-28)
 Date Collected: 02/28/21 15:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-31
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(26-28)
Date Collected: 02/28/21 15:40
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-31
Matrix: Sediment
Percent Solids: 79.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.05 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 14:09	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.05 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 14:07	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(34-36)
Date Collected: 02/28/21 15:50
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-32
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349731	03/17/21 13:25	RJR	TAL PIT
Instrument ID: NOEQUIP										
Total/NA	Analysis	2540G		1			349075	03/11/21 09:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(34-36)
Date Collected: 02/28/21 15:50
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-32
Matrix: Sediment
Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.06 g	250 mL	348972	03/10/21 12:25	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349633	03/16/21 14:14	RJG	TAL PIT
Instrument ID: C										
SEM/AVS	Prep	AVSSEM			10.06 g	50 mL	349015	03/10/21 17:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			349062	03/11/21 16:43	CMR	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(5-10)
Date Collected: 02/28/21 15:52
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-33
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(5-10)
Date Collected: 02/28/21 15:52
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-33
Matrix: Sediment
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:18	RSK	TAL PIT
Instrument ID: DORY										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(5-10)
 Date Collected: 02/28/21 15:52
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-33
 Matrix: Sediment
 Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 18:31	DLF	TAL PIT

Client Sample ID: SB-26-S(11-13)
 Date Collected: 02/28/21 15:54
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-34
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(11-13)
 Date Collected: 02/28/21 15:54
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-34
 Matrix: Sediment
 Percent Solids: 50.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:22	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 18:59	DLF	TAL PIT
Instrument ID: FLASHEA										

Client Sample ID: SB-26-S(26-28)
 Date Collected: 02/28/21 15:56
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-35
 Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(26-28)
 Date Collected: 02/28/21 15:56
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-35
 Matrix: Sediment
 Percent Solids: 77.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	100 mL	349589	03/16/21 15:12	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:25	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 19:21	DLF	TAL PIT
Instrument ID: FLASHEA										

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(34-36)

Lab Sample ID: 180-117730-36

Date Collected: 02/28/21 15:58

Matrix: Sediment

Date Received: 03/02/21 11:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			349084	03/11/21 10:34	MM1	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: SB-26-S(34-36)

Lab Sample ID: 180-117730-36

Date Collected: 02/28/21 15:58

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 75.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	100 mL	349589	03/16/21 15:12	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 15:29	RSK	TAL PIT
Instrument ID: DORY										
Total/NA	Analysis	EPA-Lloyd Kahn		1			348486	03/04/21 19:43	DLF	TAL PIT
Instrument ID: FLASHEA										

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Prep

CMR = Carl Reagle

TJO = Tyler Oliver

Batch Type: Analysis

CMR = Carl Reagle

DLF = Donald Ferguson

KMM = Kendric Moore

MM1 = Mary Beth Miller

RJG = Rob Good

RJR = Ron Rosenbaum

RSK = Robert Kurtz

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(8-10)
 Date Collected: 02/27/21 09:50
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-1
 Matrix: Sediment
 Percent Solids: 78.4

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	1.8		0.32	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 12:25	1
Arsenic SEM	0.024		0.0043	0.0018	umol/g	☼	03/10/21 12:25	03/16/21 12:25	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	78.4		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.4	mg/Kg	☼	03/10/21 17:00	03/10/21 21:38	1
Acid Volatile Sulfides (AVS)	ND		0.60	0.20	umol/g	☼	03/10/21 17:00	03/10/21 21:38	1

Client Sample ID: SB-6-S(15-17)

Date Collected: 02/27/21 10:00
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-2
 Matrix: Sediment
 Percent Solids: 81.1

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.29	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 12:56	1
Arsenic SEM	0.0039	J	0.0041	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 12:56	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.9		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	81.1		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	6.1	mg/Kg	☼	03/10/21 17:00	03/11/21 00:14	1
Acid Volatile Sulfides (AVS)	ND		0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 00:14	1

Client Sample ID: SB-6-S(27-29)

Date Collected: 02/27/21 10:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-3
 Matrix: Sediment
 Percent Solids: 75.3

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.31	J	0.33	0.14	mg/Kg	☼	03/10/21 12:25	03/16/21 13:00	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(27-29)
Date Collected: 02/27/21 10:10
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-3
Matrix: Sediment
Percent Solids: 75.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0041	J	0.0044	0.0018	umol/g	☼	03/10/21 12:25	03/16/21 13:00	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.7		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	75.3		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		20	6.6	mg/Kg	☼	03/10/21 17:00	03/11/21 01:06	1
Acid Volatile Sulfides (AVS)	ND		0.61	0.20	umol/g	☼	03/10/21 17:00	03/11/21 01:06	1

Client Sample ID: SB-6-S(33.5-35.5)
Date Collected: 02/27/21 10:23
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-4
Matrix: Sediment
Percent Solids: 79.8

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.27	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:05	1
Arsenic SEM	0.0036	J	0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:05	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.2		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.8		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.2	mg/Kg	☼	03/10/21 17:00	03/11/21 01:58	1
Acid Volatile Sulfides (AVS)	ND		0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 01:58	1

Client Sample ID: SB-6-S(8-10)
Date Collected: 02/27/21 10:25
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-5
Matrix: Sediment
Percent Solids: 80.5

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4000		3.7	3.6	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1
Arsenic	4.6		0.062	0.020	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1
Calcium	240		31	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1
Iron	1800		3.1	3.0	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(8-10)
 Date Collected: 02/27/21 10:25
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-5
 Matrix: Sediment
 Percent Solids: 80.5

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	16		0.31	0.27	mg/Kg	☼	03/16/21 15:11	03/17/21 13:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.5		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	80.5		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1600		1200	930	mg/Kg	☼		03/04/21 13:24	1

Client Sample ID: SB-6-S(15-17)
 Date Collected: 02/27/21 10:30
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-6
 Matrix: Sediment
 Percent Solids: 81.2

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	330		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Arsenic	0.52		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Calcium	390		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Iron	550		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1
Manganese	14		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 14:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.8		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	81.2		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1100	J	1200	920	mg/Kg	☼		03/04/21 13:40	1

Client Sample ID: SB-6-S(27-29)
 Date Collected: 02/27/21 10:35
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-7
 Matrix: Sediment
 Percent Solids: 83.4

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	650	F1	3.6	3.5	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Arsenic	0.99		0.059	0.019	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Calcium	2700		30	4.5	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Iron	1100	F1	3.0	2.8	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1
Manganese	18		0.30	0.26	mg/Kg	☼	03/19/21 13:42	03/20/21 17:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16.6		0.1	0.1	%			03/12/21 19:06	1
Percent Solids	83.4		0.1	0.1	%			03/12/21 19:06	1
Total Organic Carbon - Duplicates	990	J	1200	890	mg/Kg	☼		03/11/21 13:23	1

Client Sample ID: SB-6-S(33.5-35.5)
 Date Collected: 02/27/21 10:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-8
 Matrix: Sediment
 Percent Solids: 77.6

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1200		3.9	3.7	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1
Arsenic	1.4		0.064	0.021	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-6-S(33.5-35.5)
 Date Collected: 02/27/21 10:40
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-8
 Matrix: Sediment
 Percent Solids: 77.6

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	4000		32	4.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1
Iron	1700		3.2	3.1	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1
Manganese	25		0.32	0.28	mg/Kg	☼	03/16/21 15:11	03/17/21 14:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	22.4		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	77.6		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1900		1300	960	mg/Kg	☼		03/04/21 15:04	1

Client Sample ID: SB-18-S(8-10)
 Date Collected: 02/27/21 12:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-9
 Matrix: Sediment
 Percent Solids: 79.6

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4900		3.7	3.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Arsenic	4.6		0.062	0.020	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Calcium	200		31	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Iron	1600		3.1	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1
Manganese	12		0.31	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 14:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.4		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	79.6		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	2100		1300	940	mg/Kg	☼		03/04/21 15:26	1

Client Sample ID: SB-18-S(21-23)
 Date Collected: 02/27/21 12:50
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-10
 Matrix: Sediment
 Percent Solids: 82.7

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1100		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Arsenic	1.2		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Calcium	1100		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Iron	2000		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1
Manganese	26		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 14:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.3		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	82.7		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1500		1200	900	mg/Kg	☼		03/04/21 15:43	1

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-18-S(26-28)
 Date Collected: 02/27/21 12:55
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-11
 Matrix: Sediment
 Percent Solids: 69.6

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	7500		4.2	4.1	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Arsenic	5.5		0.071	0.023	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Calcium	4800		35	5.4	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Iron	10000		3.5	3.4	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1
Manganese	150		0.35	0.30	mg/Kg	☼	03/16/21 15:11	03/17/21 14:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	30.4		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	69.6		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	5600		1400	1100	mg/Kg	☼		03/04/21 16:00	1

Client Sample ID: SB-18-S(8-10)
 Date Collected: 02/27/21 14:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-12
 Matrix: Sediment
 Percent Solids: 78.4

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.73		0.32	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:09	1
Arsenic SEM	0.0097		0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:09	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	78.4		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.3	mg/Kg	☼	03/10/21 17:00	03/11/21 02:50	1
Acid Volatile Sulfides (AVS)	ND		0.59	0.20	umol/g	☼	03/10/21 17:00	03/11/21 02:50	1

Client Sample ID: SB-18-S(21-23)
 Date Collected: 02/27/21 14:26
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-13
 Matrix: Sediment
 Percent Solids: 82.4

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.23	J	0.30	0.12	mg/Kg	☼	03/10/21 12:25	03/16/21 13:14	1
Arsenic SEM	0.0030	J	0.0040	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:14	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.023		0.0010	NaN	NONE			03/17/21 13:25	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-18-S(21-23)

Lab Sample ID: 180-117730-13

Date Collected: 02/27/21 14:26

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 82.4

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	82.4		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	6.4	J	18	6.0	mg/Kg	✱	03/10/21 17:00	03/11/21 03:42	1
Acid Volatile Sulfides (AVS)	0.20	J	0.57	0.19	umol/g	✱	03/10/21 17:00	03/11/21 03:42	1

Client Sample ID: SB-18-S(26-28)

Lab Sample ID: 180-117730-14

Date Collected: 02/27/21 14:35

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 82.7

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.30		0.30	0.12	mg/Kg	✱	03/10/21 12:25	03/16/21 13:19	1
Arsenic SEM	0.0041		0.0040	0.0017	umol/g	✱	03/10/21 12:25	03/16/21 13:19	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.024		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.3		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	82.7		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	8.2	J	18	6.0	mg/Kg	✱	03/10/21 17:00	03/11/21 06:18	1
Acid Volatile Sulfides (AVS)	0.26	J	0.56	0.19	umol/g	✱	03/10/21 17:00	03/11/21 06:18	1

Client Sample ID: SB-14-S(8-10)

Lab Sample ID: 180-117730-15

Date Collected: 02/28/21 07:48

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 75.0

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3500		4.0	3.8	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Arsenic	1.0		0.066	0.021	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Calcium	230		33	5.0	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Iron	1300		3.3	3.2	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1
Manganese	9.4		0.33	0.28	mg/Kg	✱	03/16/21 15:11	03/17/21 14:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25.0		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	75.0		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1900		1300	990	mg/Kg	✱		03/04/21 16:17	1

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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(29-31)
 Date Collected: 02/28/21 08:15
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-18
 Matrix: Sediment
 Percent Solids: 72.6

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	1.5		0.34	0.14	mg/Kg	☼	03/10/21 12:25	03/16/21 13:23	1
Arsenic SEM	0.019		0.0046	0.0019	umol/g	☼	03/10/21 12:25	03/16/21 13:23	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.086		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	27.4		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	72.6		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	11	J	20	6.8	mg/Kg	☼	03/10/21 17:00	03/11/21 07:11	1
Acid Volatile Sulfides (AVS)	0.34	J	0.64	0.21	umol/g	☼	03/10/21 17:00	03/11/21 07:11	1

Client Sample ID: SB-14-S(31-33)

Date Collected: 02/28/21 08:30
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-19

Matrix: Sediment
 Percent Solids: 84.3

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.62		0.30	0.12	mg/Kg	☼	03/10/21 12:25	03/16/21 13:37	1
Arsenic SEM	0.0083		0.0040	0.0016	umol/g	☼	03/10/21 12:25	03/16/21 13:37	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.049		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.7		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	84.3		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	8.1	J	18	5.9	mg/Kg	☼	03/10/21 17:00	03/11/21 08:03	1
Acid Volatile Sulfides (AVS)	0.25	J	0.55	0.18	umol/g	☼	03/10/21 17:00	03/11/21 08:03	1

Client Sample ID: SB-14-S(8-10)

Date Collected: 02/28/21 08:45
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-20

Matrix: Sediment
 Percent Solids: 79.9

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.26	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:41	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-14-S(8-10)
Date Collected: 02/28/21 08:45
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-20
Matrix: Sediment
Percent Solids: 79.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0034	J	0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:41	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.023		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.1		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.9		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	7.1	J	19	6.2	mg/Kg	☼	03/10/21 17:00	03/11/21 08:55	1
Acid Volatile Sulfides (AVS)	0.22	J	0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 08:55	1

Client Sample ID: SB-14-S(29-31)
Date Collected: 02/28/21 08:55
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-21
Matrix: Sediment
Percent Solids: 75.9

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4300		3.9	3.8	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Arsenic	3.8		0.066	0.021	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Calcium	11000		33	5.0	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Iron	6900		3.3	3.1	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1
Manganese	96		0.33	0.28	mg/Kg	☼	03/16/21 15:11	03/17/21 15:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.1		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	75.9		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	2500		1300	980	mg/Kg	☼		03/04/21 16:33	1

Client Sample ID: SB-14-S(31-33)
Date Collected: 02/28/21 09:10
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-22
Matrix: Sediment
Percent Solids: 80.9

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Arsenic	3.5		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Calcium	73000		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Iron	4600		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1
Manganese	63		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 15:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.1		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	80.9		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1600		1200	920	mg/Kg	☼		03/04/21 17:07	1

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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:10
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-23
 Matrix: Sediment
 Percent Solids: 82.1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4600		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Arsenic	1.8		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Calcium	250		30	4.6	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Iron	1400		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1
Manganese	8.8		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 15:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.9		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	82.1		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1800		1200	910	mg/Kg	☼		03/04/21 17:29	1

Client Sample ID: SB-32-S(5-10)
 Date Collected: 02/28/21 11:15
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-24
 Matrix: Sediment
 Percent Solids: 78.2

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.25	J	0.32	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:46	1
Arsenic SEM	0.0033	J	0.0043	0.0018	umol/g	☼	03/10/21 12:25	03/16/21 13:46	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.022		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	21.8		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	78.2		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	7.2	J	19	6.4	mg/Kg	☼	03/10/21 17:00	03/11/21 09:47	1
Acid Volatile Sulfides (AVS)	0.23	J	0.60	0.20	umol/g	☼	03/10/21 17:00	03/11/21 09:47	1

Client Sample ID: SB-32-S(22-24)
 Date Collected: 02/28/21 11:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-25
 Matrix: Sediment
 Percent Solids: 84.2

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	630		3.5	3.4	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Arsenic	1.4		0.059	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Calcium	7700		29	4.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Iron	1500		2.9	2.8	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1
Manganese	19		0.29	0.25	mg/Kg	☼	03/16/21 15:11	03/17/21 15:11	1

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Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(22-24)
 Date Collected: 02/28/21 11:20
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-25
 Matrix: Sediment
 Percent Solids: 84.2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15.8		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	84.2		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1200		1200	890	mg/Kg	✱		03/04/21 17:46	1

Client Sample ID: SB-32-S(28-30)
 Date Collected: 02/28/21 11:22
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-26
 Matrix: Sediment
 Percent Solids: 81.5

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		3.6	3.5	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Arsenic	2.5		0.060	0.019	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Calcium	17000		30	4.6	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Iron	3500		3.0	2.9	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1
Manganese	46		0.30	0.26	mg/Kg	✱	03/16/21 15:11	03/17/21 15:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.5		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	81.5		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1500		1200	920	mg/Kg	✱		03/04/21 18:08	1

Client Sample ID: SB-32-S(22-24)
 Date Collected: 02/28/21 11:25
 Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-27
 Matrix: Sediment
 Percent Solids: 81.7

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.47		0.31	0.13	mg/Kg	✱	03/10/21 12:25	03/16/21 13:51	1
Arsenic SEM	0.0062		0.0041	0.0017	umol/g	✱	03/10/21 12:25	03/16/21 13:51	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.3		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	81.7		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		18	6.1	mg/Kg	✱	03/10/21 17:00	03/11/21 10:39	1
Acid Volatile Sulfides (AVS)	ND		0.57	0.19	umol/g	✱	03/10/21 17:00	03/11/21 10:39	1

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-32-S(28-30)
Date Collected: 02/28/21 11:40
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-28
Matrix: Sediment
Percent Solids: 80.0

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.73		0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 13:55	1
Arsenic SEM	0.0098		0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 13:55	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.0		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	80.0		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.2	mg/Kg	☼	03/10/21 17:00	03/11/21 11:31	1
Acid Volatile Sulfides (AVS)	ND		0.58	0.19	umol/g	☼	03/10/21 17:00	03/11/21 11:31	1

Client Sample ID: SB-26-S(5-10)

Date Collected: 02/28/21 15:00
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-29

Matrix: Sediment
Percent Solids: 79.1

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.13	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 14:00	1
Arsenic SEM	0.0017	J	0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 14:00	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.9		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.1		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.3	mg/Kg	☼	03/10/21 17:00	03/11/21 12:23	1
Acid Volatile Sulfides (AVS)	ND		0.59	0.20	umol/g	☼	03/10/21 17:00	03/11/21 12:23	1

Client Sample ID: SB-26-S(11-13)

Date Collected: 02/28/21 15:20
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-30

Matrix: Sediment
Percent Solids: 50.5

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.65		0.49	0.20	mg/Kg	☼	03/10/21 12:25	03/16/21 14:04	1

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Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(11-13)
Date Collected: 02/28/21 15:20
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-30
Matrix: Sediment
Percent Solids: 50.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0087		0.0066	0.0027	umol/g	☼	03/10/21 12:25	03/16/21 14:04	1
Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	49.5		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	50.5		0.1	0.1	%			03/11/21 09:43	1
General Chemistry - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		30	9.9	mg/Kg	☼	03/10/21 17:00	03/11/21 13:15	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.92	0.31	umol/g	☼	03/10/21 17:00	03/11/21 13:15	1

Client Sample ID: SB-26-S(26-28)
Date Collected: 02/28/21 15:40
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-31
Matrix: Sediment
Percent Solids: 79.4

Method: 6010D - Metals (ICP) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 14:09	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.0042	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 14:09	1
Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/17/21 13:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20.6		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	79.4		0.1	0.1	%			03/11/21 09:43	1
General Chemistry - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		19	6.3	mg/Kg	☼	03/10/21 17:00	03/11/21 14:07	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.59	0.20	umol/g	☼	03/10/21 17:00	03/11/21 14:07	1

Client Sample ID: SB-26-S(34-36)
Date Collected: 02/28/21 15:50
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-32
Matrix: Sediment
Percent Solids: 81.1

Method: 6010D - Metals (ICP) - SEM/AVS									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.16	J	0.31	0.13	mg/Kg	☼	03/10/21 12:25	03/16/21 14:14	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.0022	J	0.0041	0.0017	umol/g	☼	03/10/21 12:25	03/16/21 14:14	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(34-36)

Lab Sample ID: 180-117730-32

Date Collected: 02/28/21 15:50

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 81.1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.016		0.0010	NaN	NONE			03/17/21 13:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18.9		0.1	0.1	%			03/11/21 09:43	1
Percent Solids	81.1		0.1	0.1	%			03/11/21 09:43	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	6.5	J	18	6.1	mg/Kg	☼	03/10/21 17:00	03/11/21 16:43	1
Acid Volatile Sulfides (AVS)	0.20	J	0.57	0.19	umol/g	☼	03/10/21 17:00	03/11/21 16:43	1

Client Sample ID: SB-26-S(5-10)

Lab Sample ID: 180-117730-33

Date Collected: 02/28/21 15:52

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 82.1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4100		3.6	3.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Arsenic	1.9		0.060	0.019	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Calcium	290		30	4.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Iron	1900		3.0	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1
Manganese	17		0.30	0.26	mg/Kg	☼	03/16/21 15:11	03/17/21 15:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17.9		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	82.1		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1700		1200	910	mg/Kg	☼		03/04/21 18:31	1

Client Sample ID: SB-26-S(11-13)

Lab Sample ID: 180-117730-34

Date Collected: 02/28/21 15:54

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 50.8

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000		5.9	5.7	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Arsenic	8.4		0.098	0.031	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Calcium	1800		49	7.5	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Iron	16000		4.9	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1
Manganese	110		0.49	0.42	mg/Kg	☼	03/16/21 15:11	03/17/21 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	49.2		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	50.8		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	35000		2000	1500	mg/Kg	☼		03/04/21 18:59	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Client Sample ID: SB-26-S(26-28)

Lab Sample ID: 180-117730-35

Date Collected: 02/28/21 15:56

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 77.1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	3700		3.8	3.7	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Arsenic	3.1		0.064	0.020	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Calcium	280		32	4.8	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Iron	5400		3.2	3.0	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1
Manganese	63		0.32	0.27	mg/Kg	☼	03/16/21 15:12	03/17/21 15:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	22.9		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	77.1		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	3700		1300	970	mg/Kg	☼		03/04/21 19:21	1

Client Sample ID: SB-26-S(34-36)

Lab Sample ID: 180-117730-36

Date Collected: 02/28/21 15:58

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 75.3

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2100		3.9	3.8	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Arsenic	2.0		0.065	0.021	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Calcium	1400		33	5.0	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Iron	2900		3.3	3.1	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1
Manganese	31		0.33	0.28	mg/Kg	☼	03/16/21 15:12	03/17/21 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24.7		0.1	0.1	%			03/11/21 10:34	1
Percent Solids	75.3		0.1	0.1	%			03/11/21 10:34	1
Total Organic Carbon - Duplicates	1800		1300	990	mg/Kg	☼		03/04/21 19:43	1

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 180-348972/1-A
Matrix: Sediment
Analysis Batch: 349633

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 348972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.25	0.10	mg/Kg		03/10/21 12:25	03/16/21 12:16	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.0033	0.0014	umol/g		03/10/21 12:25	03/16/21 12:16	1

Lab Sample ID: LCS 180-348972/2-A
Matrix: Sediment
Analysis Batch: 349633

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 348972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic SEM	50.0	49.2		mg/Kg		98	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic SEM	0.67	0.656		umol/g		98	80 - 120

Lab Sample ID: 180-117730-1 MS
Matrix: Sediment
Analysis Batch: 349633

Client Sample ID: SB-6-S(8-10)
Prep Type: SEM/AVS
Prep Batch: 348972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic SEM	1.8		63.2	57.4		mg/Kg	✱	88	75 - 125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic SEM	0.024		0.84	0.766		umol/g	✱	88	75 - 125

Lab Sample ID: 180-117730-1 MSD
Matrix: Sediment
Analysis Batch: 349633

Client Sample ID: SB-6-S(8-10)
Prep Type: SEM/AVS
Prep Batch: 348972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic SEM	1.8		63.7	60.8		mg/Kg	✱	93	75 - 125	6	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic SEM	0.024		0.85	0.812		umol/g	✱	93	75 - 125	6	20

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 180-349589/1-A
Matrix: Sediment
Analysis Batch: 349774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	2.9	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Arsenic	ND		0.050	0.016	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Calcium	ND		25	3.8	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Iron	ND		2.5	2.4	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Manganese	ND		0.25	0.22	mg/Kg		03/16/21 15:11	03/17/21 13:52	1

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 180-349589/2-A
Matrix: Sediment
Analysis Batch: 349774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	250	244		mg/Kg		98	80 - 120
Arsenic	50.0	47.1		mg/Kg		94	80 - 120
Calcium	1250	1440		mg/Kg		115	80 - 120
Iron	250	257		mg/Kg		103	80 - 120
Manganese	25.0	26.1		mg/Kg		104	80 - 120

Lab Sample ID: 180-117730-5 MS
Matrix: Sediment
Analysis Batch: 349774

Client Sample ID: SB-6-S(8-10)
Prep Type: Total/NA
Prep Batch: 349589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	4000		306	5040	4	mg/Kg	☼	329	75 - 125
Arsenic	4.6		61.2	56.7		mg/Kg	☼	85	75 - 125
Calcium	240		1530	1770		mg/Kg	☼	100	75 - 125
Iron	1800		306	2140	4	mg/Kg	☼	98	75 - 125
Manganese	16		30.6	41.3		mg/Kg	☼	81	75 - 125

Lab Sample ID: 180-117730-5 MSD
Matrix: Sediment
Analysis Batch: 349774

Client Sample ID: SB-6-S(8-10)
Prep Type: Total/NA
Prep Batch: 349589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	4000		307	5410	4	mg/Kg	☼	447	75 - 125	7	20
Arsenic	4.6		61.5	59.3		mg/Kg	☼	89	75 - 125	4	20
Calcium	240		1540	1800		mg/Kg	☼	102	75 - 125	1	20
Iron	1800		307	2400	4	mg/Kg	☼	184	75 - 125	12	20
Manganese	16		30.7	44.5		mg/Kg	☼	91	75 - 125	7	20

Lab Sample ID: MB 180-350053/1-A
Matrix: Sediment
Analysis Batch: 350237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	2.9	mg/Kg		03/19/21 13:42	03/20/21 17:23	1
Arsenic	ND		0.050	0.016	mg/Kg		03/19/21 13:42	03/20/21 17:23	1
Calcium	ND		25	3.8	mg/Kg		03/19/21 13:42	03/20/21 17:23	1
Iron	ND		2.5	2.4	mg/Kg		03/19/21 13:42	03/20/21 17:23	1
Manganese	ND		0.25	0.22	mg/Kg		03/19/21 13:42	03/20/21 17:23	1

Lab Sample ID: LCS 180-350053/2-A
Matrix: Sediment
Analysis Batch: 350237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350053

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	250	247		mg/Kg		99	80 - 120
Arsenic	50.0	46.6		mg/Kg		93	80 - 120
Calcium	1250	1340		mg/Kg		107	80 - 120
Iron	250	251		mg/Kg		101	80 - 120
Manganese	25.0	24.2		mg/Kg		97	80 - 120

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Method: EPA 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 180-117730-7 MS
Matrix: Sediment
Analysis Batch: 350237

Client Sample ID: SB-6-S(27-29)
Prep Type: Total/NA
Prep Batch: 350053

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Aluminum	650	F1	295	1240	F1	mg/Kg	☼	201		75 - 125
Arsenic	0.99		59.1	47.9		mg/Kg	☼	79		75 - 125
Calcium	2700		1480	3940		mg/Kg	☼	87		75 - 125
Iron	1100	F1	295	1420		mg/Kg	☼	111		75 - 125
Manganese	18		29.5	42.2		mg/Kg	☼	81		75 - 125

Lab Sample ID: 180-117730-7 MSD
Matrix: Sediment
Analysis Batch: 350237

Client Sample ID: SB-6-S(27-29)
Prep Type: Total/NA
Prep Batch: 350053

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Aluminum	650	F1	297	1350	F1	mg/Kg	☼	237		75 - 125	9	20
Arsenic	0.99		59.4	47.7		mg/Kg	☼	79		75 - 125	0	20
Calcium	2700		1480	3870		mg/Kg	☼	82		75 - 125	2	20
Iron	1100	F1	297	1500	F1	mg/Kg	☼	135		75 - 125	5	20
Manganese	18		29.7	43.3		mg/Kg	☼	84		75 - 125	2	20

Method: 2540G - SM 2540G

Lab Sample ID: 180-117730-2 DU
Matrix: Sediment
Analysis Batch: 349075

Client Sample ID: SB-6-S(15-17)
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Moisture	18.9		19.1		%		1	10
Percent Solids	81.1		80.9		%		0.3	10

Lab Sample ID: 180-117730-20 DU
Matrix: Sediment
Analysis Batch: 349075

Client Sample ID: SB-14-S(8-10)
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Moisture	20.1		20.6		%		2	10
Percent Solids	79.9		79.4		%		0.6	10

Lab Sample ID: 180-117730-5 DU
Matrix: Sediment
Analysis Batch: 349084

Client Sample ID: SB-6-S(8-10)
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Moisture	19.5		19.5		%		0.1	10
Percent Solids	80.5		80.5		%		0	10

Lab Sample ID: 180-117730-25 DU
Matrix: Sediment
Analysis Batch: 349084

Client Sample ID: SB-32-S(22-24)
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Percent Moisture	15.8		15.6		%		1	10
Percent Solids	84.2		84.4		%		0.3	10

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QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Method: 2540G - SM 2540G

Lab Sample ID: 180-117730-7 DU
Matrix: Sediment
Analysis Batch: 349300

Client Sample ID: SB-6-S(27-29)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	16.6		17.7		%		6	10
Percent Solids	83.4		82.3		%		1	10

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-349015/1-A
Matrix: Sediment
Analysis Batch: 349062

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 349015

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	5.0	mg/Kg		03/10/21 17:00	03/10/21 19:54	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.16	umol/g		03/10/21 17:00	03/10/21 19:54	1

Lab Sample ID: LCS 180-349015/2-A
Matrix: Sediment
Analysis Batch: 349062

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 349015

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acid Volatile Sulfides (AVS)	67.2	58.4		mg/Kg		87	85 - 115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acid Volatile Sulfides (AVS)	2.1	1.82		umol/g		87	85 - 115

Lab Sample ID: 180-117730-1 MS
Matrix: Sediment
Analysis Batch: 349062

Client Sample ID: SB-6-S(8-10)
Prep Type: SEM/AVS
Prep Batch: 349015

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acid Volatile Sulfides (AVS)	ND		85.0	67.2		mg/Kg	☼	79	75 - 125

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acid Volatile Sulfides (AVS)	ND		2.7	2.10		umol/g	☼	79	75 - 125

Lab Sample ID: 180-117730-1 MSD
Matrix: Sediment
Analysis Batch: 349062

Client Sample ID: SB-6-S(8-10)
Prep Type: SEM/AVS
Prep Batch: 349015

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Acid Volatile Sulfides (AVS)	ND		86.0	65.6		mg/Kg	☼	76	75 - 125	2	20

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Acid Volatile Sulfides (AVS)	ND		2.7	2.04		umol/g	☼	76	75 - 125	2	20

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Method: EPA-Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-348486/4
Matrix: Sediment
Analysis Batch: 348486

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	750	mg/Kg			03/04/21 13:01	1

Lab Sample ID: LCS 180-348486/5
Matrix: Sediment
Analysis Batch: 348486

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	37800	32200		mg/Kg		85	75 - 125

Lab Sample ID: MB 180-349210/4
Matrix: Sediment
Analysis Batch: 349210

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	750	mg/Kg			03/11/21 13:01	1

Lab Sample ID: LCS 180-349210/5
Matrix: Sediment
Analysis Batch: 349210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	37800	38900		mg/Kg		103	75 - 125

Lab Sample ID: 180-117730-7 MS
Matrix: Sediment
Analysis Batch: 349210

Client Sample ID: SB-6-S(27-29)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	990	J	21600	20200		mg/Kg	✱	89	75 - 125

Lab Sample ID: 180-117730-7 MSD
Matrix: Sediment
Analysis Batch: 349210

Client Sample ID: SB-6-S(27-29)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	990	J	21900	20900		mg/Kg	✱	91	75 - 125	4	20

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Metals

Prep Batch: 348972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-1	SB-6-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-2	SB-6-S(15-17)	SEM/AVS	Sediment	AVSSEM	
180-117730-3	SB-6-S(27-29)	SEM/AVS	Sediment	AVSSEM	
180-117730-4	SB-6-S(33.5-35.5)	SEM/AVS	Sediment	AVSSEM	
180-117730-12	SB-18-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-13	SB-18-S(21-23)	SEM/AVS	Sediment	AVSSEM	
180-117730-14	SB-18-S(26-28)	SEM/AVS	Sediment	AVSSEM	
180-117730-18	SB-14-S(29-31)	SEM/AVS	Sediment	AVSSEM	
180-117730-19	SB-14-S(31-33)	SEM/AVS	Sediment	AVSSEM	
180-117730-20	SB-14-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-24	SB-32-S(5-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-27	SB-32-S(22-24)	SEM/AVS	Sediment	AVSSEM	
180-117730-28	SB-32-S(28-30)	SEM/AVS	Sediment	AVSSEM	
180-117730-29	SB-26-S(5-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-30	SB-26-S(11-13)	SEM/AVS	Sediment	AVSSEM	
180-117730-31	SB-26-S(26-28)	SEM/AVS	Sediment	AVSSEM	
180-117730-32	SB-26-S(34-36)	SEM/AVS	Sediment	AVSSEM	
MB 180-348972/1-A	Method Blank	SEM/AVS	Sediment	AVSSEM	
LCS 180-348972/2-A	Lab Control Sample	SEM/AVS	Sediment	AVSSEM	
180-117730-1 MS	SB-6-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-1 MSD	SB-6-S(8-10)	SEM/AVS	Sediment	AVSSEM	

Prep Batch: 349589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-5	SB-6-S(8-10)	Total/NA	Sediment	3050B	
180-117730-6	SB-6-S(15-17)	Total/NA	Sediment	3050B	
180-117730-8	SB-6-S(33.5-35.5)	Total/NA	Sediment	3050B	
180-117730-9	SB-18-S(8-10)	Total/NA	Sediment	3050B	
180-117730-10	SB-18-S(21-23)	Total/NA	Sediment	3050B	
180-117730-11	SB-18-S(26-28)	Total/NA	Sediment	3050B	
180-117730-15	SB-14-S(8-10)	Total/NA	Sediment	3050B	
180-117730-21	SB-14-S(29-31)	Total/NA	Sediment	3050B	
180-117730-22	SB-14-S(31-33)	Total/NA	Sediment	3050B	
180-117730-23	SB-32-S(5-10)	Total/NA	Sediment	3050B	
180-117730-25	SB-32-S(22-24)	Total/NA	Sediment	3050B	
180-117730-26	SB-32-S(28-30)	Total/NA	Sediment	3050B	
180-117730-33	SB-26-S(5-10)	Total/NA	Sediment	3050B	
180-117730-34	SB-26-S(11-13)	Total/NA	Sediment	3050B	
180-117730-35	SB-26-S(26-28)	Total/NA	Sediment	3050B	
180-117730-36	SB-26-S(34-36)	Total/NA	Sediment	3050B	
MB 180-349589/1-A	Method Blank	Total/NA	Sediment	3050B	
LCS 180-349589/2-A	Lab Control Sample	Total/NA	Sediment	3050B	
180-117730-5 MS	SB-6-S(8-10)	Total/NA	Sediment	3050B	
180-117730-5 MSD	SB-6-S(8-10)	Total/NA	Sediment	3050B	

Analysis Batch: 349633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-1	SB-6-S(8-10)	SEM/AVS	Sediment	6010D	348972
180-117730-2	SB-6-S(15-17)	SEM/AVS	Sediment	6010D	348972
180-117730-3	SB-6-S(27-29)	SEM/AVS	Sediment	6010D	348972
180-117730-4	SB-6-S(33.5-35.5)	SEM/AVS	Sediment	6010D	348972

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QC Association Summary

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Metals (Continued)

Analysis Batch: 349633 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-12	SB-18-S(8-10)	SEM/AVS	Sediment	6010D	348972
180-117730-13	SB-18-S(21-23)	SEM/AVS	Sediment	6010D	348972
180-117730-14	SB-18-S(26-28)	SEM/AVS	Sediment	6010D	348972
180-117730-18	SB-14-S(29-31)	SEM/AVS	Sediment	6010D	348972
180-117730-19	SB-14-S(31-33)	SEM/AVS	Sediment	6010D	348972
180-117730-20	SB-14-S(8-10)	SEM/AVS	Sediment	6010D	348972
180-117730-24	SB-32-S(5-10)	SEM/AVS	Sediment	6010D	348972
180-117730-27	SB-32-S(22-24)	SEM/AVS	Sediment	6010D	348972
180-117730-28	SB-32-S(28-30)	SEM/AVS	Sediment	6010D	348972
180-117730-29	SB-26-S(5-10)	SEM/AVS	Sediment	6010D	348972
180-117730-30	SB-26-S(11-13)	SEM/AVS	Sediment	6010D	348972
180-117730-31	SB-26-S(26-28)	SEM/AVS	Sediment	6010D	348972
180-117730-32	SB-26-S(34-36)	SEM/AVS	Sediment	6010D	348972
MB 180-348972/1-A	Method Blank	SEM/AVS	Sediment	6010D	348972
LCS 180-348972/2-A	Lab Control Sample	SEM/AVS	Sediment	6010D	348972
180-117730-1 MS	SB-6-S(8-10)	SEM/AVS	Sediment	6010D	348972
180-117730-1 MSD	SB-6-S(8-10)	SEM/AVS	Sediment	6010D	348972

Analysis Batch: 349731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-1	SB-6-S(8-10)	SEM/AVS	Sediment	SEM	
180-117730-2	SB-6-S(15-17)	SEM/AVS	Sediment	SEM	
180-117730-3	SB-6-S(27-29)	SEM/AVS	Sediment	SEM	
180-117730-4	SB-6-S(33.5-35.5)	SEM/AVS	Sediment	SEM	
180-117730-12	SB-18-S(8-10)	SEM/AVS	Sediment	SEM	
180-117730-13	SB-18-S(21-23)	SEM/AVS	Sediment	SEM	
180-117730-14	SB-18-S(26-28)	SEM/AVS	Sediment	SEM	
180-117730-18	SB-14-S(29-31)	SEM/AVS	Sediment	SEM	
180-117730-19	SB-14-S(31-33)	SEM/AVS	Sediment	SEM	
180-117730-20	SB-14-S(8-10)	SEM/AVS	Sediment	SEM	
180-117730-24	SB-32-S(5-10)	SEM/AVS	Sediment	SEM	
180-117730-27	SB-32-S(22-24)	SEM/AVS	Sediment	SEM	
180-117730-28	SB-32-S(28-30)	SEM/AVS	Sediment	SEM	
180-117730-29	SB-26-S(5-10)	SEM/AVS	Sediment	SEM	
180-117730-30	SB-26-S(11-13)	SEM/AVS	Sediment	SEM	
180-117730-31	SB-26-S(26-28)	SEM/AVS	Sediment	SEM	
180-117730-32	SB-26-S(34-36)	SEM/AVS	Sediment	SEM	

Analysis Batch: 349774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-5	SB-6-S(8-10)	Total/NA	Sediment	EPA 6020B	349589
180-117730-6	SB-6-S(15-17)	Total/NA	Sediment	EPA 6020B	349589
180-117730-8	SB-6-S(33.5-35.5)	Total/NA	Sediment	EPA 6020B	349589
180-117730-9	SB-18-S(8-10)	Total/NA	Sediment	EPA 6020B	349589
180-117730-10	SB-18-S(21-23)	Total/NA	Sediment	EPA 6020B	349589
180-117730-11	SB-18-S(26-28)	Total/NA	Sediment	EPA 6020B	349589
180-117730-15	SB-14-S(8-10)	Total/NA	Sediment	EPA 6020B	349589
180-117730-21	SB-14-S(29-31)	Total/NA	Sediment	EPA 6020B	349589
180-117730-22	SB-14-S(31-33)	Total/NA	Sediment	EPA 6020B	349589
180-117730-23	SB-32-S(5-10)	Total/NA	Sediment	EPA 6020B	349589
180-117730-25	SB-32-S(22-24)	Total/NA	Sediment	EPA 6020B	349589

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QC Association Summary

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

Metals (Continued)

Analysis Batch: 349774 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-26	SB-32-S(28-30)	Total/NA	Sediment	EPA 6020B	349589
180-117730-33	SB-26-S(5-10)	Total/NA	Sediment	EPA 6020B	349589
180-117730-34	SB-26-S(11-13)	Total/NA	Sediment	EPA 6020B	349589
180-117730-35	SB-26-S(26-28)	Total/NA	Sediment	EPA 6020B	349589
180-117730-36	SB-26-S(34-36)	Total/NA	Sediment	EPA 6020B	349589
MB 180-349589/1-A	Method Blank	Total/NA	Sediment	EPA 6020B	349589
LCS 180-349589/2-A	Lab Control Sample	Total/NA	Sediment	EPA 6020B	349589
180-117730-5 MS	SB-6-S(8-10)	Total/NA	Sediment	EPA 6020B	349589
180-117730-5 MSD	SB-6-S(8-10)	Total/NA	Sediment	EPA 6020B	349589

Prep Batch: 350053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-7	SB-6-S(27-29)	Total/NA	Sediment	3050B	
MB 180-350053/1-A	Method Blank	Total/NA	Sediment	3050B	
LCS 180-350053/2-A	Lab Control Sample	Total/NA	Sediment	3050B	
180-117730-7 MS	SB-6-S(27-29)	Total/NA	Sediment	3050B	
180-117730-7 MSD	SB-6-S(27-29)	Total/NA	Sediment	3050B	

Analysis Batch: 350237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-7	SB-6-S(27-29)	Total/NA	Sediment	EPA 6020B	350053
MB 180-350053/1-A	Method Blank	Total/NA	Sediment	EPA 6020B	350053
LCS 180-350053/2-A	Lab Control Sample	Total/NA	Sediment	EPA 6020B	350053
180-117730-7 MS	SB-6-S(27-29)	Total/NA	Sediment	EPA 6020B	350053
180-117730-7 MSD	SB-6-S(27-29)	Total/NA	Sediment	EPA 6020B	350053

General Chemistry

Analysis Batch: 348486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-5	SB-6-S(8-10)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-6	SB-6-S(15-17)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-8	SB-6-S(33.5-35.5)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-9	SB-18-S(8-10)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-10	SB-18-S(21-23)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-11	SB-18-S(26-28)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-15	SB-14-S(8-10)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-21	SB-14-S(29-31)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-22	SB-14-S(31-33)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-23	SB-32-S(5-10)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-25	SB-32-S(22-24)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-26	SB-32-S(28-30)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-33	SB-26-S(5-10)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-34	SB-26-S(11-13)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-35	SB-26-S(26-28)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-36	SB-26-S(34-36)	Total/NA	Sediment	EPA-Lloyd Kahn	
MB 180-348486/4	Method Blank	Total/NA	Sediment	EPA-Lloyd Kahn	
LCS 180-348486/5	Lab Control Sample	Total/NA	Sediment	EPA-Lloyd Kahn	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

General Chemistry

Prep Batch: 349015

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-1	SB-6-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-2	SB-6-S(15-17)	SEM/AVS	Sediment	AVSSEM	
180-117730-3	SB-6-S(27-29)	SEM/AVS	Sediment	AVSSEM	
180-117730-4	SB-6-S(33.5-35.5)	SEM/AVS	Sediment	AVSSEM	
180-117730-12	SB-18-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-13	SB-18-S(21-23)	SEM/AVS	Sediment	AVSSEM	
180-117730-14	SB-18-S(26-28)	SEM/AVS	Sediment	AVSSEM	
180-117730-18	SB-14-S(29-31)	SEM/AVS	Sediment	AVSSEM	
180-117730-19	SB-14-S(31-33)	SEM/AVS	Sediment	AVSSEM	
180-117730-20	SB-14-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-24	SB-32-S(5-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-27	SB-32-S(22-24)	SEM/AVS	Sediment	AVSSEM	
180-117730-28	SB-32-S(28-30)	SEM/AVS	Sediment	AVSSEM	
180-117730-29	SB-26-S(5-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-30	SB-26-S(11-13)	SEM/AVS	Sediment	AVSSEM	
180-117730-31	SB-26-S(26-28)	SEM/AVS	Sediment	AVSSEM	
180-117730-32	SB-26-S(34-36)	SEM/AVS	Sediment	AVSSEM	
MB 180-349015/1-A	Method Blank	SEM/AVS	Sediment	AVSSEM	
LCS 180-349015/2-A	Lab Control Sample	SEM/AVS	Sediment	AVSSEM	
180-117730-1 MS	SB-6-S(8-10)	SEM/AVS	Sediment	AVSSEM	
180-117730-1 MSD	SB-6-S(8-10)	SEM/AVS	Sediment	AVSSEM	

Analysis Batch: 349062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-1	SB-6-S(8-10)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-2	SB-6-S(15-17)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-3	SB-6-S(27-29)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-4	SB-6-S(33.5-35.5)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-12	SB-18-S(8-10)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-13	SB-18-S(21-23)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-14	SB-18-S(26-28)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-18	SB-14-S(29-31)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-19	SB-14-S(31-33)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-20	SB-14-S(8-10)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-24	SB-32-S(5-10)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-27	SB-32-S(22-24)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-28	SB-32-S(28-30)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-29	SB-26-S(5-10)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-30	SB-26-S(11-13)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-31	SB-26-S(26-28)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-32	SB-26-S(34-36)	SEM/AVS	Sediment	EPA 9034	349015
MB 180-349015/1-A	Method Blank	SEM/AVS	Sediment	EPA 9034	349015
LCS 180-349015/2-A	Lab Control Sample	SEM/AVS	Sediment	EPA 9034	349015
180-117730-1 MS	SB-6-S(8-10)	SEM/AVS	Sediment	EPA 9034	349015
180-117730-1 MSD	SB-6-S(8-10)	SEM/AVS	Sediment	EPA 9034	349015

Analysis Batch: 349075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-1	SB-6-S(8-10)	Total/NA	Sediment	2540G	
180-117730-2	SB-6-S(15-17)	Total/NA	Sediment	2540G	
180-117730-3	SB-6-S(27-29)	Total/NA	Sediment	2540G	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-1

General Chemistry (Continued)

Analysis Batch: 349075 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-4	SB-6-S(33.5-35.5)	Total/NA	Sediment	2540G	
180-117730-12	SB-18-S(8-10)	Total/NA	Sediment	2540G	
180-117730-13	SB-18-S(21-23)	Total/NA	Sediment	2540G	
180-117730-14	SB-18-S(26-28)	Total/NA	Sediment	2540G	
180-117730-18	SB-14-S(29-31)	Total/NA	Sediment	2540G	
180-117730-19	SB-14-S(31-33)	Total/NA	Sediment	2540G	
180-117730-20	SB-14-S(8-10)	Total/NA	Sediment	2540G	
180-117730-24	SB-32-S(5-10)	Total/NA	Sediment	2540G	
180-117730-27	SB-32-S(22-24)	Total/NA	Sediment	2540G	
180-117730-28	SB-32-S(28-30)	Total/NA	Sediment	2540G	
180-117730-29	SB-26-S(5-10)	Total/NA	Sediment	2540G	
180-117730-30	SB-26-S(11-13)	Total/NA	Sediment	2540G	
180-117730-31	SB-26-S(26-28)	Total/NA	Sediment	2540G	
180-117730-32	SB-26-S(34-36)	Total/NA	Sediment	2540G	
180-117730-2 DU	SB-6-S(15-17)	Total/NA	Sediment	2540G	
180-117730-20 DU	SB-14-S(8-10)	Total/NA	Sediment	2540G	

Analysis Batch: 349084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-5	SB-6-S(8-10)	Total/NA	Sediment	2540G	
180-117730-6	SB-6-S(15-17)	Total/NA	Sediment	2540G	
180-117730-8	SB-6-S(33.5-35.5)	Total/NA	Sediment	2540G	
180-117730-9	SB-18-S(8-10)	Total/NA	Sediment	2540G	
180-117730-10	SB-18-S(21-23)	Total/NA	Sediment	2540G	
180-117730-11	SB-18-S(26-28)	Total/NA	Sediment	2540G	
180-117730-15	SB-14-S(8-10)	Total/NA	Sediment	2540G	
180-117730-21	SB-14-S(29-31)	Total/NA	Sediment	2540G	
180-117730-22	SB-14-S(31-33)	Total/NA	Sediment	2540G	
180-117730-23	SB-32-S(5-10)	Total/NA	Sediment	2540G	
180-117730-25	SB-32-S(22-24)	Total/NA	Sediment	2540G	
180-117730-26	SB-32-S(28-30)	Total/NA	Sediment	2540G	
180-117730-33	SB-26-S(5-10)	Total/NA	Sediment	2540G	
180-117730-34	SB-26-S(11-13)	Total/NA	Sediment	2540G	
180-117730-35	SB-26-S(26-28)	Total/NA	Sediment	2540G	
180-117730-36	SB-26-S(34-36)	Total/NA	Sediment	2540G	
180-117730-5 DU	SB-6-S(8-10)	Total/NA	Sediment	2540G	
180-117730-25 DU	SB-32-S(22-24)	Total/NA	Sediment	2540G	

Analysis Batch: 349210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-7	SB-6-S(27-29)	Total/NA	Sediment	EPA-Lloyd Kahn	
MB 180-349210/4	Method Blank	Total/NA	Sediment	EPA-Lloyd Kahn	
LCS 180-349210/5	Lab Control Sample	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-7 MS	SB-6-S(27-29)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-7 MSD	SB-6-S(27-29)	Total/NA	Sediment	EPA-Lloyd Kahn	

Analysis Batch: 349300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-7	SB-6-S(27-29)	Total/NA	Sediment	2540G	
180-117730-7 DU	SB-6-S(27-29)	Total/NA	Sediment	2540G	

Eurofins TestAmerica, Pittsburgh



CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 1 of 3

ID#:

Contact & Company Name: Matt Webb/Arcadis	Telephone: 919-415-2284	Preservative Filtered (✓):	E	E
Address: 5160 Wake Park Blvd Ste 350	Fax:	# of Containers:	1	1
City/State/Zip: Raleigh NC 27607	Email Address: Matthew.Webb@arcadis.com	Container Information:	9	7
Project Name/Location (City, State): MHWAS - Brunswick, GA	Project #: 2009105.00006	PARAMETER ANALYSIS & METHOD		
Sampler's Printed Name: Grant A. Wilford	Sampler's Signature: <i>[Signature]</i>	<i>As G. Acetate Total Metals TOC</i>		

- Keys**
- Preservation Key:**
 A. H₂SO₄
 B. HCl
 C. HNO₃
 D. NaOH
 E. None
 F. Other:
 G. Other:
 H. Other:
- Container Information Key:**
 1. 40 ml Vial
 2. 1 L Amber
 3. 250 ml Plastic
 4. 500 ml Plastic
 5. Encore
 6. 2 oz. Glass
 7. 4 oz. Glass
 8. 8 oz. Glass
 9. Other: *Acetate*
 10. Other: *Liner*
- Matrix Key:**
 SE - Sediment
 SO - Soil
 W - Water
 T - Tissue
- Other:**
 NL - NAPL/Oil
 SW - Sample Wipe
 A - Air

Sample ID	Collection Date	Time	Type (✓)	Comp	Grab	Matrix	REMARKS
SB-6-5(8-10)	2/27/21	09:50	X			S	
SB-6-5(15-17)	2/27/21	10:00	X			S	
SB-6-5(27-29)	2/27/21	10:10	X			S	
SB-6-5(33.5-35.5)	2/27/21	10:23	X			S	
SB-6-5(8-10)	2/27/21	10:25	X			S	
SB-6-5(15-17)	2/27/21	10:30	X			S	
SB-6-5(27-29)	2/27/21	10:35	X			S	
SB-6-5(33.5-35.5)	2/27/21	10:40	X			S	
SB-18-5(8-10)	2/27/21	12:45	X			S	
SB-18-5(21-23)	2/27/21	12:50	X			S	
SB-18-5(26-28)	2/27/21	12:55	X			S	
SB-18-5(8-10)	2/27/21	14:10	X			S	
SB-18-5(21-23)	2/27/21	14:16	X			S	
SB-18-5(26-28)	2/27/21	14:35	X			S	



Special Instructions/Comments:
 Total Metals = Arsenic, Fe, Al, Mn, Cu, V, moisture
 Please compare w/ Kathryn Faris about A/V prep @ 518-250-7309 if needed
 Additional sample provided

Special QA/QC Instructions (✓):

Laboratory Information and Receipt		Received By		Relinquished By		Laboratory Received By	
Lab Name: Eurofins - TestAmerica	Cooler Custody Seal (✓): <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: FedEx	Signature: <i>[Signature]</i>	Printed Name: Ma	Signature: <i>[Signature]</i>	Printed Name: Matthew Sediz	Signature: <i>[Signature]</i>
Specify Turnaround Requirements: Standard TAT	Sample Receipt: Condition/Cooler Temp: _____	Signature: <i>[Signature]</i>	Firm/Courier: ANA	Signature: <i>[Signature]</i>	Firm/Courier: ANA	Signature: <i>[Signature]</i>	Firm: ETA P.A.
Shipping Tracking #:		Date/Time: 3/2/21 1700		Date/Time: 3/2/21		Date/Time: 3/2/21 1100	

20730826 CoC AR Form 08.27.2015

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CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

ID#: _____

Lab Work Order # _____

Page 2 of 3

Contact & Company Name: Matthew Arcadis Address: 542 Dunwoody Park Blvd Ste 350 City: Raleigh NC 27607 State: NC Zip: _____ E-mail Address: Matthew.Welch@arcadis.com Project #: _____ Sampler's Printed Name: Matthew Welch Sampler's Signature: _____	Telephone: 919-415-2284 Fax: _____ # of Containers: 1 Container Information: 9	Preservative Filtered (✓): E Container Information: E	Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz Glass 7. 4 oz Glass 8. 8 oz Glass 9. Other: Acetate 10. Other: _____ Matrix Key: SE - Sediment SO - Soil W - Water T - Tissue NL - NAP/LOil SW - Sample Wipe A - Air Other: _____
PARAMETER ANALYSIS & METHOD			
Sample ID	Collection Date	Type (✓)	Matrix
SB-14-5(B-10)	0749	X	S
SB-14-5(17-19)	0752	X	S
SB-14-5(22-24)	0802	X	S
SB-14-5(29-31)	0815	X	S
SB-14-5(31-33)	0830	X	S
SB-14-5(B-10)	0845	X	S
SB-14-5(29-31)	0850	X	S
SB-14-5(31-33)	0910	X	S
SB-14-5(32-5(5-10))	1110	X	S
SB-32-5(5-10)	1115	X	S
SB-32-5(22-24)	1120	X	S
SB-32-5(28-30)	1122	X	S
SB-32-5(22-24)	1125	X	S
SB-32-5(28-30)	1140	X	S
Special Instructions/Comments: Total metals = Arsenic, Fe, Al, Mn, Cu, X moisture Please correspond w/ Kathryn Farnis about			
Relinquished By Printed Name: Grant A Willford Signature: _____ Firm: AWT Date/Time: 3/1/2021 1700		Received By Printed Name: FedEx Signature: _____ Firm/Courier: _____ Date/Time: _____	
Relinquished By Printed Name: _____ Signature: _____ Firm: _____ Date/Time: _____		Relinquished By Printed Name: _____ Signature: _____ Firm: _____ Date/Time: _____	
Laboratory Information and Receipt Lab Name: Eurofins - TestAmerica Cooler Custody Seal (✓) <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact Sample Receipt: Specify Turnaround Requirements: Standard TAT Shipping Tracking #: _____ Condition/Cooler Temp: _____			

Distribution: WHITE - Laboratory returns with results YELLOW - Lab copy PINK - Retained by Arcadis



CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 3 of 3

ID#:

Contact & Company Name: Matt Webb Arcadis Address: 5410 Waterhole Park Blvd. Ste 350 City: Raleigh State: NC Zip: 27607	Telephone: 919-415-2284 Fax: / E-mail Address: Matthew.Weber@arcadis.com	Project #: 20050105.00006 Sampler's Printed Name: Grant Willford Sampler's Signature: <i>[Signature]</i>	Preservation: E E E E E E Filtered (✓): 1 # of Containers: 1 Container Information: 9 7	PARAMETER ANALYSIS & METHOD <i>AKS Met - Arsenic</i> <i>TKC Metals</i> <i>TKC TOC</i>
--	---	--	--	---

Preservation Key: A. H ₂ SO ₄ B. HCl C. HNO ₃ D. NaOH E. None F. Other: G. Other: H. Other: Matrix Key: SO - Soil W - Water T - Tissue	Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: 10. Other: Matrix Key: SE - Sediment SL - Sludge A - Air NL - NAPL/Oil SW - Sample Wipe Other:
---	--

Sample ID	Collection Date	Time	Type (✓)		Matrix	REMARKS
			Comp	Grab		
SB-26-5(5-10)	2/28/21	1500	X		S	
SB-26-5(11-13)	2/28/21	1520	X		S	
SB-26-5(26-28)	2/28/21	1540	X		S	
SB-26-5(34-36)	2/28/21	1560	X		S	
SB-26-5(5-10)	2/28/21	1552	X		S	
SB-26-5(11-13)	2/28/21	1554	X		S	
SB-26-5(26-28)	2/28/21	1556	X		S	
SB-26-5(34-36)	2/28/21	1558	X		S	

Special Instructions/Comments: **Total Metals = Arsenic, Fe, Al, Mn, W, Z, moisture**
Please correspond w/ Kathryn Farris about AYSSEM prep at 518-580-7389

Special QA/QC Instructions (✓):

Laboratory Information and Receipt		Received By		Relinquished By		Laboratory Received By	
Lab Name: Eurofins - Test America	Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: Grant A Willford	Printed Name: Fedex	Printed Name:	Printed Name:	Printed Name:	Printed Name:
<input checked="" type="checkbox"/> Cooler packed with ice (✓)	Sample Receipt: Stanford TAT	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Condition/Cooler Temp: _____	Firm: ANA	Firm/Courier:	Firm/Courier:	Firm/Courier:	Firm:	Firm:
Shipping Tracking #:		Date/Time: 3/1/2021 1700	Date/Time:	Date/Time:	Date/Time:	Date/Time:	Date/Time:

207-30826 CoC AR Form 08.27.2015

Distribution: **WHITE - Laboratory returns with results** **YELLOW - Lab copy** **PINK - Retained by Arcadis**



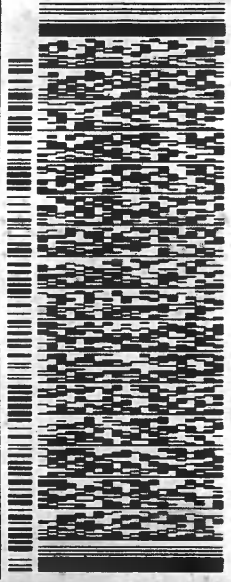
ORIGIN: INDINGRA (706) 828-4421
GRANT A WILLFORD
ARCADIS
1450 GREENE ST STE 220
AUGUSTA, GA 30901
UNITED STATES US

SHIP DATE: 01 MAR 21
ACTWGT: 60.25 LB
CAD: 6994637/56FE2121
DIMS: 25x13x14 IN
BILL THIRD PARTY

TO **CARRIE L. GAMBER**
EUROFINS - TEST AMERICA
301 ALPHA DR RIDCPARK

PITTSBURGH PA 15238

(412) 863-7068
INV. PO1
REF: 30050105.00006
DEPT:



FedEx
Express



2211218190194

TUE - 02 MAR 10:30A
PRIORITY OVERNIGHT

TRK# **7842 4848 5610**
0201

NA AGCA

15238
PIT
PA-US

Uncorrected temp _____ °C
Thermometer ID _____

3.8
14

CF Initials

PT-WI-SR-001 effective 11/8/18



180-117730 Waybill

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

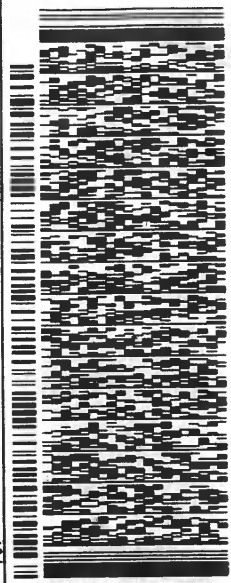
ORIGIN ID: NCGA (706) 828-4421
GRANT A WILLFORD
ARCADIS
1450 GREENE ST STE 220
AUGUSTA, GA 30901
UNITED STATES US

10:30
A
1221
7221
1
SH
AC
CD
E

TO **CARRIE L. GAMBER**
EUROFINS - TEST AMERICA
301 ALPHA DR RIDCPARK

PITTSBURGH PA 15238

(412) 988-7068
REF: 30050105.00006
DEPT:



FedEx
Express
E

TUE - 02 MAR 10:30
PRIORITY OVERNIGHT

TRK# 7842 4879 7221
0201

NA AGCA

1523
PA-US P



Uncorrected temp
Thermometer ID



CF 0 Initials 8
PT-WI-SR-001 effective 11/8/18

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 180-117730-1

Login Number: 117730

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Abernathy, Eric

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Pittsburgh
301 Alpha Drive
RIDC Park
Pittsburgh, PA 15238
Tel: (412)963-7058

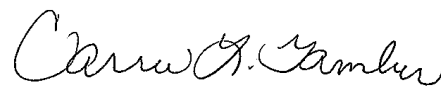
Laboratory Job ID: 180-117730-2

Client Project/Site: Plant McManus (AVS/SEM)

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Kathryn Farris



Authorized for release by:
5/4/2021 10:58:30 AM

Carrie Gamber, Senior Project Manager
(412)963-2428

Carrie.Gamber@Eurofinset.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

PA Lab ID: 02-00416



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Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Job ID: 180-117730-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Narrative

CASE NARRATIVE

Client: ARCADIS U.S. Inc

Project: Plant McManus (AVS/SEM)

Report Number: 180-117730-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 03/02/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.8 C.

NOTE: These samples were prepared in the GloveBox under Nitrogen conditions.

AVS/SEM

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

METALS

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

PERCENT SOLIDS

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Qualifiers

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Laboratory: Eurofins TestAmerica, Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Georgia	State	PA 02-00416	04-30-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
2540G		Sediment	Percent Moisture
2540G		Sediment	Percent Solids
SEM		Sediment	SEM/AVS Ratio



Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
180-117730-16	SB-14-S(17-19)	Sediment	02/28/21 07:52	03/02/21 11:00	
180-117730-17	SB-14-S(22-24)	Sediment	02/28/21 08:02	03/02/21 11:00	

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Method Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Method	Method Description	Protocol	Laboratory
6010D	Metals (ICP)	SW846	TAL PIT
EPA 6020B	Metals (ICP/MS)	SW846	TAL PIT
SEM	Metals, Simultaneously Extracted Metals (SEM)	EPA	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL PIT
EPA-Lloyd Kahn	Organic Carbon, Total (TOC)	EPA	TAL PIT
3050B	Preparation, Metals	SW846	TAL PIT
AVSSEM	Preparation, Acid Volatile Sulfide (AVS) and Simultaneously Extracted Metals (SE	EPA	TAL PIT

Protocol References:

EPA = US Environmental Protection Agency

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Client Sample ID: SB-14-S(17-19)
Date Collected: 02/28/21 07:52
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-16
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349421	03/15/21 08:13	RJR	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	2540G		1			349169	03/11/21 20:16	KMM	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: SB-14-S(17-19)
Date Collected: 02/28/21 07:52
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-16
Matrix: Sediment
Percent Solids: 73.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			10.50 g	250 mL	348836	03/09/21 16:00	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349074	03/11/21 07:32	RJG	TAL PIT
		Instrument ID: C								
Total/NA	Prep	3050B			2.03 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:46	RSK	TAL PIT
		Instrument ID: DORY								
SEM/AVS	Prep	AVSSEM			10.50 g	50 mL	348838	03/09/21 16:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			348928	03/09/21 18:17	CMR	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	EPA-Lloyd Kahn		1			349210	03/11/21 14:19	DLF	TAL PIT
		Instrument ID: FLASHEA								

Client Sample ID: SB-14-S(22-24)
Date Collected: 02/28/21 08:02
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-17
Matrix: Sediment

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Analysis	SEM		1			349421	03/15/21 08:13	RJR	TAL PIT
		Instrument ID: NOEQUIP								
Total/NA	Analysis	2540G		1			349169	03/11/21 20:16	KMM	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: SB-14-S(22-24)
Date Collected: 02/28/21 08:02
Date Received: 03/02/21 11:00

Lab Sample ID: 180-117730-17
Matrix: Sediment
Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
SEM/AVS	Prep	AVSSEM			11.32 g	250 mL	348836	03/09/21 16:00	CMR	TAL PIT
SEM/AVS	Analysis	6010D		1			349074	03/11/21 07:37	RJG	TAL PIT
		Instrument ID: C								
Total/NA	Prep	3050B			2.01 g	100 mL	349589	03/16/21 15:11	TJO	TAL PIT
Total/NA	Analysis	EPA 6020B		1			349774	03/17/21 14:49	RSK	TAL PIT
		Instrument ID: DORY								
SEM/AVS	Prep	AVSSEM			11.32 g	50 mL	348838	03/09/21 16:00	CMR	TAL PIT
SEM/AVS	Analysis	EPA 9034		1			348928	03/09/21 18:26	CMR	TAL PIT
		Instrument ID: NOEQUIP								

Eurofins TestAmerica, Pittsburgh

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Client Sample ID: SB-14-S(22-24)

Lab Sample ID: 180-117730-17

Date Collected: 02/28/21 08:02

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 80.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA-Lloyd Kahn		1			349210	03/11/21 14:36	DLF	TAL PIT

Laboratory References:

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Prep

CMR = Carl Reagle

TJO = Tyler Oliver

Batch Type: Analysis

CMR = Carl Reagle

DLF = Donald Ferguson

KMM = Kendric Moore

RJG = Rob Good

RJR = Ron Rosenbaum

RSK = Robert Kurtz

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Client Sample ID: SB-14-S(17-19)

Lab Sample ID: 180-117730-16

Date Collected: 02/28/21 07:52

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 73.3

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	1.4		0.32	0.13	mg/Kg	☼	03/09/21 16:00	03/11/21 07:32	1
Arsenic SEM	0.019		0.0043	0.0018	umol/g	☼	03/09/21 16:00	03/11/21 07:32	1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	2600		4.0	3.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Arsenic	4.6		0.067	0.022	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Calcium	1900		34	5.1	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Iron	5200		3.4	3.2	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1
Manganese	55		0.34	0.29	mg/Kg	☼	03/16/21 15:11	03/17/21 14:46	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	0.099		0.0010	NaN	NONE			03/15/21 08:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	26.7		0.1	0.1	%			03/11/21 20:16	1
Percent Solids	73.3		0.1	0.1	%			03/11/21 20:16	1
Total Organic Carbon - Duplicates	2300		1400	1000	mg/Kg	☼		03/11/21 14:19	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	9.1	J	19	6.5	mg/Kg	☼	03/09/21 16:00	03/09/21 18:17	1
Acid Volatile Sulfides (AVS)	0.28	J	0.61	0.20	umol/g	☼	03/09/21 16:00	03/09/21 18:17	1

Client Sample ID: SB-14-S(22-24)

Lab Sample ID: 180-117730-17

Date Collected: 02/28/21 08:02

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 80.6

Method: 6010D - Metals (ICP) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	0.96		0.27	0.11	mg/Kg	☼	03/09/21 16:00	03/11/21 07:37	1
Arsenic SEM	0.013		0.0037	0.0015	umol/g	☼	03/09/21 16:00	03/11/21 07:37	1

Method: EPA 6020B - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	1900		3.7	3.6	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Arsenic	2.4		0.062	0.020	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Calcium	2400		31	4.7	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Iron	3600		3.1	2.9	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1
Manganese	30		0.31	0.27	mg/Kg	☼	03/16/21 15:11	03/17/21 14:49	1

Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
SEM/AVS Ratio	NC		0.0010	NaN	NONE			03/15/21 08:13	1

Eurofins TestAmerica, Pittsburgh

Client Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Client Sample ID: SB-14-S(22-24)

Lab Sample ID: 180-117730-17

Date Collected: 02/28/21 08:02

Matrix: Sediment

Date Received: 03/02/21 11:00

Percent Solids: 80.6

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	19.4		0.1	0.1	%			03/11/21 20:16	1
Percent Solids	80.6		0.1	0.1	%			03/11/21 20:16	1
Total Organic Carbon - Duplicates	2000		1200	930	mg/Kg	✱		03/11/21 14:36	1

General Chemistry - SEM/AVS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		16	5.5	mg/Kg	✱	03/09/21 16:00	03/09/21 18:26	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.51	0.17	umol/g	✱	03/09/21 16:00	03/09/21 18:26	1

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 180-348836/1-A
Matrix: Sediment
Analysis Batch: 349074

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 348836

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.25	0.10	mg/Kg		03/09/21 16:00	03/11/21 06:34	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic SEM	ND		0.0033	0.0014	umol/g		03/09/21 16:00	03/11/21 06:34	1

Lab Sample ID: LCS 180-348836/2-A
Matrix: Sediment
Analysis Batch: 349074

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 348836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic SEM	50.0	50.2		mg/Kg		100	80 - 120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic SEM	0.67	0.670		umol/g		100	80 - 120

Method: EPA 6020B - Metals (ICP/MS)

Lab Sample ID: MB 180-349589/1-A
Matrix: Sediment
Analysis Batch: 349774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		3.0	2.9	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Arsenic	ND		0.050	0.016	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Calcium	ND		25	3.8	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Iron	ND		2.5	2.4	mg/Kg		03/16/21 15:11	03/17/21 13:52	1
Manganese	ND		0.25	0.22	mg/Kg		03/16/21 15:11	03/17/21 13:52	1

Lab Sample ID: LCS 180-349589/2-A
Matrix: Sediment
Analysis Batch: 349774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	250	244		mg/Kg		98	80 - 120
Arsenic	50.0	47.1		mg/Kg		94	80 - 120
Calcium	1250	1440		mg/Kg		115	80 - 120
Iron	250	257		mg/Kg		103	80 - 120
Manganese	25.0	26.1		mg/Kg		104	80 - 120

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-348838/1-A
Matrix: Sediment
Analysis Batch: 348928

Client Sample ID: Method Blank
Prep Type: SEM/AVS
Prep Batch: 348838

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		15	5.0	mg/Kg		03/09/21 16:00	03/09/21 17:50	1

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acid Volatile Sulfides (AVS)	ND		0.47	0.16	umol/g		03/09/21 16:00	03/09/21 17:50	1

Eurofins TestAmerica, Pittsburgh

QC Sample Results

Client: ARCADIS U.S. Inc
 Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Method: EPA 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: LCS 180-348838/2-A
Matrix: Sediment
Analysis Batch: 348928

Client Sample ID: Lab Control Sample
Prep Type: SEM/AVS
Prep Batch: 348838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	67.9	59.5		mg/Kg		88	85 - 115
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acid Volatile Sulfides (AVS)	2.1	1.86		umol/g		88	85 - 115

Method: EPA-Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-349210/4
Matrix: Sediment
Analysis Batch: 349210

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		1000	750	mg/Kg			03/11/21 13:01	1

Lab Sample ID: LCS 180-349210/5
Matrix: Sediment
Analysis Batch: 349210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Duplicates	37800	38900		mg/Kg		103	75 - 125

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

Metals

Prep Batch: 348836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	SEM/AVS	Sediment	AVSSEM	
180-117730-17	SB-14-S(22-24)	SEM/AVS	Sediment	AVSSEM	
MB 180-348836/1-A	Method Blank	SEM/AVS	Sediment	AVSSEM	
LCS 180-348836/2-A	Lab Control Sample	SEM/AVS	Sediment	AVSSEM	

Analysis Batch: 349074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	SEM/AVS	Sediment	6010D	348836
180-117730-17	SB-14-S(22-24)	SEM/AVS	Sediment	6010D	348836
MB 180-348836/1-A	Method Blank	SEM/AVS	Sediment	6010D	348836
LCS 180-348836/2-A	Lab Control Sample	SEM/AVS	Sediment	6010D	348836

Analysis Batch: 349421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	SEM/AVS	Sediment	SEM	
180-117730-17	SB-14-S(22-24)	SEM/AVS	Sediment	SEM	

Prep Batch: 349589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	Total/NA	Sediment	3050B	
180-117730-17	SB-14-S(22-24)	Total/NA	Sediment	3050B	
MB 180-349589/1-A	Method Blank	Total/NA	Sediment	3050B	
LCS 180-349589/2-A	Lab Control Sample	Total/NA	Sediment	3050B	

Analysis Batch: 349774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	Total/NA	Sediment	EPA 6020B	349589
180-117730-17	SB-14-S(22-24)	Total/NA	Sediment	EPA 6020B	349589
MB 180-349589/1-A	Method Blank	Total/NA	Sediment	EPA 6020B	349589
LCS 180-349589/2-A	Lab Control Sample	Total/NA	Sediment	EPA 6020B	349589

General Chemistry

Prep Batch: 348838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	SEM/AVS	Sediment	AVSSEM	
180-117730-17	SB-14-S(22-24)	SEM/AVS	Sediment	AVSSEM	
MB 180-348838/1-A	Method Blank	SEM/AVS	Sediment	AVSSEM	
LCS 180-348838/2-A	Lab Control Sample	SEM/AVS	Sediment	AVSSEM	

Analysis Batch: 348928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	SEM/AVS	Sediment	EPA 9034	348838
180-117730-17	SB-14-S(22-24)	SEM/AVS	Sediment	EPA 9034	348838
MB 180-348838/1-A	Method Blank	SEM/AVS	Sediment	EPA 9034	348838
LCS 180-348838/2-A	Lab Control Sample	SEM/AVS	Sediment	EPA 9034	348838

Analysis Batch: 349169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	Total/NA	Sediment	2540G	
180-117730-17	SB-14-S(22-24)	Total/NA	Sediment	2540G	

Eurofins TestAmerica, Pittsburgh

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: Plant McManus (AVS/SEM)

Job ID: 180-117730-2

General Chemistry

Analysis Batch: 349210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-117730-16	SB-14-S(17-19)	Total/NA	Sediment	EPA-Lloyd Kahn	
180-117730-17	SB-14-S(22-24)	Total/NA	Sediment	EPA-Lloyd Kahn	
MB 180-349210/4	Method Blank	Total/NA	Sediment	EPA-Lloyd Kahn	
LCS 180-349210/5	Lab Control Sample	Total/NA	Sediment	EPA-Lloyd Kahn	

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CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

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ID#:

Contact & Company Name: Matt Webers/Arcadis	Telephone: 919-415-2284	Preservative Filtered (✓) E	Container Information: E
Address: 5160 Wake Park Blvd Ste 350	Fax:	# of Containers: 1	Matrix: I
City: Raleigh NC	Email Address: Matthew.Webers@arcadis.com	Container Information: 9	Matrix: 7
State: NC	Project #: 2009105.00006	PARAMETER ANALYSIS & METHOD	
Zip: 27607	Sampler's Printed Name: Grant A Wilford	A-C-G Acetate Total Metals TOC	
Project Name/Location (City, State): MHWAS - Brunswick, GA	Sampler's Signature: <i>[Signature]</i>		

Sample ID	Collection Date	Time	Type (✓)	Comp	Grab	Matrix
SB-6-5(8-10)	2/27/21	09:50	X			S
SB-6-5(15-17)	2/27/21	10:00	X			S
SB-6-5(27-29)	2/27/21	10:10	X			S
SB-6-5(33.5-35.5)	2/27/21	10:23	X			S
SB-6-5(8-10)	2/27/21	10:25	X			S
6B-6-5(15-17)	2/27/21	10:30	X			S
SB-6-5(27-29)	2/27/21	10:35	X			S
SB-6-5(33.5-35.5)	2/27/21	10:40	X			S
SB-18-5(8-10)	2/27/21	12:45	X			S
SB-18-5(21-23)	2/27/21	12:50	X			S
SB-18-5(26-28)	2/27/21	12:55	X			S
SB-18-5(8-10)	2/27/21	14:10	X			S
SB-18-5(21-23)	2/27/21	14:16	X			S
SB-18-5(26-28)	2/27/21	14:35	X			S

Special Instructions/Comments: Total Metals = Arsenic, Fe, Al, Mn, Cu, V, moisture. Please Oregon & W/ Kathryn Faris about A/C/G Acetate. Additional sample provided. A/C/G Acetate needed.

Lab Name: Eurofins - TestAmerica	Lab Information and Receipt: Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Received By: Printed Name: FedEx Signature: [Signature] Date/Time: 3/2/21	Relinquished By: Printed Name: Grant A Wilford Signature: [Signature] Date/Time: 3/2/21/1700
Sample Receipt: Standard TAT	Shipping Tracking #:	Reinforced By: Printed Name: Ma Signature: [Signature] Date/Time: 3/2/21	Relinquished By: Printed Name: Matthew Sodiz Signature: [Signature] Date/Time: 3/2/21 1100



ID#:

Contact & Company Name: Matthew Arcadis			Telephone: 919-415-2284		
Address: 5420 Dwyer Park Blvd St. 350			Fax:		
City: Raleigh NC 27607			E-mail Address: Matthew.Wood@arcadis.com		
Project Name/Location (City, State): Antirrhinus/Brunswick PA			Project #:		
Sampler's Printed Name: Grant A Willford			Sampler's Signature: <i>[Signature]</i>		

Sample ID	Collection		Type (✓)	Matrix	REMARKS
	Date	Time			
SB-14-5(B-10)	0749	0749	X	S	
SB-14-5 (17-14)	0752		X	S	
SB-14-5 (22-24)	0802		X	S	
SB-14-5 (29-31)	0815		X	S	
SB-14-5 (31-33)	0830		X	S	
SB-14-5 (8-10)	0845		X	S	
SB-14-5 (29-31)	0850	0853	X	S	
SB-14-5 (31-33)	0910		X	S	
SB-14-5 (32-5(5-10))	1110		X	S	
SB-32-5(5-10)	1115		X	S	
SB-32-5(22-24)	1120		X	S	
SB-32-5(28-30)	1122		X	S	
SB-32-5(22-24)	1125		X	S	
SB-32-5(28-30)	1140		X	S	

Special Instructions/Comments: Total metals = Arsenic, Fe, Al, Mn, Cu, X moisture
Please correspond w/ Kathryn Farn's about AUK/SEM Prep on SB-250-7389

Special QA/QC Instructions (-):

Laboratory Information and Receipt		Relinquished By		Received By		Relinquished By		Laboratory Received By	
Lab Name: Eurofins - TestAmerica	Cooler Custody Seal (✓) <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Printed Name: Grant A Willford	Signature: <i>[Signature]</i>	Printed Name: FedEx	Signature: <i>[Signature]</i>	Printed Name:	Signature:	Printed Name:	Signature:
Sample Receipt: Specify Turnaround Requirements Standard TAT	Condition/Cooler Temp:	Firm: AWA	Date/Time: 3/1/2021 1700	Firm/Courier:	Date/Time:	Firm:	Date/Time:	Firm:	Date/Time:

Distribution: WHITE - Laboratory returns with results YELLOW - Lab copy PINK - Retained by Arcadis



CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 3 of 3

ID#:

Contact & Company Name: Matt Webb Arcadis Address: 5410 Waterdale Park Blvd. Ste 350 City: Raleigh State: NC Zip: 27607	Telephone: 919-415-2284 Fax: / E-mail Address: Matthew.Weber@arcadis.com	Project #: 20050105.00006 Sampler's Printed Name: Grant Willford Sampler's Signature: <i>[Signature]</i>	Preservation: E E E Filtered (✓): 1 # of Containers: 1 Container Information: 9 7	Keys Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: Acetate 10. Other: Line Matrix Key: SE - Sediment SO - Soil W - Water T - Tissue NL - NAP/OLI SW - Sample Wipe A - Air Other:
--	--	--	---	--

PARAMETER ANALYSIS & METHOD

Sample ID	Collection Date	Time	Type (✓)		Matrix	REMARKS
			Comp	Grab		
SB-26-5(5-10)	2/28/21	1500	X		S	Special Instructions/Comments: Total Metals = Arsenic, Fe, Al, Mn, W, Z, Moisture Please correspond w/ Kathryn Farris about ANALYSEM prep @ 518-580-7389 <input type="checkbox"/> Special QA/QC Instructions (✓):
SB-26-5(11-13)	2/28/21	1500	X		S	
SB-26-5(26-28)	2/28/21	1540	X		S	
SB-26-5(34-36)	2/28/21	1580	X		S	
SB-26-5(5-10)	2/28/21	1550	X		S	
SB-26-5(11-13)	2/28/21	1554	X		S	
SB-26-5(26-28)	2/28/21	1556	X		S	
SB-26-5(34-36)	2/28/21	1558	X		S	

Laboratory Information and Receipt Lab Name: Eurofins - Test America <input checked="" type="checkbox"/> Cooler Custody Seal (✓) <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact Sample Receipt: Condition/Cooler Temp: _____ Shipping Tracking #: Shorford TAT	Received By Printed Name: Grant A Willford Signature: <i>[Signature]</i> Firm: ANA Date/Time: 3/1/2021 1700	Relinquished By Printed Name: Fedex Signature: _____ Firm/Courier: _____ Date/Time: _____	Laboratory Received By Printed Name: _____ Signature: _____ Firm: _____ Date/Time: _____
---	--	--	--



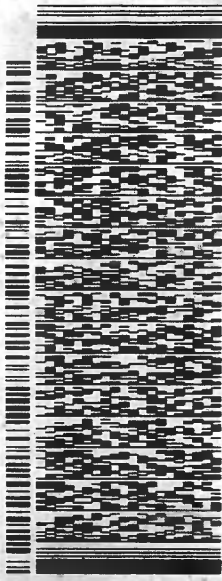
ORIGIN: IDINGGA (706) 828-4421
GRANT A WILLFORD
ARCADIS
1450 GREENE ST STE 220
AUGUSTA, GA 30901
UNITED STATES US

SHIP DATE: 01 MAR 21
ACTWGT: 60.25 LB
CAD: 6994637/56FE2121
DIMS: 25x13x14 IN
BILL THIRD PARTY

TO **CARRIE L. GAMBER**
EUROFINS - TEST AMERICA
301 ALPHA DR RIDCPARK

PITTSBURGH PA 15238

(412) 863-7068
INV. PO1
REF: 30050105.00006
DEPT:



FedEx
Express



221121819018

TUE - 02 MAR 10:30A
PRIORITY OVERNIGHT

TRK# **7842 4848 5610**
0201

NA AGCA

15238
PA-US PIT

Uncorrected temp
Thermometer ID

3.8
14
°C

CF Initials

PT-WI-SR-001 effective 11/8/18



180-117730 Waybill

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

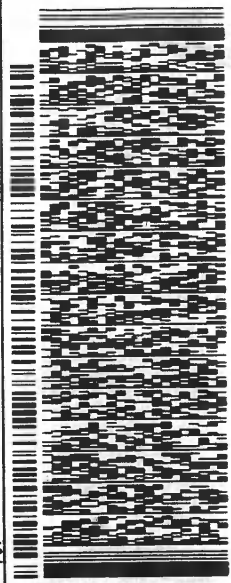
ORIGIN ID: NCGA (706) 828-4421
GRANT A WILLFORD
ARCADIS
1450 GREENE ST STE 220
AUGUSTA, GA 30901
UNITED STATES US

10:30 A
1221
1
SH
AC
CD
E

TO **CARRIE L. GAMBER**
EUROFINS - TEST AMERICA
301 ALPHA DR RIDCPARK

PITTSBURGH PA 15238

(412) 988-7068
REF: 30050105.00006
DEPT:



FedEx
Express
E

TUE - 02 MAR 10:3
PRIORITY OVERNIG

TRK# 7842 4879 7221
0201

NA AGCA

1523
PA-US P



Uncorrected temp
Thermometer ID

54.5 °C

CF 0 Initials 8

PT-WI-SR-001 effective 11/8/18

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 180-117730-2

Login Number: 117730

List Source: Eurofins TestAmerica, Pittsburgh

List Number: 1

Creator: Abernathy, Eric

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

12 May 2021

Margaret Gentile, PE, PhD
Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco, CA 94104
RE: Arsenic SEP

Enclosed are the analytical results for samples received by Eurofins Frontier Global Sciences. All quality control measurements are within established control limits and there were no analytical difficulties encountered with the exception of those listed in the case narrative section of this report.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick Garcia-Strickland".

Patrick Garcia-Strickland
Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-14-S(17-19) F1	1C00067-01	Soil/Sediment	28-Feb-21 07:52	10-Mar-21 09:45
SB-14-S(17-19) F2	1C00067-02	Soil/Sediment	28-Feb-21 07:52	10-Mar-21 09:45
SB-14-S(17-19) F3	1C00067-03	Soil/Sediment	28-Feb-21 07:52	10-Mar-21 09:45
SB-14-S(17-19) F4	1C00067-04	Soil/Sediment	28-Feb-21 07:52	10-Mar-21 09:45
SB-14-S(17-19) F5	1C00067-05	Soil/Sediment	28-Feb-21 07:52	10-Mar-21 09:45
SB-14-S(22-24) F1	1C00067-06	Soil/Sediment	28-Feb-21 08:02	10-Mar-21 09:45
SB-14-S(22-24) F2	1C00067-07	Soil/Sediment	28-Feb-21 08:02	10-Mar-21 09:45
SB-14-S(22-24) F3	1C00067-08	Soil/Sediment	28-Feb-21 08:02	10-Mar-21 09:45
SB-14-S(22-24) F4	1C00067-09	Soil/Sediment	28-Feb-21 08:02	10-Mar-21 09:45
SB-14-S(22-24) F5	1C00067-10	Soil/Sediment	28-Feb-21 08:02	10-Mar-21 09:45

Eurofins Frontier Global Sciences, LLC

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
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Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

SAMPLE RECEIPT

Samples were received at Eurofins Frontier Global Sciences (EFGS) on 10-Mar-21 09:45. The samples were received intact, on-ice within a sealed cooler at

<u>Cooler</u>	<u>Temp C°</u>
Default Cooler	0.5

SAMPLE PREPARATION AND ANALYSIS

Total solids analysis was performed in accordance with method SM2540B. Total solids are prepared at the same time as the preparation for the analyte(s) of interest in order to provide the most accurate dry mass correction which may be outside of the method recommended holding time of 7 days from sample collection.

SSE extractes were prepared according to Paul et al 2008. Arsenic and iron analysis on the extracts was performed by inductively coupled plasma mass spectrometry (ICP-MS) in accordance with EFGS-054, a modified EPA 1638.

ANALYTICAL AND QUALITY CONTROL ISSUES

Method blanks were prepared for every preparation to assess possible blank contribution from the sample preparation procedure. The method blanks were carried through the entire analytical procedure. All blanks fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

Liquid spikes, certified reference material (CRM) or a quality control samples (QCS) were prepared for every preparation as a measure of accuracy. All liquid spikes, CRMs and/or QCS samples fell within the established acceptance criteria with the exception of any items narrated above or flagged and described in the notes and definitions section of the report.

As an additional measure of the accuracy of the methods used and to check for matrix interference, matrix spikes (MS) and matrix spike duplicates (MSD) were digested and analyzed. All of the matrix spike recoveries fell within the established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

A reasonable measure of the precision of the analytical methods is the relative percent difference (RPD) between a matrix spike recovery and a matrix spike duplicate recovery and between laboratory control sample recovery and laboratory control sample duplicate recoveries.

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
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Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

All of the relative percent differences fell within established acceptance criteria with the exception of any items flagged and described in the notes and definitions section of the report.

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager

Sample Receipt Checklist

Client: WALMART Date & Time Received: 11/11/16 Date Entered: 11/11/16 Received by: W

Address: 10000 W. BRIDGEWAY Approved By: (Signature) Approval Date: 11/11/16

Product Code: 10000 Sample ID: 10000 Shipping Service: Express Courier: FEDEX Other Specify: _____

Condition: Sealed/Unopened Opened Partial Other: _____ Condition Reported: OK Temp. Range Used: 4°C for Cooling or _____

Notes: Product Analysis and/or reagent controls are received and were cool and in with allowed holding time at a temperature in excess of 4°C. All received by 11/11/16

Samples from Warehouse have special requirements. Shipping label will include sample from warehouse OK

Code/Description	QTY	Comments	NO.	UNIT	CF	GC	QC	QC	QC	QC	QC	QC	QC
10000 - 10000	10		10000	10	10	10	10	10	10	10	10	10	10
10000 - 10000	10		10000	10	10	10	10	10	10	10	10	10	10
10000 - 10000	10		10000	10	10	10	10	10	10	10	10	10	10

Item / Category	Quantity	Comments	Item / Category	Quantity	Comments
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	
Sampled and stored properly	10		Sampled and stored properly	10	

100067



Eurofim Facility

11000 15th
 The Woodlands
 Texas 77380-2102

Chain of Custody Record

11/15/2011

Client Information Client Name: _____ Client Address: _____ Client Phone: _____ Client Email: _____		Sample Information Sample ID: _____ Sample Description: _____ Sample Date: _____ Sample Time: _____		Analysis Requested Analysis Type: _____ Analysis Method: _____ Analysis Location: _____ Analysis Date: _____		Chain of Custody Name: _____ Title: _____ Signature: _____ Date: _____	
Sample Collection Location: _____ Collector: _____ Date: _____ Time: _____		Sample Storage Storage Location: _____ Storage Date: _____ Storage Time: _____		Sample Transport Transport Method: _____ Transport Date: _____ Transport Time: _____		Sample Receipt Receipt Date: _____ Receipt Time: _____ Receipt Location: _____	
Sample Analysis Analysis Date: _____ Analysis Time: _____ Analysis Location: _____		Sample Results Results Date: _____ Results Time: _____ Results Location: _____		Sample Reporting Reporting Date: _____ Reporting Time: _____ Reporting Location: _____		Sample Archiving Archiving Date: _____ Archiving Time: _____ Archiving Location: _____	
Additional Information Comments: _____ Notes: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____	
Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____	
Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____	
Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____		Signature Name: _____ Title: _____ Signature: _____ Date: _____	



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

% Solids

Sample Name	Lab Number	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
-------------	------------	--------	-----------------	-----------------	-------	----------	-------	----------	----------	----------	--------	-------

Sample Preparation: EFGS SOP5133 Solids Analysis

SB-14-S(17-19) F1	1C00067-01	70.6	-	0.1	% by Weight	1	F105441	10-May-21		11-May-21	SM 2540B	O-04, O-09
SB-14-S(17-19) F2	1C00067-02	70.6	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(17-19) F3	1C00067-03	70.6	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(17-19) F4	1C00067-04	70.6	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(17-19) F5	1C00067-05	70.6	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(22-24) F1	1C00067-06	80.2	-	0.1	% by Weight	1	F105441	10-May-21		11-May-21	SM 2540B	O-04, O-09
SB-14-S(22-24) F2	1C00067-07	80.2	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(22-24) F3	1C00067-08	80.2	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(22-24) F4	1C00067-09	80.2	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09
SB-14-S(22-24) F5	1C00067-10	80.2	-	0.1	% by Weight	1	F105441	10-May-21		12-May-21	SM 2540B	O-04, O-09

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Arsenic

Sample Name	Lab Number	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
-------------	------------	--------	-----------------	-----------------	-------	----------	-------	----------	----------	----------	--------	-------

Sample Preparation: Miscellaneous Preparation ICPMS

SB-14-S(17-19) F1	1C00067-01	2.22	-	0.34	mg/kg dry	1	F105424	05-May-21	1E12021	11-May-21	EPA 1638 Mod	
SB-14-S(17-19) F2	1C00067-02	0.89	-	0.17	mg/kg dry	1	F105425	06-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(17-19) F3	1C00067-03	ND	-	1.71	mg/kg dry	1	F105430	07-May-21	1E12021	12-May-21	EPA 1638 Mod	U
SB-14-S(17-19) F4	1C00067-04	0.35	-	0.34	mg/kg dry	1	F105434	07-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(17-19) F5	1C00067-05	0.82	-	0.17	mg/kg dry	1	F105435	10-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F1	1C00067-06	1.14	-	0.30	mg/kg dry	1	F105424	05-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F2	1C00067-07	0.90	-	0.15	mg/kg dry	1	F105425	06-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F3	1C00067-08	ND	-	1.52	mg/kg dry	1	F105430	07-May-21	1E12021	12-May-21	EPA 1638 Mod	U
SB-14-S(22-24) F4	1C00067-09	ND	-	0.30	mg/kg dry	1	F105434	07-May-21	1E12021	12-May-21	EPA 1638 Mod	U
SB-14-S(22-24) F5	1C00067-10	0.57	-	0.15	mg/kg dry	1	F105435	10-May-21	1E12021	12-May-21	EPA 1638 Mod	

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Iron

Sample Name	Lab Number	Result	Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Sequence	Analyzed	Method	Notes
-------------	------------	--------	-----------------	-----------------	-------	----------	-------	----------	----------	----------	--------	-------

Sample Preparation: Miscellaneous Preparation ICPMS

SB-14-S(17-19) F1	1C00067-01	370	-	17	mg/kg dry	1	F105424	05-May-21	1E12021	11-May-21	EPA 1638 Mod	
SB-14-S(17-19) F2	1C00067-02	773	-	17	mg/kg dry	1	F105425	06-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(17-19) F3	1C00067-03	602	-	34	mg/kg dry	1	F105430	07-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(17-19) F4	1C00067-04	226	-	17	mg/kg dry	1	F105434	07-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(17-19) F5	1C00067-05	1750	-	86	mg/kg dry	1	F105435	10-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F1	1C00067-06	51	-	15	mg/kg dry	1	F105424	05-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F2	1C00067-07	808	-	15	mg/kg dry	1	F105425	06-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F3	1C00067-08	546	-	30	mg/kg dry	1	F105430	07-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F4	1C00067-09	197	-	15	mg/kg dry	1	F105434	07-May-21	1E12021	12-May-21	EPA 1638 Mod	
SB-14-S(22-24) F5	1C00067-10	1360	-	76	mg/kg dry	1	F105435	10-May-21	1E12021	12-May-21	EPA 1638 Mod	

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The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch F105424 - Miscellaneous Preparation ICPMS

Blank (F105424-BLK1) Prepared: 05-May-21 Analyzed: 11-May-21

Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.20	mg/kg wet							U

Blank (F105424-BLK2) Prepared: 05-May-21 Analyzed: 11-May-21

Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.20	mg/kg wet							U

Blank (F105424-BLK3) Prepared: 05-May-21 Analyzed: 11-May-21

Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.20	mg/kg wet							U

Batch F105425 - Miscellaneous Preparation ICPMS

Blank (F105425-BLK1) Prepared: 06-May-21 Analyzed: 12-May-21

Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.10	mg/kg wet							U

Blank (F105425-BLK2) Prepared: 06-May-21 Analyzed: 12-May-21

Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.10	mg/kg wet							U

Blank (F105425-BLK3) Prepared: 06-May-21 Analyzed: 12-May-21

Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.10	mg/kg wet							U

Batch F105430 - Miscellaneous Preparation ICPMS

Blank (F105430-BLK1) Prepared: 07-May-21 Analyzed: 12-May-21

Iron	ND	-	20	mg/kg wet							U
Arsenic	ND	-	1.00	mg/kg wet							U

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch F105430 - Miscellaneous Preparation ICPMS

Blank (F105430-BLK2) Prepared: 07-May-21 Analyzed: 12-May-21											
Iron	ND	-	20	mg/kg wet							U
Arsenic	ND	-	1.00	mg/kg wet							U

Blank (F105430-BLK3) Prepared: 07-May-21 Analyzed: 12-May-21											
Iron	ND	-	20	mg/kg wet							U
Arsenic	ND	-	1.00	mg/kg wet							U

Batch F105434 - Miscellaneous Preparation ICPMS

Blank (F105434-BLK1) Prepared: 07-May-21 Analyzed: 12-May-21											
Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.20	mg/kg wet							U

Blank (F105434-BLK2) Prepared: 07-May-21 Analyzed: 12-May-21											
Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.20	mg/kg wet							U

Blank (F105434-BLK3) Prepared: 07-May-21 Analyzed: 12-May-21											
Iron	ND	-	10	mg/kg wet							U
Arsenic	ND	-	0.20	mg/kg wet							U

Batch F105435 - Miscellaneous Preparation ICPMS

Blank (F105435-BLK1) Prepared: 10-May-21 Analyzed: 12-May-21											
Iron	ND	-	50	mg/kg wet							U
Arsenic	ND	-	0.10	mg/kg wet							U

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch F105435 - Miscellaneous Preparation ICPMS

Blank (F105435-BLK2)											
						Prepared: 10-May-21 Analyzed: 12-May-21					
Iron	ND	-	50	mg/kg wet							U
Arsenic	ND	-	0.10	mg/kg wet							U
Blank (F105435-BLK3)											
						Prepared: 10-May-21 Analyzed: 12-May-21					
Iron	ND	-	50	mg/kg wet							U
Arsenic	ND	-	0.10	mg/kg wet							U
LCS (F105435-BS1)											
						Prepared: 10-May-21 Analyzed: 12-May-21					
Iron	162	-	50	mg/kg wet	125.00		130	70-130			
Arsenic	5.11	-	0.10	mg/kg wet	5.0000		102	75-125			
LCS Dup (F105435-BSD1)											
						Prepared: 10-May-21 Analyzed: 12-May-21					
Iron	117	-	50	mg/kg wet	125.00		93.5	70-130	32.5	35	
Arsenic	5.17	-	0.10	mg/kg wet	5.0000		103	75-125	1.20	20	

Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
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Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Quality Control Data

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch F105441 - EFGS SOP5133 Solids Analysis

Duplicate (F105441-DUP1)

Source: 1C00067-01

Prepared & Analyzed: 11-May-21

% Solids	76.5	-	0.1	% by Weight		70.6			8.02	10	
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Eurofins Frontier Global Sciences, LLC

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Patrick Garcia-Strickland, Business Unit Manager



Frontier Global Sciences

5755 8th Street East
Tacoma, WA 98424
Phone: (253) 922-2310

Arcadis - San Francisco
100 Montgomery St., Suite 300
San Francisco CA, 94104

Project: Arsenic SEP
Project Number: Arsenic SEP
Project Manager: Margaret Gentile, PE, PhD

Reported:
12-May-21 17:33

Notes and Definitions

- U Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample.
- O-09 Total Solids are prepared at the same time as the preparation for the analyte(s) of interest in order to provide the most accurate dry mass correction.
- O-04 This sample was analyzed outside of the recommended holding time.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

Eurofins Frontier Global Sciences, LLC

The results in this report only apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Patrick Garcia-Strickland, Business Unit Manager



Quantitative X-Ray Diffraction by Rietveld Refinement

Report Prepared for: Arcadis US Inc
Project Number/ LIMS No. 18437-01/MI4524-MAR21
Sample Receipt: March 20, 2021
Sample Analysis: March 25, 2021
Reporting Date: April 8, 2021

Instrument: BRUKER AXS D8 Advance Diffractometer
Test Conditions: Co radiation, 35 kV, 40 mA
Regular Scanning: Step: 0.02°, Step time: 1s, 2θ range: 3-80°
Interpretations : PDF2/PDF4 powder diffraction databases issued by the International Center for Diffraction Data (ICDD). DiffracPlus Eva and Topas software.
Detection Limit : 0.5-2%. Strongly dependent on crystallinity.

Contents:
1) Method Summary
2) Quantitative XRD Results
3) XRD Pattern(s)

Kim Gibbs, H.B.Sc., P.Geol.
Senior Mineralogist

Huyun Zhou, Ph.D., P.Geol.
Senior Mineralogist

ACCREDITATION: SGS Minerals Services Lakefield is accredited to the requirements of ISO/IEC 17025 for specific tests as listed on our scope of accreditation, including geochemical, mineralogical and trade mineral tests. To view a list of the accredited methods, please visit the following website and search SGS Canada - Minerals Services - Lakefield: <http://palcan.scc.ca/SpecsSearch/GLSearchForm.do>.



Method Summary

The Rietveld Method of Mineral Identification by XRD (ME-LR-MIN-MET-MN-D05) method used by SGS Minerals Services is accredited to the requirements of ISO/IEC 17025.

Mineral Identification and Interpretation:

Mineral identification and interpretation involves matching the diffraction pattern of an unknown material to patterns of single-phase reference materials. The reference patterns are compiled by the Joint Committee on Powder Diffraction Standards - International Center for Diffraction Data (JCPDS-ICDD) database and released on software as Powder Diffraction Files (PDF).

Interpretations do not reflect the presence of non-crystalline and/or amorphous compounds, except when internal standards have been added by request. Mineral proportions may be strongly influenced by crystallinity, crystal structure and preferred orientations. Mineral or compound identification and quantitative analysis results should be accompanied by supporting chemical assay data or other additional tests.

Quantitative Rietveld Analysis:

Quantitative Rietveld Analysis is performed by using Topas 4.2 (Bruker AXS), a graphics based profile analysis program built around a non-linear least squares fitting system, to determine the amount of different phases present in a multicomponent sample. Whole pattern analyses are predicated by the fact that the X-ray diffraction pattern is a total sum of both instrumental and specimen factors. Unlike other peak intensity-based methods, the Rietveld method uses a least squares approach to refine a theoretical line profile until it matches the obtained experimental patterns.

Rietveld refinement is completed with a set of minerals specifically identified for the sample. Zero values indicate that the mineral was included in the refinement calculations, but the calculated concentration was less than 0.05wt%. Minerals not identified by the analyst are not included in refinement calculations for specific samples and are indicated with a dash.

DISCLAIMER: This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Summary of Rietveld Quantitative Analysis X-Ray Diffraction Results

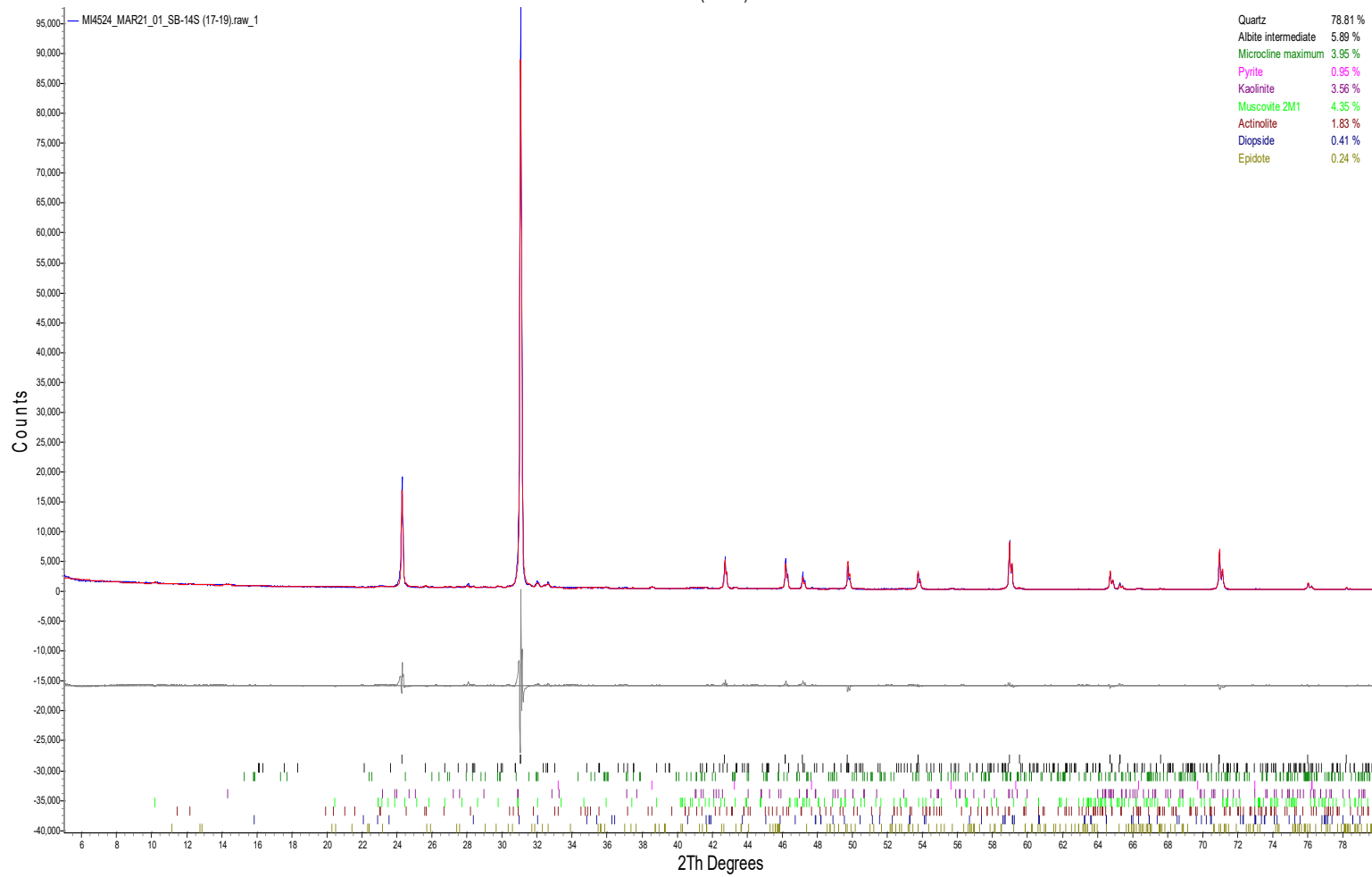
Mineral/Compound	SB-14S (17-19)	SB-14S (22-24)
	MAR4524-1	MAR4524-2
	(wt %)	(wt %)
Quartz	78.8	87.9
Plagioclase	5.90	4.40
Potassium-feldspar	3.95	3.02
Pyrite	0.95	0.23
Kaolinite	3.56	0.65
Muscovite	4.35	1.53
Actinolite	1.83	1.52
Diopside	0.41	0.39
Epidote	0.24	0.34
TOTAL	100	100

The weight percent quantities indicated have been normalized to a sum of 100%.

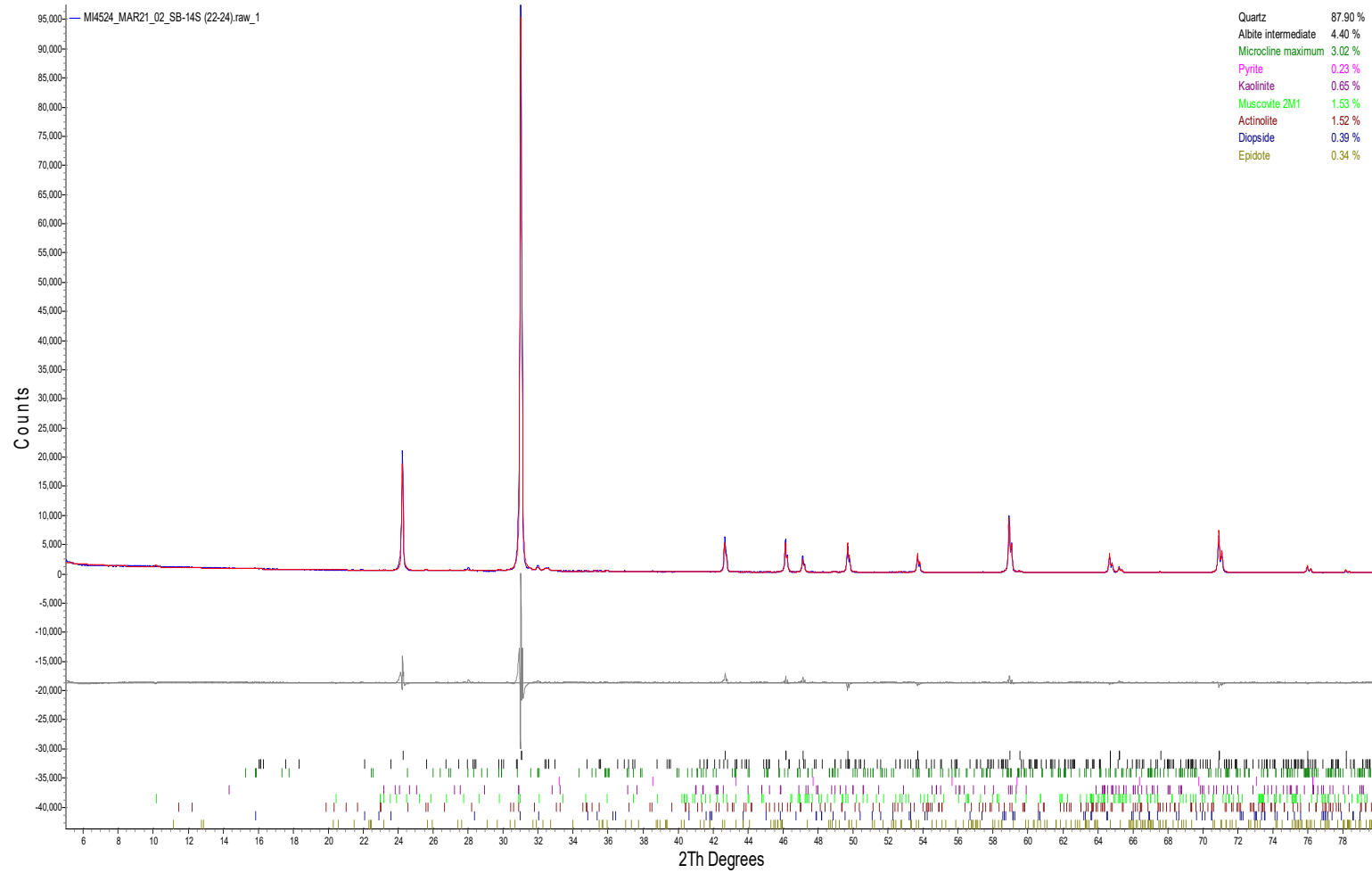
The quantity of amorphous material has not been determined.

Mineral/Compound	Formula
Quartz	SiO ₂
Plagioclase	(NaSi,CaAl)AlSi ₂ O ₈
Potassium-feldspar	KAlSi ₃ O ₈
Pyrite	FeS ₂
Kaolinite	Al ₂ Si ₂ O ₅ (OH) ₄
Muscovite	KAl ₂ (AlSi ₃ O ₁₀)(OH) ₂
Actinolite	Ca ₂ (Mg,Fe) ₅ Si ₈ O ₂₂ (OH) ₂
Diopside	CaMgSi ₂ O ₆
Epidote	Ca ₂ (Al,Fe)Al ₂ O(SiO ₄)(Si ₂ O ₇)(OH)

SB-14S (17-19)



SB-14S (22-24)





May 06, 2021

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

RE: Project: MCMANUS AS SPECIATION
Pace Project No.: 92532216

Dear Joju Abraham:

Enclosed are the analytical results for sample(s) received by the laboratory on April 08, 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.

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: 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



REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MCMANUS AS SPECIATION

Pace Project No.: 92532216

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92532216001	MCM-07	Water	04/06/21 09:44	04/08/21 00:00
92532216002	RW-9	Water	04/06/21 09:50	04/08/21 00:00
92532216003	MCM-06	Water	04/06/21 11:02	04/08/21 00:00
92532216004	MCM-05	Water	04/06/21 12:22	04/08/21 00:00
92532216005	DUP-1	Water	04/06/21 00:00	04/08/21 00:00

REPORT OF LABORATORY ANALYSIS

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Chain-of-Custody Form

Ship samples to:
 18804 North Creek Parkway, Suite 100
 Bothell, WA 98011

Received by: _____ Date: _____
 Work Order ID: _____ Time: _____
 Project ID: _____

Client: Pipe Labz PO Number: _____
 Contact: Krista Hendrix Phone: 204-972-0986
 Client Project ID: 553/2014-01-14 Email: krista.hendrix@pipe-labz.com
 Samples Collected By: Traci Gaudin, Krista Hendrix, Kylee Johnson, Krista Hendrix
 Mailing Address: 2600 Kuey Ave, Suite 100
 Email Receipt Confirmation? (Yes/No) _____
 BAL PM: Any/Good
 For BAL use only

Requested TAT (business days)
 20 (standard)
 15
 10
 5
 Other _____

Sample ID	Date	Time	Matrix Type	Number of Containers	Field Filtered? (Yes/No)	Preservation Type HCl/NO ₂ /Other	Total Hg, EPA 1631	Methyl Hg, EPA 1630	ICP-MS Metals (specify)	As Species (specify) InOrg, As, V, MMA, DMA	Se Species (specify) Se(VI), Se(VI), SeCN, Unknown	Filtration	Other (specify)	Other (specify)
1 MCM-07	4/6/14	08:14	single 800	2	Yes									
2 RW-9														
3 MCM-06														
4 MCM-05														
5 DUP-1														
6														
7														
8														
9														
10														

W0#: 92532216
 92532216

Redequired By: _____ Date: 4/6/14 Time: 14:25
 Received By: _____ Date: _____ Time: _____
 Total Number of Packages: _____

May 5, 2021

Pace Analytical Services – Huntersville
ATTN: Kevin Herring
9800 Kinsey Ave., Suite 100
Huntersville, NC 28078
Kevin.Herring@pacelabs.com

RE: Project PAC-HN2007-R

Client Project: 92532216

Dear Kevin Herring,

On April 7, 2020, Brooks Applied Labs (BAL) received five (5) water samples at a temperature of 4.7°C. The samples were logged-in for the analysis of Arsenic Speciation (arsenite [As(III)], arsenate [As(V)], monomethylarsonic acid [MMAs], dimethylarsinic acid [DMAs], and thioarsenicals) 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

Arsenic speciation was performed by ion chromatography inductively coupled plasma collision reaction cell mass spectrometry (IC-ICP-CRC-MS). Arsenic species are first 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.

In accordance with the client's request, thioarsenical "standards" were synthesized from MMAs, DMAs, and arsenite and then characterized for their sulfur-to-arsenic (S/As) ratios by IC-ICP-CRC-MS. MMAs and DMAs each yielded only one primary thioarsenical species with S/As ratios of approximately 1, which were designated as ThioMMA and ThioDMA respectively. Arsenite yielded three thioarsenical species – designated as ThioAs1, ThioAs2, and ThioAs3 – that corresponded to S/As ratios of approximately 1, 2, or 3. Traces of a fourth unknown species were also observed in the latter solution, but chromatographic interference precluded its confirmation as a thioarsenical.

The characterized standards were analyzed alongside the submitted samples for identification of thioarsenical species by retention time matching. No traces of the ThioAs2 species were detected in any of the samples so that species was excluded from the report. ThioAs1 and ThioAs3 were detected in several of the samples, as summarized in the Sample Results section. While the current method could not differentiate whether these were trivalent or pentavalent species (i.e., thioarsenites or thioarsenates), the presented results confirm the presence of thioarsenicals in some of these groundwaters.

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,

A handwritten signature in black ink that reads "Amy Goodall". The signature is written in a cursive, flowing style.

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	MS	matrix spike
BAL	Brooks Applied Labs	MSD	matrix spike duplicate
BLK	method blank	ND	non-detect
BS	blank spike	NR	non-reportable
CAL	calibration standard	N/C	not calculated
CCB	continuing calibration blank	PS	post preparation spike
CCV	continuing calibration verification	REC	percent recovery
COC	chain of custody record	RPD	relative percent difference
D	dissolved fraction	SCV	secondary calibration verification
DUP	duplicate	SOP	standard operating procedure
IBL	instrument blank	SRM	reference material
ICV	initial calibration verification	T	total fraction
MDL	method detection limit	TR	total recoverable fraction
MRL	method reporting limit		

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: November 20, 2020; Valid to: March 20, 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	Non-Potable Waters	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, U, V, Zn	Ag, Al, As, Ba, Ca, Cd, Cr, Cu, Fe, Pb, Mg, Mn, Ni, Sb, Se, V, Zn
BAL-5000	Solids/Chemicals & Biological	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, V, Zn Hg (Biological Only)	Not Accredited
EPA 1640 Mod	Non-Potable Waters	Ag, As, Cd, Cu, Pb, Ni, Zn Cr, Co, Se, Ti, V (ISO Only)	Not Accredited
EPA 1631E Mod BAL-3100 (waters)	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 Biological/Food Solids/Chemicals	Inorganic Arsenic, As(III) (ISO Only) Inorganic Arsenic (ISO Only)	Not Accredited Not Accredited
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 (ISO Only)	Not Accredited
BAL-4101	Food by BAL-4116	Inorganic Arsenic, DMAs, MMAs (ISO Only)	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) (ISO Only)	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
MCM-07	92532216001	2104040-01	Water-D	Sample	04/06/2021	04/07/2021
RW-9	92532216002	2104040-02	Water-D	Sample	04/06/2021	04/07/2021
MCM-06	92532216003	2104040-03	Water-D	Sample	04/06/2021	04/07/2021
MCM-05	92532216004	2104040-04	Water-D	Sample	04/06/2021	04/07/2021
DUP-1	92532216005	2104040-05	Water-D	Sample	04/06/2021	04/07/2021

Batch Summary

Analyte	Lab Matrix	Method	Prepared	Analyzed	Batch	Sequence
As(III)	Water	SOP BAL-4100	04/28/2021	04/29/2021	B211087	S210479
As(V)	Water	SOP BAL-4100	04/28/2021	04/29/2021	B211087	S210479
DMAs	Water	SOP BAL-4100	04/28/2021	04/29/2021	B211087	S210479
MMAs	Water	SOP BAL-4100	04/28/2021	04/29/2021	B211087	S210479
ThioAs1	Water	IC-ICP-MS	04/28/2021	04/29/2021	B211087	S210479
ThioDMA	Water	IC-ICP-MS	04/28/2021	04/29/2021	B211087	S210479
ThioAs3	Water	IC-ICP-MS	04/28/2021	04/29/2021	B211087	S210479
ThioMMA	Water	IC-ICP-MS	04/28/2021	04/29/2021	B211087	S210479



Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
MCM-07, 92532216001										
2104040-01	As(III)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-01	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-01	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-01	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-01	ThioAs1	Water-D	D	9.35		0.500	2.10	µg/L	B211087	S210479
2104040-01	ThioDMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-01	ThioAs3	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-01	ThioMMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
RW-9, 92532216002										
2104040-02	As(III)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-02	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-02	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-02	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-02	ThioAs1	Water-D	D	21.6		0.500	2.10	µg/L	B211087	S210479
2104040-02	ThioDMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-02	ThioAs3	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-02	ThioMMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
MCM-06, 92532216003										
2104040-03	As(III)	Water-D	D	2.92		0.400	2.10	µg/L	B211087	S210479
2104040-03	As(V)	Water-D	D	0.748	J	0.400	2.10	µg/L	B211087	S210479
2104040-03	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-03	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-03	ThioAs1	Water-D	D	312		0.500	2.10	µg/L	B211087	S210479
2104040-03	ThioDMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-03	ThioAs3	Water-D	D	6.49		0.500	2.10	µg/L	B211087	S210479
2104040-03	ThioMMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
MCM-05, 92532216004										
2104040-04	As(III)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-04	As(V)	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-04	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-04	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-04	ThioAs1	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-04	ThioDMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-04	ThioAs3	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-04	ThioMMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479



Sample Results

Sample	Analyte	Report Matrix	Basis	Result	Qualifier	MDL	MRL	Unit	Batch	Sequence
DUP-1, 92532216005										
2104040-05	As(III)	Water-D	D	3.39		0.400	2.10	µg/L	B211087	S210479
2104040-05	As(V)	Water-D	D	0.503	J	0.400	2.10	µg/L	B211087	S210479
2104040-05	DMAs	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-05	MMAs	Water-D	D	≤ 0.400	U	0.400	2.10	µg/L	B211087	S210479
2104040-05	ThioAs1	Water-D	D	309		0.500	2.10	µg/L	B211087	S210479
2104040-05	ThioDMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479
2104040-05	ThioAs3	Water-D	D	6.37		0.500	2.10	µg/L	B211087	S210479
2104040-05	ThioMMA	Water-D	D	≤ 0.500	U	0.500	2.10	µg/L	B211087	S210479



Accuracy & Precision Summary

Batch: B211087
Lab Matrix: Water
Method: SOP BAL-4100

Sample	Analyte	Native	Spike	Result	Units	REC & Limits	RPD & Limits
B211087-BS1	Blank Spike, (2104036)						
	As(III)		5.150	4.580	µg/L	89% 75-125	
	As(V)		5.200	5.096	µg/L	98% 75-125	
	DMAAs		5.210	5.102	µg/L	98% 75-125	
B211087-BS2	Blank Spike, (2107001)						
	MMAAs		5.000	4.683	µg/L	94% 75-125	
B211087-DUP1	Duplicate, (2104040-05)						
	As(III)	3.395		3.374	µg/L		0.6% 25
	As(V)	0.503		0.520	µg/L		3% 25
	DMAAs	ND		ND	µg/L		N/C 25
	MMAAs	ND		ND	µg/L		N/C 25
	ThioAs1	308.8		308.2	µg/L		0.2% 25
	ThioDMA	ND		ND	µg/L		N/C 25
	ThioAs3	6.375		5.989	µg/L		6% 25
	ThioMMA	ND		ND	µg/L		N/C 25
B211087-MS1	Matrix Spike, (2104040-05)						
	As(III)	3.395	104.5	104.5	µg/L	97% 75-125	
	As(V)	0.503	97.10	95.72	µg/L	98% 75-125	
	DMAAs	ND	100.0	98.27	µg/L	98% 75-125	
	MMAAs	ND	100.0	97.17	µg/L	97% 75-125	
B211087-MSD1	Matrix Spike Duplicate, (2104040-05)						
	As(III)	3.395	104.5	105.9	µg/L	98% 75-125	1% 25
	As(V)	0.503	97.10	95.00	µg/L	97% 75-125	0.8% 25
	DMAAs	ND	100.0	98.58	µg/L	99% 75-125	0.3% 25
	MMAAs	ND	100.0	97.78	µg/L	98% 75-125	0.6% 25



Method Blanks & Reporting Limits

Batch: B211087
Matrix: Water
Method: SOP BAL-4100
Analyte: As(III)

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.004
Limit:	0.021		MRL: 0.021

Analyte: As(V)

Sample	Result	Units	
B211087-BLK1	0.003	µg/L	
B211087-BLK2	0.0003	µg/L	
B211087-BLK3	0.0005	µg/L	
B211087-BLK4	0.0006	µg/L	
Average:	0.001		MDL: 0.004
Limit:	0.021		MRL: 0.021

Analyte: DMAs

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.005
Limit:	0.021		MRL: 0.021



Method Blanks & Reporting Limits

Analyte: MMAs

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.004
Limit:	0.021		MRL: 0.021

Analyte: ThioAs1

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.005
Limit:	0.021		MRL: 0.021

Analyte: ThioDMA

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.005
Limit:	0.021		MRL: 0.021

Analyte: ThioAs3

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.005
Limit:	0.021		MRL: 0.021



Method Blanks & Reporting Limits

Analyte: ThioMMA

Sample	Result	Units	
B211087-BLK1	0.00	µg/L	
B211087-BLK2	0.00	µg/L	
B211087-BLK3	0.00	µg/L	
B211087-BLK4	0.00	µg/L	
Average:	0.000		MDL: 0.005
Limit:	0.021		MRL: 0.021



Sample Containers

Lab ID: 2104040-01		Report Matrix: Water-D				Collected: 04/06/2021	
Sample: MCM-07		Sample Type: Sample				Received: 04/07/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	21-0011	none	na	na	Cooler - 2104040
B	XTRA_VOL	10 mL	21-0011	none	na	na	Cooler - 2104040

Lab ID: 2104040-02		Report Matrix: Water-D				Collected: 04/06/2021	
Sample: RW-9		Sample Type: Sample				Received: 04/07/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	21-0011	none	na	na	Cooler - 2104040
B	XTRA_VOL	10 mL	21-0011	none	na	na	Cooler - 2104040

Lab ID: 2104040-03		Report Matrix: Water-D				Collected: 04/06/2021	
Sample: MCM-06		Sample Type: Sample				Received: 04/07/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	21-0011	none	na	na	Cooler - 2104040
B	XTRA_VOL	10 mL	21-0011	none	na	na	Cooler - 2104040

Lab ID: 2104040-04		Report Matrix: Water-D				Collected: 04/06/2021	
Sample: MCM-05		Sample Type: Sample				Received: 04/07/2021	
Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	21-0011	none	na	na	Cooler - 2104040
B	XTRA_VOL	10 mL	21-0011	none	na	na	Cooler - 2104040

Project ID: PAC-HN2007-R
PM: Amy Goodall



Client PM: Kevin Herring
Client Project: 92532216

Sample Containers

Lab ID: 2104040-05
Sample: DUP-1

Report Matrix: Water-D
Sample Type: Sample

Collected: 04/06/2021
Received: 04/07/2021

Des	Container	Size	Lot	Preservation	P-Lot	pH	Ship. Cont.
A	Vacutainer	10 mL	21-0011	none	na	na	Cooler - 2104040
B	XTRA_VOL	10 mL	21-0011	none	na	na	Cooler - 2104040

Shipping Containers

Cooler - 2104040

Received: April 7, 2021 7:48
Tracking No: 785652463648 via
Coolant Type: Ice
Temperature: 4.7 °C

Description: Cooler
Damaged in transit? No
Returned to client? No
Comments: 30

Custody seals present? Yes
Custody seals intact? Yes
COC present? Yes



Chain-of-Custody Form

Ship samples to:
18804 North Creek Parkway, Suite 100
Bothell, WA 98011

Account by: Sheila Piscilla 4/7/21
 Fax Order ID: _____
 Receipt #: _____

Lab: Pace Labs
 Contact: Kevin Hearing 704-977-0945
 Address: SC/PAE McManus Kevin.Hearing@paceabs.com
 Transport Method: Trent Gustin/William Lytle/Stephen Wilson
Residue Environmental

Mailing Address: 9800 Kinsey Ave, Ste 100
Charlotte, NC 28078
 Attn: Ami Gaudell
Phone: 704-544-1111 FAX: 704-544-1111

Frequency TAT (Business days)	Collect on		Client Sample Info				BAL Analyses Required						Comments	
	Start	End	Matrix Type	Identification of Contaminant (IUPAC Name)	Is your sample's matrix known?	Matrix/Container Type (e.g., EPA, EPA method)	Lab Method (EPA, IATA, IATA)	ICP-MS Method (specify)	Absorbance (specify wavelength)	GC-MS Method (specify method)	GC-MS Method (specify method)	GC-MS Method (specify method)		GC-MS Method (specify method)
<input checked="" type="checkbox"/> 24h (overnight) <input type="checkbox"/> 48h <input type="checkbox"/> 72h <input type="checkbox"/> 96h <input type="checkbox"/> Other														
Sample ID	4/6/21	0950	Capacitor Oil	2	Yes									See if Here Asst. (GC) and GC-MS and GC-MS species
1	MCM-01													
2	Row 9													
3	MCM-06													
4	MCM-05													
5	DUP-1													
6														
7														
8														
9														
10														
Relinquished By: <u>Sheila Piscilla</u>		Date: <u>4/6/21</u>	Time: <u>10:00</u>	Relinquished By: _____		Date: _____	Time: _____	Total Number of Packages: _____						
Received By: _____		Date: _____	Time: _____	Received By: _____		Date: _____	Time: _____	Total Number of Packages: _____						

ATTACHMENT 4

Soil Boring Logs





Boring No.: SB-6

Soil Boring Log

Sheet: 1 of 2

Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

Date Started: 02/27/2021 Date Completed: 02/27/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
1							(0.0-5.0'): No Recovery
2							
3							
4							
5							
6							(5.0-10.0'): Poorly graded Sand with Silt (SP-SM); 10YR 5/2 (grayish brown) with trace 10YR 5/1 (gray); fine-very fine sand; subangular-subround; little silt (10%), trace clay (5%); some organics present; saturated throughout
7							
8							
9							
10							
11							(10.0-12.0'): No Recovery
12							
13							(12.0-12.5'): Poorly graded Sand with Silt (SP-SM); Same as above 5.0-10.0' interval
14							(12.5-14.0'): Silt with Clay and Sand (ML-MLT); 10YR 4/1 (dark gray); medium-high plasticity; soft; little-trace very fine-fine sand; moist; slight odor
15							(14.0-14.5'): Poorly graded Sand with Silt (SP-SM); 10YR 7/2 (light gray); fine-very fine sand; subangular-subround
16							(15.0-19.2'): Poorly Graded Sand (SP); 10YR 7/2 (light gray); very fine-fine grained; subangular-round; trace silt; trace clay; saturated
17							
18							
19							
20							(19.2-19.4'): Clay lense (CL); 10YR 4/1 (dark gray); low-med plasticity, moist, soft
							(19.4-21.0'): Poorly graded Sand (SP); Same as above 15.0-10.2' intervals

Drilling Co.: CascadeSampling Method: Macro-Core

Driller: _____

Sampling Interval: _____

Drilling Method: DPT

Water Level Start: _____

Drilling Fluid: _____

Water Level Finish: _____

Remarks: _____

Converted to Well: Yes No

Surface Elev.: _____

North Coord.: _____

East Coord.: _____

SOIL BORING LOG NO WELL C:\USERS\B\MAYEUX\XCONEDRIVE - ARCADIS\DESKTOP\PROJECT FILE\2 GPJ ARCADIS.GDT 10/3/21

Soil Boring Log

 Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

 Date Started: 02/27/2021 Date Completed: 02/27/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
21							(19.4-21.0'): Poorly graded Sand (SP); Same as above 15.0-10.2' intervals
22							(21.0-23.5'): Clayey Sand (SC); GLEY1 5/1 (greenish gray); very fine-med sand; subangular-subround; some clay; some silt; moist-saturated; some organics
23							
24							(23.5-24.2'): Silty Clay (CL); GLEY1 5/1 (greenish gray); low-med plasticity, soft-med stiffness; moist; some sandy silt; trace very fine-coarse sand
25							(24.2-25.0'): Clayey Sand (SC); Same as above 21.0-23.5' interval with some shell fragments
26							(25.0-30.0'): Poorly graded Sand with Silt (SP-SM); GLEY1 5/N (gray); very fine-fine sand; subangular-round; little silt; trace clay; moist; some 2.5YR 5/8 (red) mottling
27							
28							
29							
30							
31							(30.0-40.0'): Same as above; no red mottling; saturated-moist
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

Remarks:



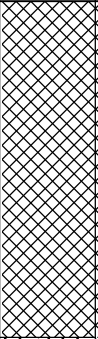
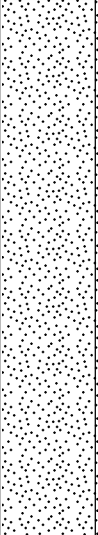
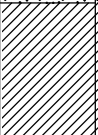
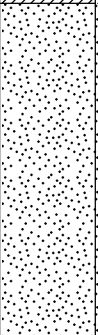
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Soil Boring Log

Sheet: 1 of 2

Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

Date Started: 02/16/2021 Logger: C. Lawson
 Date Completed: 02/16/2021 Editor: B. Mayeux
 Weather Conditions: Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
1							(0.0-5.0'): Gravel and fill material from levee
2							
3							
4							
5							(5.0-13.0'): Poorly graded Sand (SP); 7.5YR 6/3 (light brown to tan); fine grained; sub-angular; firm; tightly compacted grounds; saturated at ~7'
6							
7							
8							
9							
10							
11							
12							
13							(13.0-15.0'): Silty Clay (CL); 10YR 3.3 (dark brown to black), soft, very little moisture, no visual porosity
14							
15							(15.0-25.0'): Poorly graded Sand (SP); GLEY1 3/1 (dark gray); fine grained; sub-angular; saturated; poor visual porosity
16							
17							
18							
19							
20							

Drilling Co.: Cascade Sampling Method: Macro-Core
 Driller: _____ Sampling Interval: _____
 Drilling Method: DPT Water Level Start: _____
 Drilling Fluid: _____ Water Level Finish: _____
 Remarks: _____ Converted to Well: Yes No
 Surface Elev.: _____
 North Coord.: _____
 East Coord.: _____

SOIL BORING LOG NO WELL C:\USERS\B\MAYEUX\ONE\DRIVE - ARCADIS\DESKTOP\PROJECT FILE-2.GPJ ARCADIS.GDT 10/3/21

Soil Boring Log

Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

Date Started: 02/16/2021 Date Completed: 02/16/2021
 Logger: C. Lawson Editor: B. Mayeux
 Weather Conditions: Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
21							(15.0-25.0'): Poorly graded Sand (SP); GLEY1 3/1 (dark gray); fine grained; sub-angular; saturated; poor visual porosity
22							
23							
24							
25							
26							(25.0-30.0'): Poorly graded Sand (SP); fine grained; minor shell fragments; firm; saturated; poor visual porosity
27							
28							
29							
30							
31							(30.0-39.0'): Well graded Sand (SW); GLEY1 4/1 (dark green to gray); fine-med grained; firm; sub-angular; shell fragments; saturated; poor visual porosity
32							
33							
34							
35							
36							(39.0-40.0'): Poorly graded Sand (SP); black; fine grained; firm; no visual porosity
37							
38							
39							
40							
41							

Remarks:

Soil Boring Log

 Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

 Date Started: 02/27/2021 Date Completed: 02/27/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
1							(0.0-5.0'): Gravel and fill material from levee
2							
3							
4							
5							
6							(5.0-10.0'): Poorly graded Sand with Silt (SP-SM); 10YR 5/2 (grayish brown) with little 10YR 5/1 (gray); very fine to fine grained; subangular to subround; little silt; trace clay; saturated; some organics
7							
8							
9							
10							(10.0-12.5'): No recovery
11							
12							
13							(12.5-16.2'): Poorly graded Sand with Silt (SP-SM); 10YR 5/2 (grayish brown) with little 10YR 5/1 (gray); very fine to fine grained; subangular - subround; little silt; trace clay; saturated; some organics
14							
15							
16							(16.2-18.7'): Clayey Sand (SC); GLEY1 5/1 (dark gray); very fine-fine sand; moist; subangular-subround; some organics
17							
18							(18.7-19.8'): Sandy Clay (CL); GLEY1 5/1 (dark gray); low-medium plasticity; soft; moist; little very fine sand; subangular-round; moist; some silt; trace organics
19							
20							

SOIL BORING LOG NO WELL C:\USERS\B\MAYEUX\ONE\DRIVE - ARCADIS\DESKTOP\PROJECT FILE\2.GPJ ARCADIS.GDT 10/3/21

Drilling Co.:	<u>Cascade</u>	Sampling Method:	<u>Macro-Core</u>
Driller:	_____	Sampling Interval:	_____
Drilling Method:	<u>DPT</u>	Water Level Start:	_____
Drilling Fluid:	_____	Water Level Finish:	_____
Remarks:	_____	Converted to Well:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Surface Elev.:	_____
		North Coor:	_____
		East Coor:	_____

Soil Boring Log

 Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

 Date Started: 02/27/2021 Date Completed: 02/27/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
21							(19.8-20.0'): Poorly graded Sand with Silt (SP-SM); GLEY1 5/N (gray); very fine-fine sand; subangular-round; moist; little silt; trace clay
22							(20.0-25.0'): Same as above (SP-SM); very dense
23							(25.0-30.0'): Clayey Sand (SC); GLEY1 5/1 (dark gray); very fine-fine sand; moist; subangular-subround; some organics
24							
25							
26							
27							(30.0-32.0): No recovery
28							
29							(32.5-34.3'): Clayey Sand (SC); GLEY1 5/1 (dark gray); very fine-fine sand; moist; subangular-subround; some organics
30							
31							(34.3-35.0'): Well graded Sand with Silt (SW-SM); GLEY1 5/N (gray) with little GLEY1 1/N (white); very fine-coarse grained; subangular-subround; little silt; trace clay; trace granules; subround; some shell fragments
32							
33							(35.0-37.0): No recovery
34							
35							(37.0-40.0): Well graded Sand with Silt (SW-SM); GLEY1 5/N (gray) with little GLEY1 1/N (white); very fine-coarse grained; subangular-subround; little silt; trace clay; trace granules; subround; some shell fragments
36							
37							
38							
39							
40							
41							

Remarks:

Soil Boring Log

 Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

 Date Started: 02/28/2021 Date Completed: 02/28/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

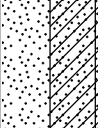
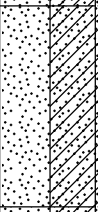
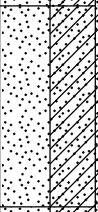
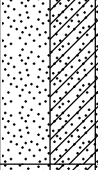
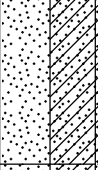
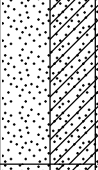
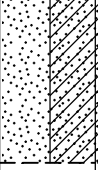
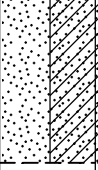
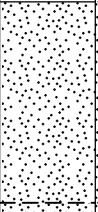
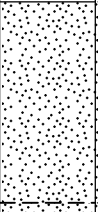
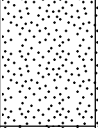
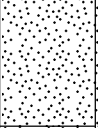
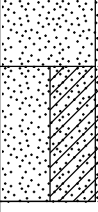
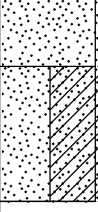

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
1							(0.0-5.0'): Gravel and fill material from levee
2							
3							
4							
5							(5.0-10.5'): Poorly graded Sand with Silt (SP-SM); 10YR 5/2 (grayish brown) with little 10YR 6/1 (gray); very fine to fine grained; subangular toround; little silt; trace clay; loose-very loose; saturate; little-some organics
6							
7							
8							
9							
10							
11							(10.5-14.2'): Sandy Clay with Silt (CL); low-medium plasticity; soft; some very fine sand; some silt; moist
12							
13							
14							
15							(14.2-15.0'): Poorly graded Sand (SP); 10YR 7/1 (light gray); very fine-fine grained; trace silt; trace clay; dense-medium dense; moist
16							(15.0-20.0'): Poorly graded Sand with Clay (SP-SC); GLEY1 4/N (dark gray); very fine-fine sand; little clay; little silt; saturated-moist; 1-2" clay seams integrated throughout
17							
18							
19							
20							

Drilling Co.:	<u>Cascade</u>	Sampling Method:	<u>Macro-Core</u>
Driller:	_____	Sampling Interval:	_____
Drilling Method:	<u>DPT</u>	Water Level Start:	_____
Drilling Fluid:	_____	Water Level Finish:	_____
Remarks:	_____	Converted to Well:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Surface Elev.:	_____
		North Coord:	_____
		East Coord:	_____

Soil Boring Log

Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

Date Started: 02/28/2021 Logger: G. Willford
 Date Completed: 02/28/2021 Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
21							(20.0-22.0'): No Recovery
22							(22.0-25.0'): Poorly graded Sand with Clay (SP-SC); GLEY1 4/N (dark gray); very fine-fine sand; little clay; little silt; saturated-moist; 1-2" clay seams integrated throughout
23							
24							
25							(25.0-27.5'): No Recovery
26							(27.5-30.0'): Poorly graded Sand with Clay (SP-SC); GLEY1 4/N (dark gray); very fine-fine sand; little clay; little silt; saturated-moist; 1-2" clay seams integrated throughout
27							
28							
29							(30.0-32.0'): No recovery
30							
31							
32							(32.0-35.0'): Poorly graded Sand (SP); GLEY1 6/N (gray); very fine-fine sand; subangular-subround; trace silt; trace clay; moist; dense
33							
34							
35							(35.0-37.0'): No Recovery
36							
37							
38							(37.0-38.0'): Poorly graded Sand (SP); GLEY1 6/N (gray); very fine-fine sand; subangular-subround; trace silt; trace clay; moist; dense
39							
40							
41							(38.0-40.0'): Poorly graded Sand with Clay (SP-SC); GLEY1 4/N (dark gray); very fine-fine sand; little clay; little silt; saturated-moist; 1-2" clay seams integrated throughout

Remarks:

Soil Boring Log

 Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

 Date Started: 02/28/2021 Date Completed: 02/28/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
1							(0.0-5.0'): Gravel and fill material from levee
2							
3							
4							
5							
6							(5.0-7.5'): No Recovery
7							
8							(7.5-12.5'): Poorly graded Sand with Silt (SP-SM); 10YR 5/2 (grayish brown) with little 10YR 6/1 (gray); very fine to fine grained; subangular-subround; little silt; trace clay; saturated; loose; some organics
9							
10							
11							
12							
13							(14.2-15.0'): Poorly graded Sand (SP); 10YR 7/1 (light gray); very fine-fine grained; trace silt; trace clay; dense-medium dense; moist
14							
15							
16							(15.0-18.7'): Clayey Sand with Silt (SC); GLEY1 4/N (dark gray); very fine-fine grained; subangular-subround; very loose-loose; saturated; some silt; some clay
17							
18							
19							(18.7-20.0'): Poorly graded Sand with Silt (SP-SM); GLEY1 G/N (gray) to GLEY1 7/N (light gray); very fine-fine grained; subangular-round; little silt; trace clay; dense; moist
20							

Drilling Co.:	<u>Cascade</u>	Sampling Method:	<u>Macro-Core</u>
Driller:	_____	Sampling Interval:	_____
Drilling Method:	<u>DPT</u>	Water Level Start:	_____
Drilling Fluid:	_____	Water Level Finish:	_____
Remarks:	_____	Converted to Well:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Surface Elev.:	_____
		North Coord.:	_____
		East Coord.:	_____

Soil Boring Log

Project Name: Plant McManus
 Project Number: 30050105
 Project Location: Brunswick, GA

Date Started: 02/28/2021 Date Completed: 02/28/2021
 Logger: G. Willford Editor: B. Mayeux
 Weather Conditions: Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Photo Log	PID (ppm)	Graphic Log	Description
21							(20.0-22.0'): No Recovery
22							(22.0-25.0'): Poorly graded Sand with Silt (SP-SM); GLEY1 G/N (gray) to GLEY1 7/N (light gray); very fine-fine grained; subangular-round; dense; moist; little silt; trace clay; some shell fragments and trace granules compose of larger shell fragments from 23.5-25.0'
23							
24							(25.0-27.5'): No recovery
25							
26							(27.5-29.0'): Poorly graded Sand with Silt (SP-SM); GLEY1 G/N (gray) to GLEY1 7/N (light gray); very fine-fine grained; subangular-round; very dense; moist; little silt; trace clay; some shell fragments and trace granules compose of larger shell fragments
27							
28							(29.0-30.0'): Well graded Sand with Silt (SW-SM); GLEY1 4/N (dark gray); very fine-very coarse grained; angular-subround; little granules-medium pebbles composed of shell fragments; angular; little silt; trace clay; moist; very dense
29							
30							(30.0-33.0'): No Recovery
31							(33.0-35.0'): Well graded Sand with Silt (SW-SM); GLEY1 4/N (dark gray); very fine-very coarse grained; angular-subround; little granules-medium pebbles composed of shell fragments; angular; little silt; trace clay; moist; very dense
32							
33							(35-35.5'): No Recovery
34							
35							(35.5-40.0'): Well graded Sand with Silt (SW-SM); GLEY1 4/N (dark gray); very fine-very coarse grained; angular-subround; little granules-medium pebbles composed of shell fragments; angular; little silt; trace clay; moist; very dense
36							
37							
38							
39							
40							
41							

Remarks:

Arcadis, Inc.

2389 Paces Ferry Road SE

Suite 900

Atlanta, Georgia 30339

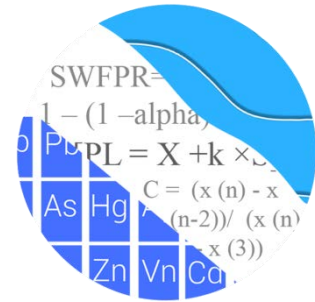
Tel 770 431 8666

Fax 770 435 2666

APPENDIX F

Statistical Analyses

GROUNDWATER STATS CONSULTING



February 23, 2021

Resolute Environmental & Water Resources Consulting
Attn: Mr. Stephen Wilson
1003 Weatherstone Parkway, Ste. 320
Woodstock, GA 30188

Re: Plant McManus Ash Pond (AP)
1st Semi-Annual Statistical Analysis – October 2020 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 Groundwater Monitoring and Corrective Action 1st Semi-Annual October 2020 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 from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10, and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

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

Note that upgradient wells MCM-18, MCM-19, and MCM-20 were installed late in 2019. 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 Kristina Rayner, Groundwater Statistician and Founder of 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. Summaries of well/constituent pairs with 100% nondetects follow this letter. Additionally, when Appendix IV constituents are not detected during a scheduled Scan event, statistical analyses may not be required during the following semi-annual sample event. During the annual Scan event for 2020, antimony, cadmium, chromium, mercury, molybdenum, and thallium were not detected, and therefore, were not required to be sampled during the October 2020 event. These constituents were included on time series and box plots, but were not included in statistical analyses.

For all constituents, a substitution of the most recent reporting limit is used for nondetect data. In the time series plots, a single reporting limit substitution is used across all wells for a given parameter since the wells are plotted as a group. For calculating prediction limits, the substitution is performed for individual wells and may differ across wells. This generally gives the most conservative limit in each case. However, in some cases the most recent reporting limit increased compared to historical data and, therefore, the lower historical reporting limit was substituted for nondetects to maintain more conservative limits. Due to varying detection limits, the following reporting limits were used for these constituents across all wells:

- Antimony: 0.003 mg/L
- Lithium: 0.03 mg/L
- Molybdenum: 0.01 mg/L
- Thallium: 0.001 mg/L

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. A summary of flagged outliers follows this report (Figure C).

No values were previously flagged as outliers during the April 2019 screening; however, 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. These steps result in construction of background limits that are conservative from a regulatory perspective.

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 are 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 Ground Water Protection Standards (GWPS) for each 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 nondetects, 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 nondetects (USEPA, 2009):

- No statistical analyses are required on wells and analytes containing 100% nondetects (USEPA Unified Guidance, 2009, Chapter 6).
- When data contain <15% nondetects in background, simple substitution of one-half the reporting limit is utilized in the statistical analysis. The reporting limit utilized for nondetects is the practical quantification limit (PQL) as reported by the laboratory.
- When data contain between 15-50% nondetects, the Kaplan-Meier nondetect adjustment is applied to the background data. This technique adjusts the mean and standard deviation of the historical concentrations to account for concentrations below the reporting limit.
- Nonparametric prediction limits are used on data containing greater than 50% nondetects.

Natural systems continuously evolve due to physical changes made to the environment. Examples include capping a landfill, paving areas near a well, or lining a drainage channel to prevent erosion. Periodic updating of background statistical limits is necessary to accommodate these types of changes. In the interwell case, prediction limits are updated with upgradient well data during each event after careful screening for any new outliers. 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 – October 2020

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 October 2020 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

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-06, MCM-07, and MCM-17
- Calcium: MCM-06 and MCM-07
- pH: MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, and MCM-17
- TDS: MCM-06, MCM-07, and MCM-14

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-06
- Calcium: MCM-07
- TDS: MCM-06, MCM-07, and MCM-14

Decreasing:

- Calcium: MCM-18 (upgradient)
- pH: MCM-11 (upgradient), MCM-05, MCM-06, MCM-12, and MCM-14
- TDS: MCM-18 (upgradient)

Statistical Analysis of Appendix IV Parameters – October 2020

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. Well/constituent pairs that have 100% nondetects do not require analysis. Data from all wells for Appendix IV parameters are reassessed for outliers during each analysis. A high value for fluoride in downgradient well MCM-06 was flagged and a summary of flagged outliers follows this report (Figure C).

First, interwell tolerance limits were used to calculate site-specific background limits from all available pooled upgradient well data through October 2020 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% nondetects or did not follow a normal or transformed-normal distribution, non-parametric tolerance limits were used. 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 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 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 October 2020 sample event (Figure G).

To complete the statistical comparison of downgradient well data to GWPS, confidence intervals were constructed for the Appendix IV constituents in each downgradient well. 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 in upgradient well MCM-20. Additionally, TDS appears to be highly variable across the site, particularly upgradient of the site. 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 and State:

- Arsenic: MCM-06
- Lithium: MCM-06

Addendum Report – January 2021

Additional data were collected in January 2021 for the following constituents at well MCM-05: arsenic, barium, beryllium, boron, calcium, chloride, cobalt, combined radium 226 + 228, fluoride, lead, lithium, pH, selenium, sulfate, and TDS. Time series and box plots were generated for all sampled constituents (Figures J and K, respectively). Interwell prediction limits were constructed for Appendix III parameters, using pooled upgradient well data through October 2020, to compare the January 2021 sample at well MCM-05 (Figure L). An exceedance was identified for pH in this well and complete graphical results of the interwell prediction limits follow this report. A Sen's Slope/Mann-Kendall trend test was used to evaluate the pH exceedance (Figure M). A statistically significant decreasing trend was identified for pH at well MCM-05 and complete graphical results of the trend tests follow this letter.

For arsenic, barium, beryllium, cobalt, combined radium 226 + 228, fluoride, lead, lithium, and selenium, confidence intervals were constructed for well MW-05 to compare all data at this well through January 2021 to the established Federal and State GWPS (Figure G). No exceedances were identified for either federal or state confidence intervals (Figures N and O, respectively).

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 T. Collins
Project Manager



Kristina L. Rayner
Groundwater Statistician

100% Non-Detects

Analysis Run 12/10/2020 1:11 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Antimony (mg/L)
MCM-04, MCM-05, MCM-07, MCM-12

Beryllium (mg/L)
MCM-06

Cadmium (mg/L)
MCM-04, MCM-05, MCM-06, MCM-07, MCM-12, MCM-14

Lead (mg/L)
MCM-04

Mercury (mg/L)
MCM-06, MCM-12

Molybdenum (mg/L)
MCM-04, MCM-07, MCM-12, MCM-14

Thallium (mg/L)
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 Printed 12/10/2020, 3:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-06	1.3	n/a	10/14/2020	1.5	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-07	1.3	n/a	10/14/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-17	1.3	n/a	10/13/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-06	169	n/a	10/14/2020	245	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	10/14/2020	207	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.77	3.72	10/15/2020	6.53	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.77	3.72	10/14/2020	6.93	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.77	3.72	10/14/2020	6.32	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.77	3.72	10/12/2020	6.35	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.77	3.72	10/13/2020	6.56	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.77	3.72	10/13/2020	6.34	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-06	14600	n/a	10/14/2020	15200	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-07	14600	n/a	10/14/2020	18400	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-14	14600	n/a	10/13/2020	15600	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2

Appendix III - Interwell Prediction Limits - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:32 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-04	1.3	n/a	10/13/2020	0.25ND	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-05	1.3	n/a	10/15/2020	0.61	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-06	1.3	n/a	10/14/2020	1.5	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-07	1.3	n/a	10/14/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-12	1.3	n/a	10/12/2020	1.3	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-14	1.3	n/a	10/13/2020	1.1	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-17	1.3	n/a	10/13/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-04	169	n/a	10/13/2020	12.5	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	10/15/2020	69.1	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-06	169	n/a	10/14/2020	245	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	10/14/2020	207	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-12	169	n/a	10/12/2020	6.1	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	10/13/2020	40.9	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-17	169	n/a	10/13/2020	86.4	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-04	8130	n/a	10/13/2020	54.4	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	10/15/2020	1660	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-06	8130	n/a	10/14/2020	6630	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-07	8130	n/a	10/14/2020	7910	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-12	8130	n/a	10/12/2020	552	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-14	8130	n/a	10/13/2020	6230	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-17	8130	n/a	10/13/2020	3980	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-04	1.5	n/a	10/13/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	10/15/2020	0.22	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-06	1.5	n/a	10/14/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-07	1.5	n/a	10/14/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-12	1.5	n/a	10/12/2020	1.2	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-14	1.5	n/a	10/13/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-17	1.5	n/a	10/13/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-04	5.77	3.72	10/13/2020	5.25	No	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.77	3.72	10/15/2020	6.53	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.77	3.72	10/14/2020	6.93	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.77	3.72	10/14/2020	6.32	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.77	3.72	10/12/2020	6.35	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.77	3.72	10/13/2020	6.56	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.77	3.72	10/13/2020	6.34	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-04	1140	n/a	10/13/2020	92.3	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	10/15/2020	147	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-06	1140	n/a	10/14/2020	510	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-07	1140	n/a	10/14/2020	904	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-12	1140	n/a	10/12/2020	0.5ND	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-14	1140	n/a	10/13/2020	695	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-17	1140	n/a	10/13/2020	378	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-04	14600	n/a	10/13/2020	12.5ND	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-05	14600	n/a	10/15/2020	5100	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-06	14600	n/a	10/14/2020	15200	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-07	14600	n/a	10/14/2020	18400	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-12	14600	n/a	10/12/2020	1560	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-14	14600	n/a	10/13/2020	15600	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-17	14600	n/a	10/13/2020	8750	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:34 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-06	0.1871	49	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	48.63	59	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-27.95	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.0923	-62	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.113	-51	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.08197	-54	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-12	-0.07539	-44	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1382	-72	-48	Yes	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-06	4156	52	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-07	3571	68	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-14	4524	72	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-18 (bg)	-2315	-37	-30	Yes	10	0	n/a	n/a	0.01	NP

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:34 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-01 (bg)	0.002021	9	38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-02 (bg)	-0.02869	-20	-38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-06	0.1871	49	43	Yes	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-07	0.1459	43	43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-11 (bg)	0.001433	5	38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-15 (bg)	0.007692	21	38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-16 (bg)	-0.0109	-22	-38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-17	-0.09555	-21	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-18 (bg)	0	-6	-30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-19 (bg)	0	0	30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-20 (bg)	0.1848	3	30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-01 (bg)	0.3136	4	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-02 (bg)	-0.2937	-23	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-06	59.02	42	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	48.63	59	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-11 (bg)	-4.667	-38	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-15 (bg)	1.376	15	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-16 (bg)	0	2	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-27.95	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-19 (bg)	-36.5	-18	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-20 (bg)	-63.32	-25	-30	No	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-01 (bg)	0.05473	25	48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-02 (bg)	0.02274	25	48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.0923	-62	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.113	-51	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-07	-0.08659	-48	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.08197	-54	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-12	-0.07539	-44	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1382	-72	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-15 (bg)	-0.08406	-20	-43	No	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-16 (bg)	0.005464	2	43	No	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-17	-0.1427	-42	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-18 (bg)	0.1725	20	25	No	9	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-19 (bg)	-0.1816	-16	-25	No	9	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-20 (bg)	-0.1225	-15	-25	No	9	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-01 (bg)	-4.393	-8	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-02 (bg)	-4.101	-18	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-06	4156	52	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-07	3571	68	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-11 (bg)	-43.29	-34	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-14	4524	72	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-15 (bg)	15.28	25	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-16 (bg)	-0.6384	-2	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-18 (bg)	-2315	-37	-30	Yes	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-19 (bg)	0	0	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-20 (bg)	-1278	-4	-30	No	10	0	n/a	n/a	0.01	NP

Upper Tolerance Limit Summary Table

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 1:06 PM

Constituent	Upper Lim.	Lower Lim.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Antimony (mg/L)	0.003	n/a	n/a	83	n/a	n/a	93.98	n/a	n/a	0.01416	NP Inter(NDs)
Arsenic (mg/L)	0.031	n/a	n/a	94	n/a	n/a	14.89	n/a	n/a	0.008054	NP Inter(normality)
Barium (mg/L)	0.22	n/a	n/a	91	n/a	n/a	0	n/a	n/a	0.009394	NP Inter(normality)
Beryllium (mg/L)	0.021	n/a	n/a	90	n/a	n/a	22.22	n/a	n/a	0.009888	NP Inter(normality)
Cadmium (mg/L)	0.0025	n/a	n/a	77	n/a	n/a	92.21	n/a	n/a	0.01926	NP Inter(NDs)
Chromium (mg/L)	0.011	n/a	n/a	83	n/a	n/a	46.99	n/a	n/a	0.01416	NP Inter(normality)
Cobalt (mg/L)	0.036	n/a	n/a	90	n/a	n/a	74.44	n/a	n/a	0.009888	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	55.8	n/a	n/a	89	n/a	n/a	0	n/a	n/a	0.01041	NP Inter(normality)
Fluoride (mg/L)	1.5	n/a	n/a	95	n/a	n/a	40	n/a	n/a	0.007651	NP Inter(normality)
Lead (mg/L)	0.005	n/a	n/a	90	n/a	n/a	78.89	n/a	n/a	0.009888	NP Inter(NDs)
Lithium (mg/L)	0.03	n/a	n/a	87	n/a	n/a	52.87	n/a	n/a	0.01153	NP Inter(NDs)
Mercury (mg/L)	0.0007	n/a	n/a	77	n/a	n/a	93.51	n/a	n/a	0.01926	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	82	n/a	n/a	93.9	n/a	n/a	0.01491	NP Inter(NDs)
Selenium (mg/L)	0.15	n/a	n/a	91	n/a	n/a	59.34	n/a	n/a	0.009394	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	82	n/a	n/a	91.46	n/a	n/a	0.01491	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	0.03	0.04	0.03
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 Printed 12/10/2020, 3:38 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.04	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.

Federal Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:38 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008885	0.00297	0.031	No 13	0.006192	0.004404	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.01701	0.003101	0.031	No 14	0.01329	0.01351	14.29	None	ln(x)	0.01	Param.
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02247	0.01077	0.031	No 15	0.01662	0.008628	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.0057	0.0007	0.031	No 12	0.003133	0.002126	41.67	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.003992	0.000891	0.031	No 12	0.003842	0.002106	41.67	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-17	0.003985	0.001615	0.031	No 13	0.003569	0.001806	30.77	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	MCM-04	0.1122	0.02821	2	No 12	0.0765	0.08077	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No 12	0.05243	0.1256	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0508	2	No 13	0.09681	0.04945	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No 12	0.1585	0.1054	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1313	0.1115	2	No 12	0.1214	0.01265	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1172	0.04197	2	No 12	0.07959	0.04795	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1207	0.05127	2	No 12	0.08599	0.04425	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.0002	0.021	No 12	0.0009842	0.001226	25	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 12	0.002755	0.0008504	91.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.000078	0.021	No 12	0.002273	0.001316	75	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001046	0.0004115	0.021	No 12	0.0008067	0.0007217	8.333	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No 12	0.001796	0.001489	58.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No 12	0.0009367	0.001246	25	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-04	0.0085	0.0048	0.036	No 13	0.005808	0.001585	53.85	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 12	0.004742	0.0008949	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.005	0.0009	0.036	No 13	0.004323	0.001657	84.62	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.005	0.0011	0.036	No 12	0.004675	0.001126	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.005	0.0005	0.036	No 12	0.003147	0.00229	58.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.005	0.0006	0.036	No 12	0.004633	0.00127	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.005	0.00052	0.036	No 12	0.003885	0.002018	75	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.51	3.244	55.8	No 12	4.946	2.295	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.292	1.408	55.8	No 12	1.85	0.5634	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.31	2.299	55.8	No 12	4.977	3.404	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.49	5.019	55.8	No 13	7.255	3.006	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.221	2.079	55.8	No 12	2.65	0.7272	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.357	2.466	55.8	No 13	4.911	3.289	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.245	2.31	55.8	No 13	4.508	2.942	0	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.1852	0.05378	4	No 13	0.1472	0.1369	46.15	Kaplan-Meier	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.569	0.3167	4	No 14	0.4629	0.2203	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3095	0.0941	4	No 13	0.2114	0.156	38.46	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No 14	0.319	0.3039	35.71	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.301	0.9339	4	No 13	1.085	0.3385	7.692	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No 14	0.2503	0.208	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No 14	0.6024	0.5186	28.57	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No 12	0.0046	0.001386	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.015	No 13	0.004625	0.001353	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.015	No 12	0.003782	0.002204	75	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.015	No 12	0.003372	0.002405	66.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.015	No 12	0.00459	0.00142	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.015	No 12	0.003412	0.002345	66.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.04	No 12	0.0074	0.00674	41.67	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.04	No 12	0.07259	0.1568	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.04	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.06471	0.01819	0.04	No 13	0.04518	0.0395	0	None	x^(1/3)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01281	0.01079	0.04	No 12	0.0118	0.001281	8.333	None	No	0.01	Param.
Lithium (mg/L)	MCM-14	0.05107	0.02921	0.04	No 13	0.03529	0.01949	7.692	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02511	0.01348	0.04	No 12	0.01929	0.00741	0	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No 12	0.009375	0.002165	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.002	0.15	No 12	0.007425	0.003809	66.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.0015	0.15	No 13	0.006077	0.003738	38.46	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0021	0.15	No 12	0.005983	0.003667	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0017	0.15	No 12	0.005267	0.004188	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0018	0.15	No 12	0.006358	0.003947	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No 12	0.006342	0.003841	41.67	None	No	0.01	NP (normality)

State Confidence Intervals - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:36 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.03	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.

State Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008885	0.00297	0.031	No 13	0.006192	0.004404	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.01701	0.003101	0.031	No 14	0.01329	0.01351	14.29	None	ln(x)	0.01	Param.
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02247	0.01077	0.031	No 15	0.01662	0.008628	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.0057	0.0007	0.031	No 12	0.003133	0.002126	41.67	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.003992	0.000891	0.031	No 12	0.003842	0.002106	41.67	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-17	0.003985	0.001615	0.031	No 13	0.003569	0.001806	30.77	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	MCM-04	0.1122	0.02821	2	No 12	0.0765	0.08077	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No 12	0.05243	0.1256	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0508	2	No 13	0.09681	0.04945	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No 12	0.1585	0.1054	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1313	0.1115	2	No 12	0.1214	0.01265	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1172	0.04197	2	No 12	0.07959	0.04795	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1207	0.05127	2	No 12	0.08599	0.04425	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.0002	0.021	No 12	0.0009842	0.001226	25	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 12	0.002755	0.0008504	91.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.000078	0.021	No 12	0.002273	0.001316	75	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001046	0.0004115	0.021	No 12	0.0008067	0.0007217	8.333	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No 12	0.001796	0.001489	58.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No 12	0.0009367	0.001246	25	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-04	0.0085	0.0048	0.036	No 13	0.005808	0.001585	53.85	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 12	0.004742	0.0008949	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.005	0.0009	0.036	No 13	0.004323	0.001657	84.62	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.005	0.0011	0.036	No 12	0.004675	0.001126	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.005	0.0005	0.036	No 12	0.003147	0.00229	58.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.005	0.0006	0.036	No 12	0.004633	0.00127	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.005	0.00052	0.036	No 12	0.003885	0.002018	75	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.51	3.244	55.8	No 12	4.946	2.295	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.292	1.408	55.8	No 12	1.85	0.5634	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.31	2.299	55.8	No 12	4.977	3.404	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.49	5.019	55.8	No 13	7.255	3.006	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.221	2.079	55.8	No 12	2.65	0.7272	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.357	2.466	55.8	No 13	4.911	3.289	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.245	2.31	55.8	No 13	4.508	2.942	0	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.1852	0.05378	4	No 13	0.1472	0.1369	46.15	Kaplan-Meier	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.569	0.3167	4	No 14	0.4629	0.2203	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3095	0.0941	4	No 13	0.2114	0.156	38.46	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No 14	0.319	0.3039	35.71	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.301	0.9339	4	No 13	1.085	0.3385	7.692	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No 14	0.2503	0.208	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No 14	0.6024	0.5186	28.57	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No 12	0.0046	0.001386	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.005	No 13	0.004625	0.001353	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.005	No 12	0.003782	0.002204	75	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.005	No 12	0.003372	0.002405	66.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.005	No 12	0.00459	0.00142	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.005	No 12	0.003412	0.002345	66.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.03	No 12	0.0074	0.00674	41.67	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.03	No 12	0.07259	0.1568	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.03	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.06471	0.01819	0.03	No 13	0.04518	0.0395	0	None	x^(1/3)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01281	0.01079	0.03	No 12	0.0118	0.001281	8.333	None	No	0.01	Param.
Lithium (mg/L)	MCM-14	0.05107	0.02921	0.03	No 13	0.03529	0.01949	7.692	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02511	0.01348	0.03	No 12	0.01929	0.00741	0	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No 12	0.009375	0.002165	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.002	0.15	No 12	0.007425	0.003809	66.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.0015	0.15	No 13	0.006077	0.003738	38.46	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0021	0.15	No 12	0.005983	0.003667	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0017	0.15	No 12	0.005267	0.004188	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0018	0.15	No 12	0.006358	0.003947	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No 12	0.006342	0.003841	41.67	None	No	0.01	NP (normality)

Intrawell Prediction Limits - MCM-05 Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 3:41 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg.N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-05	1.3	n/a	1/4/2021	0.98	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	1/4/2021	104	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	1/4/2021	2460	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	1/4/2021	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.77	3.72	1/4/2021	6.66	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	1/4/2021	262	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-05	14600	n/a	1/4/2021	7750	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2

Appendix III Trend Tests - Addendum Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 3:59 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
pH (S.U.)	MCM-05	-0.08008	-62	-53	Yes	15	0	n/a	n/a	0.01	NP

Confidence Intervals - Addendum Federal Results (No Significant)

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 4:06 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDsND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No 15	0.01255	0.01336	13.33 None	No	0.01	NP (normality)
Barium (mg/L)	MCM-05	0.051	0.0085	2	No 13	0.05232	0.1202	0 None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 13	0.002773	0.0008171	92.31 None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 13	0.004762	0.0008598	92.31 None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.84	1.334	55.8	No 13	2.157	1.231	0 None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.5768	0.2622	4	No 15	0.4353	0.2376	6.667 None	sqrt(x)	0.01	Param.
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No 13	0.004631	0.001331	92.31 None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-05	0.043	0.021	0.04	No 13	0.07032	0.1504	0 None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No 13	0.007623	0.003716	69.23 None	No	0.01	NP (NDs)

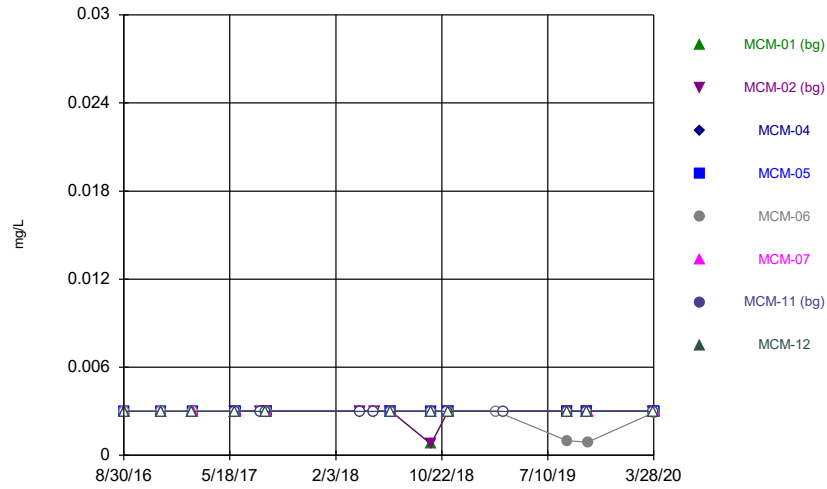
Confidence Intervals - Addendum State Results (No Significant)

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 4:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDsND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No 15	0.01255	0.01336	13.33 None	No	0.01	NP (normality)
Barium (mg/L)	MCM-05	0.051	0.0085	2	No 13	0.05232	0.1202	0 None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 13	0.002773	0.0008171	92.31 None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 13	0.004762	0.0008598	92.31 None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.84	1.334	55.8	No 13	2.157	1.231	0 None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.5768	0.2622	4	No 15	0.4353	0.2376	6.667 None	sqrt(x)	0.01	Param.
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No 13	0.004631	0.001331	92.31 None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-05	0.043	0.021	0.03	No 13	0.07032	0.1504	0 None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No 13	0.007623	0.003716	69.23 None	No	0.01	NP (NDs)

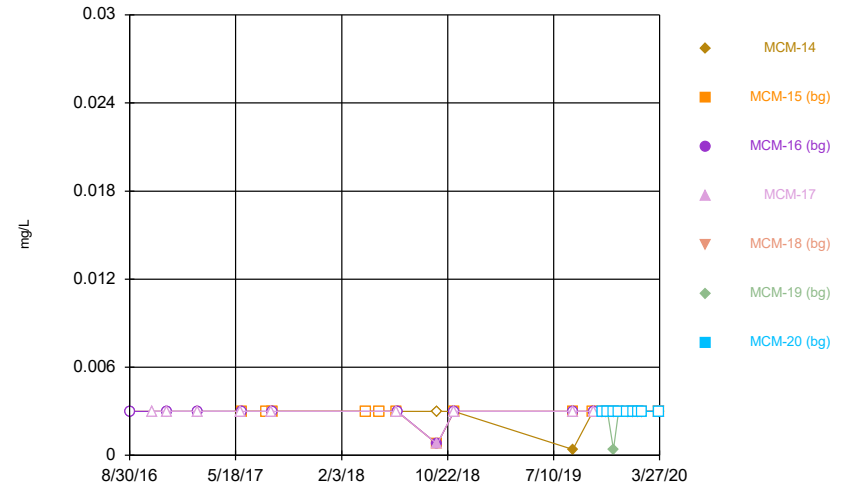
FIGURE A.

Time Series



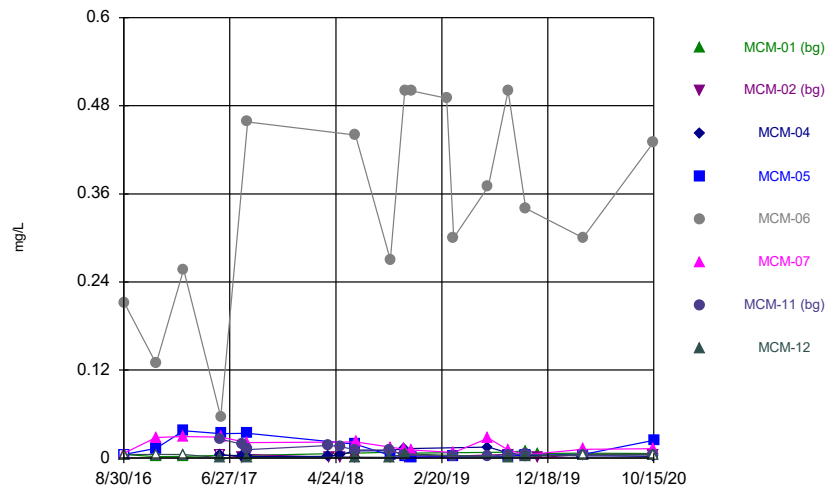
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



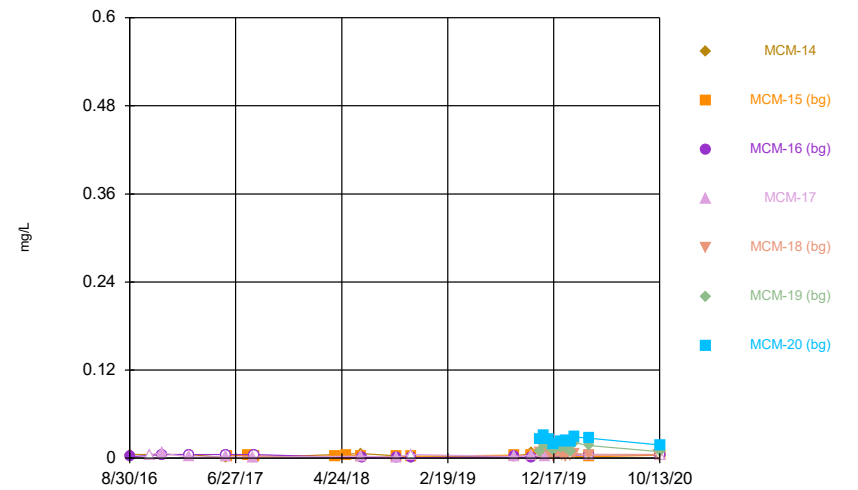
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



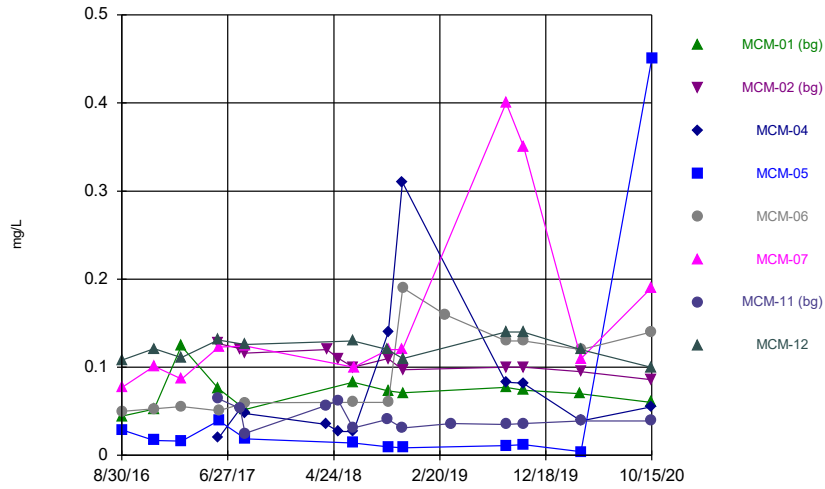
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Time Series



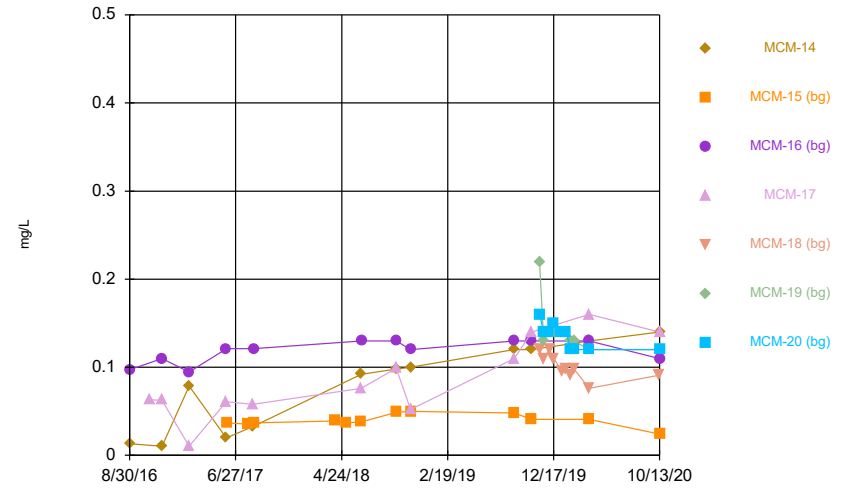
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Time Series



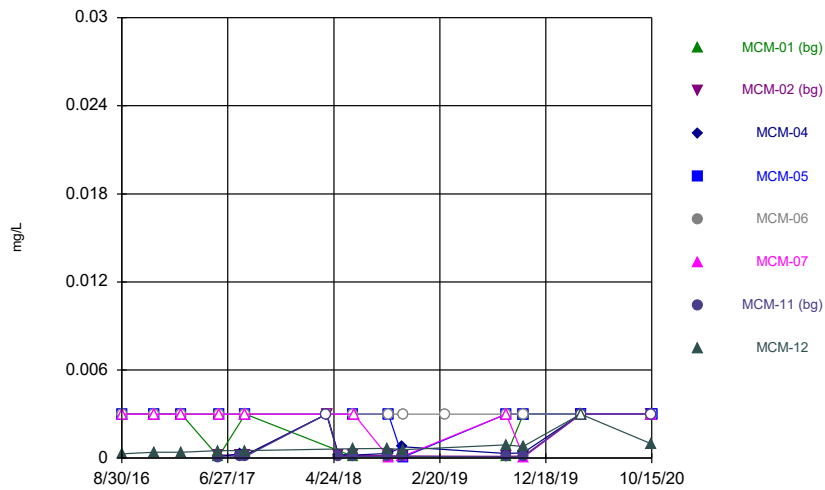
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Time Series



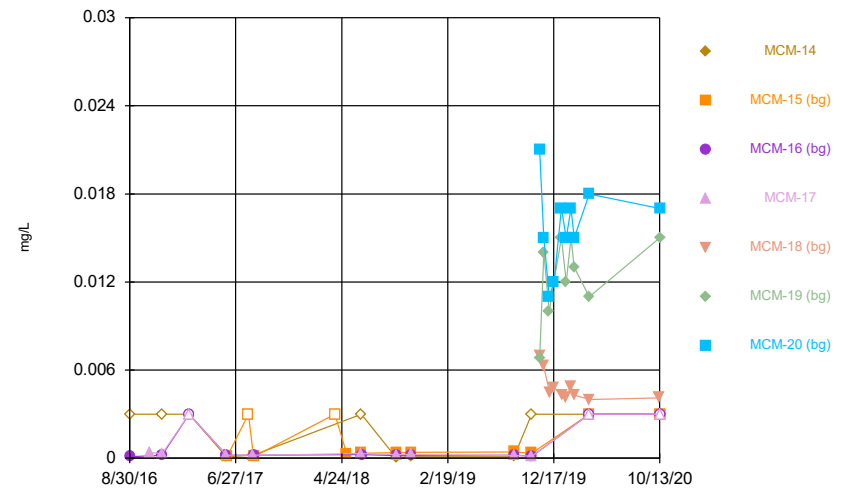
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



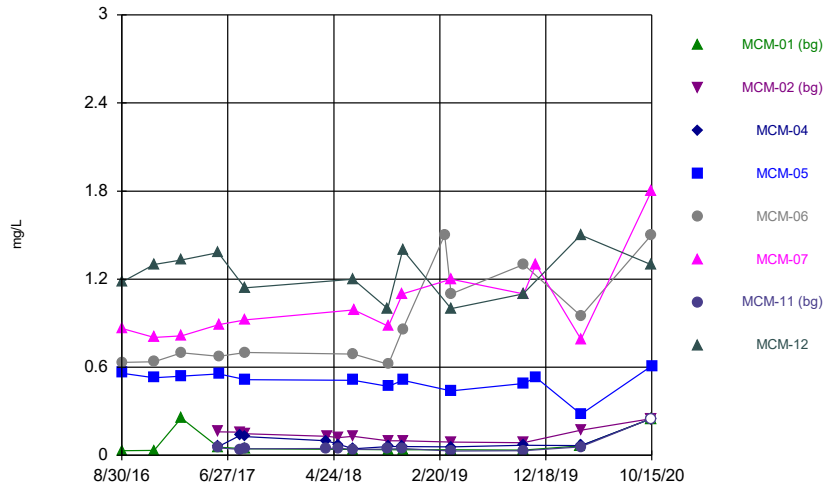
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



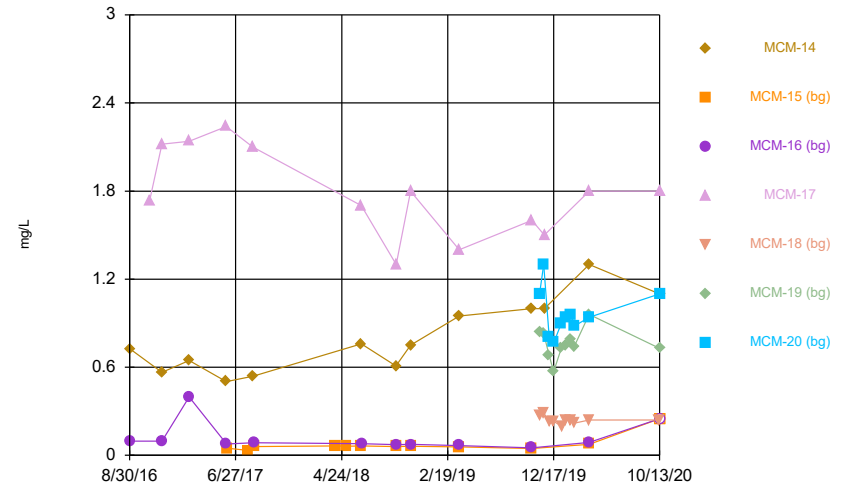
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Time Series



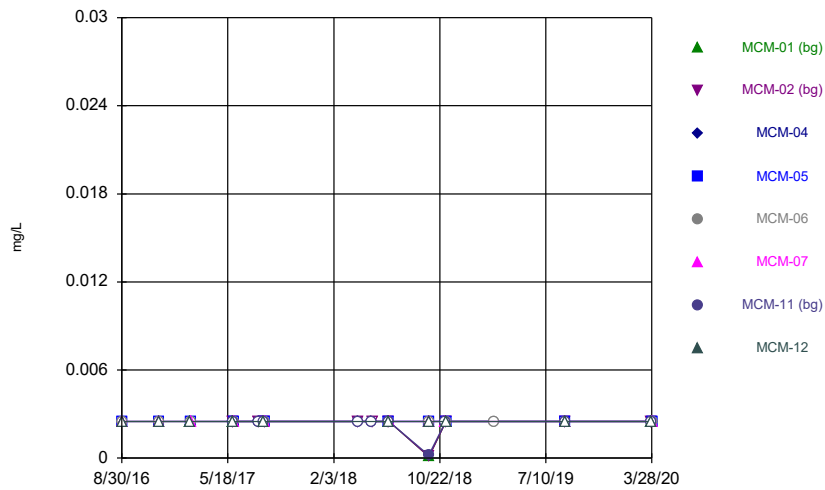
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



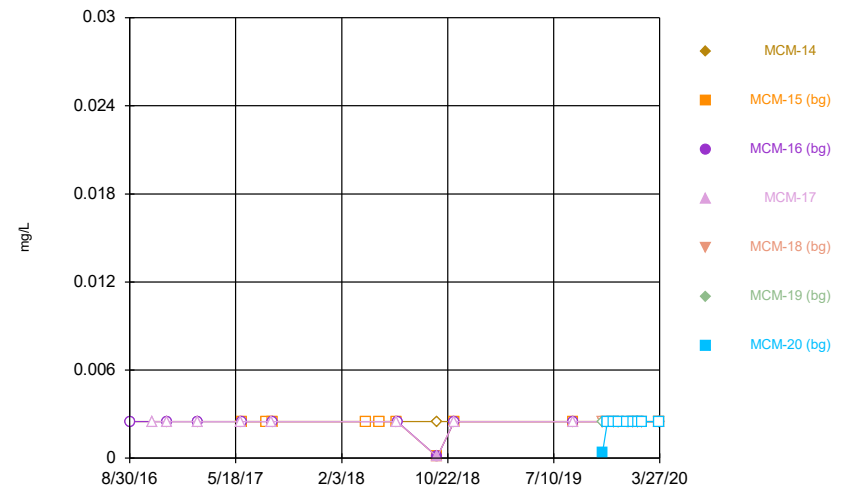
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Time Series



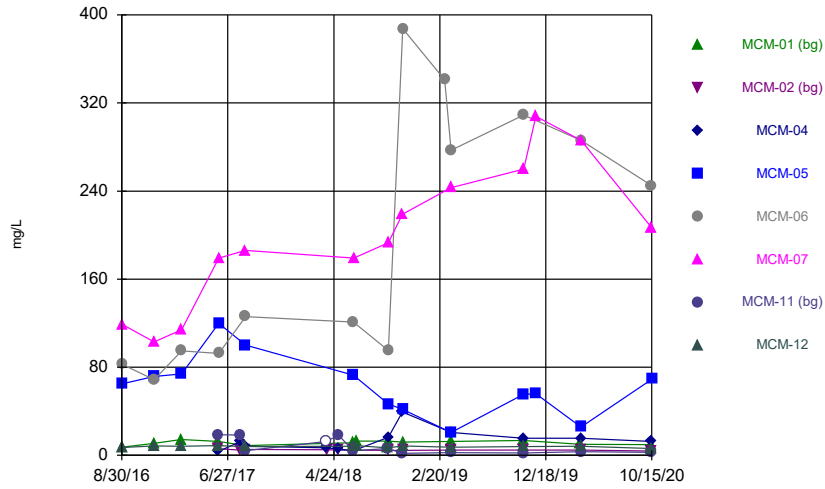
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



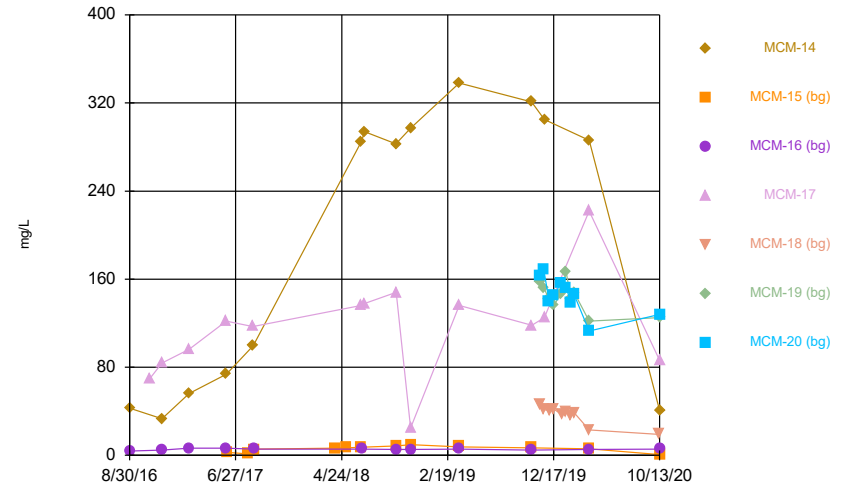
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



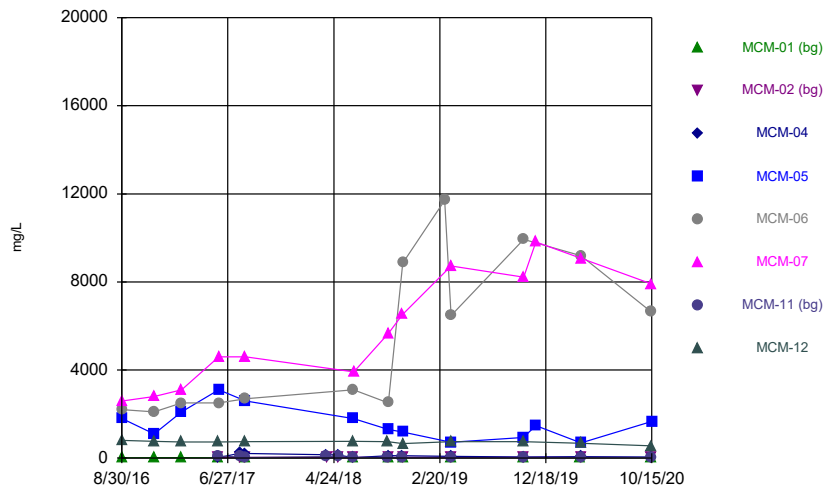
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



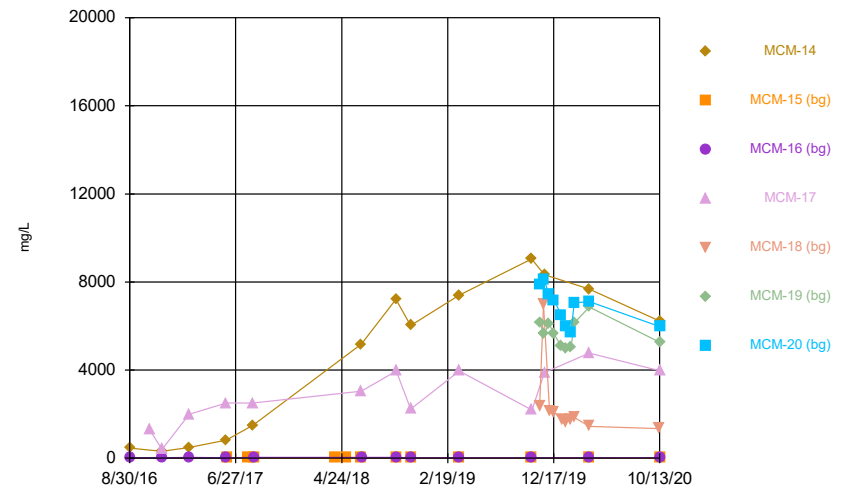
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



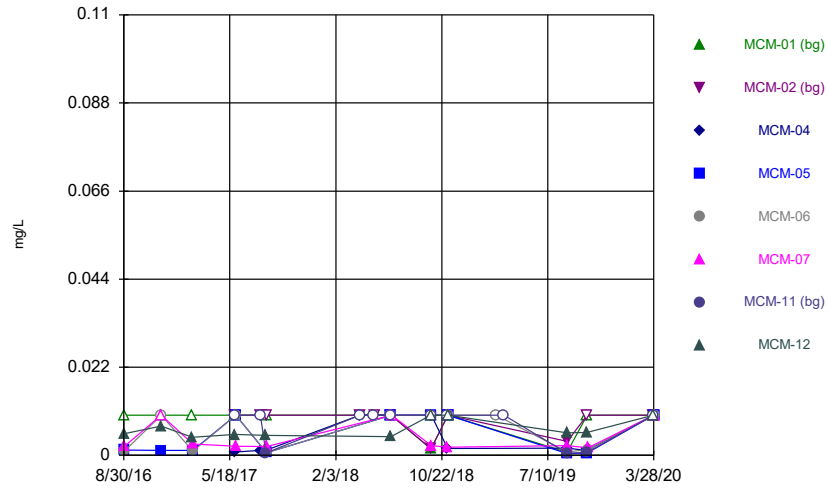
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



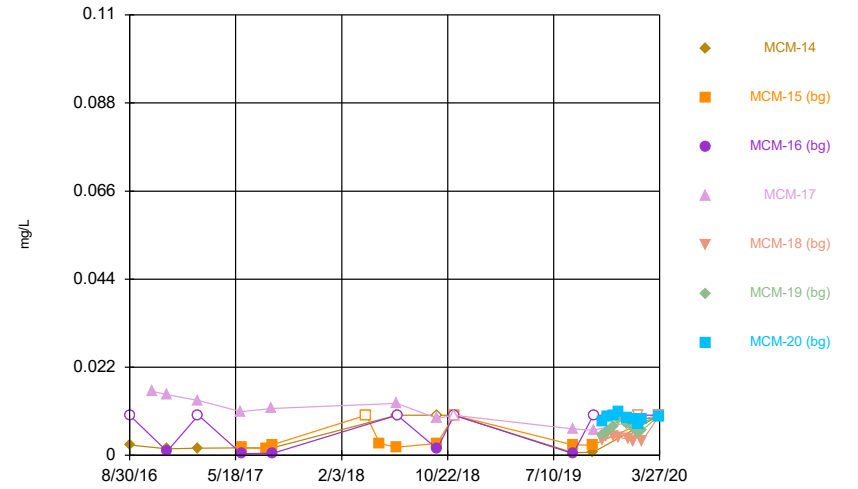
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Time Series



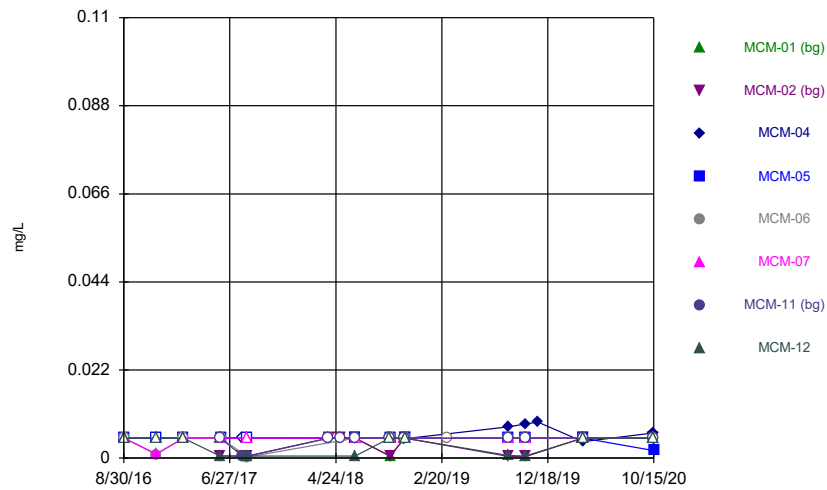
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Time Series



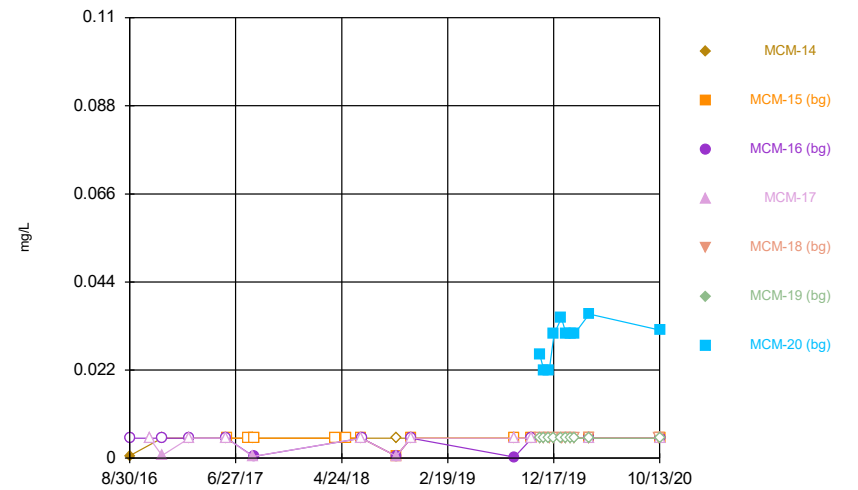
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Time Series



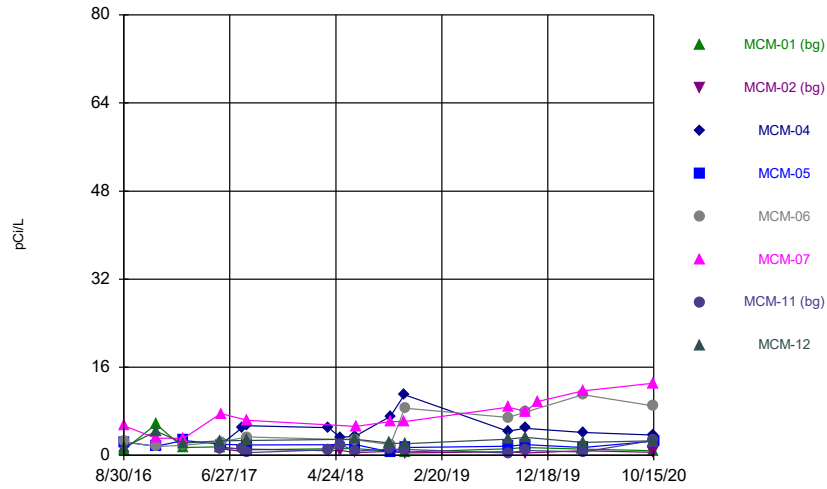
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series

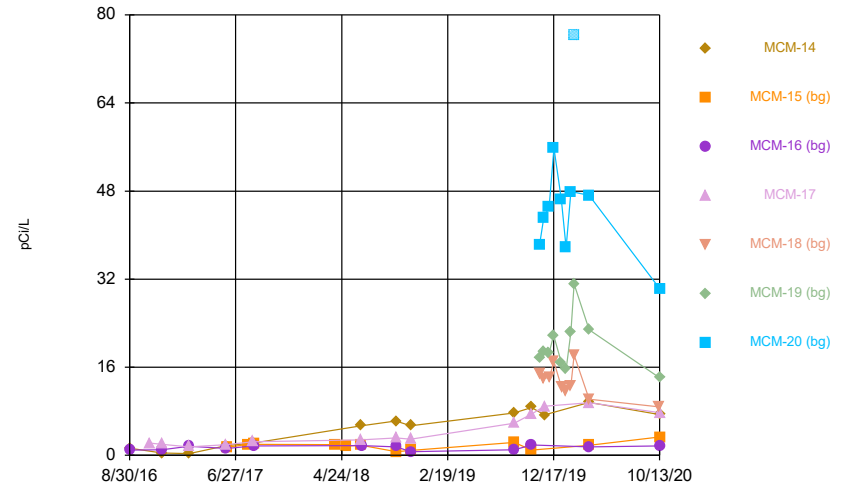


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 Plant McManus Client: Southern Company Data: McManus Ash Pond

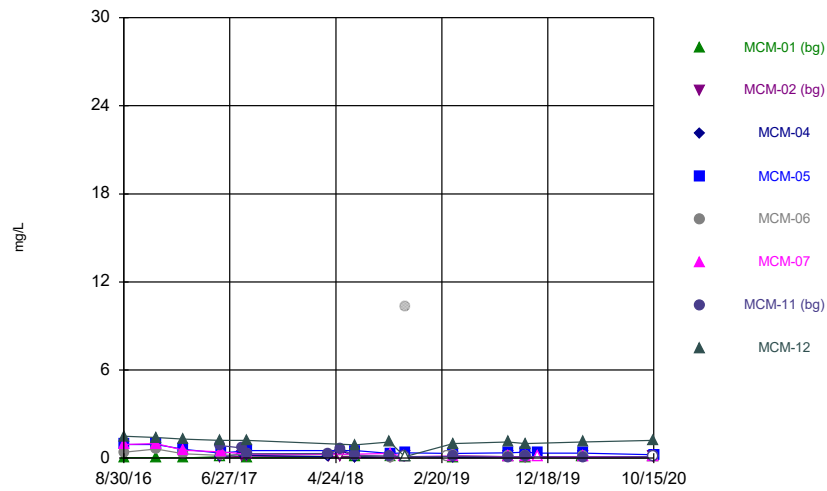
Time Series



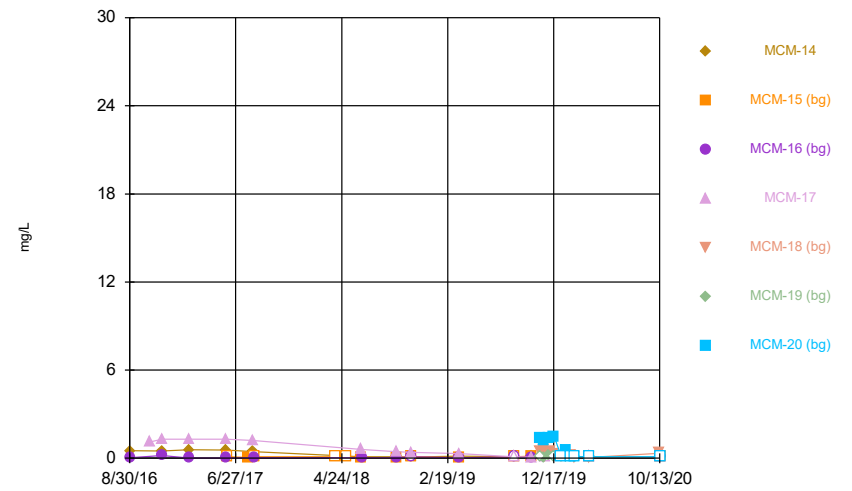
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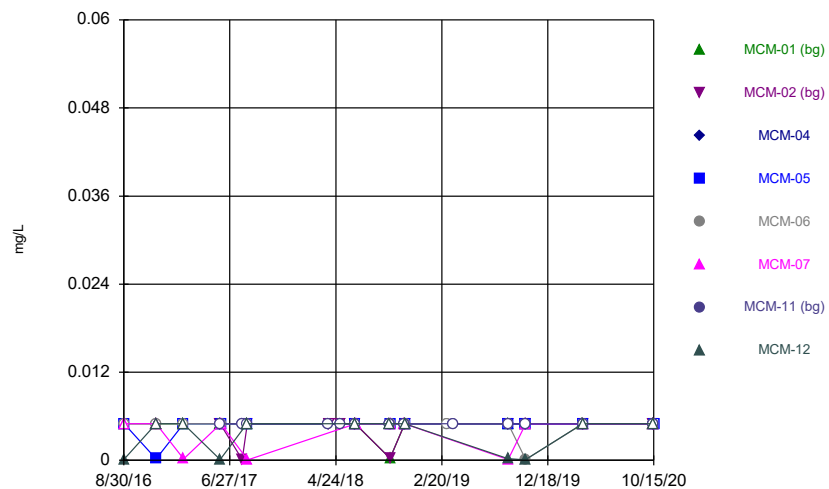
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Time Series

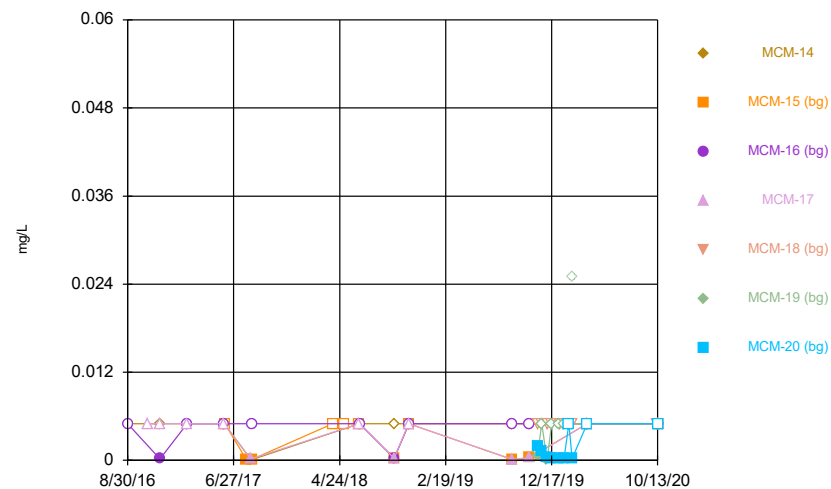


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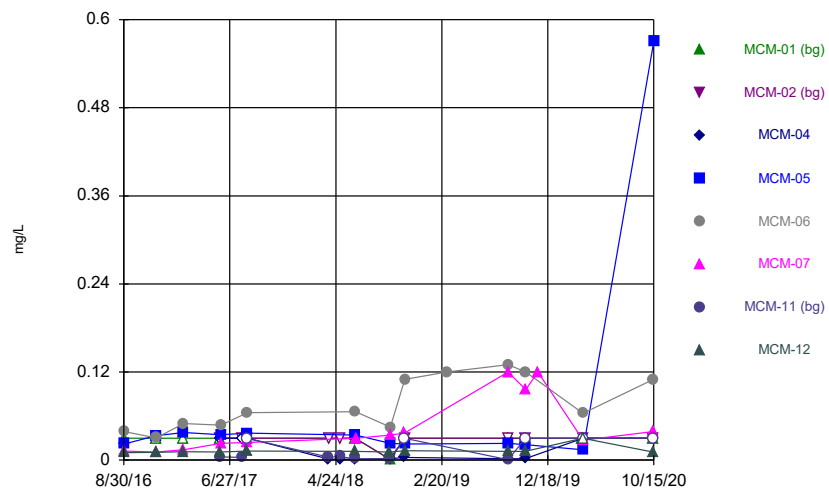
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Time Series



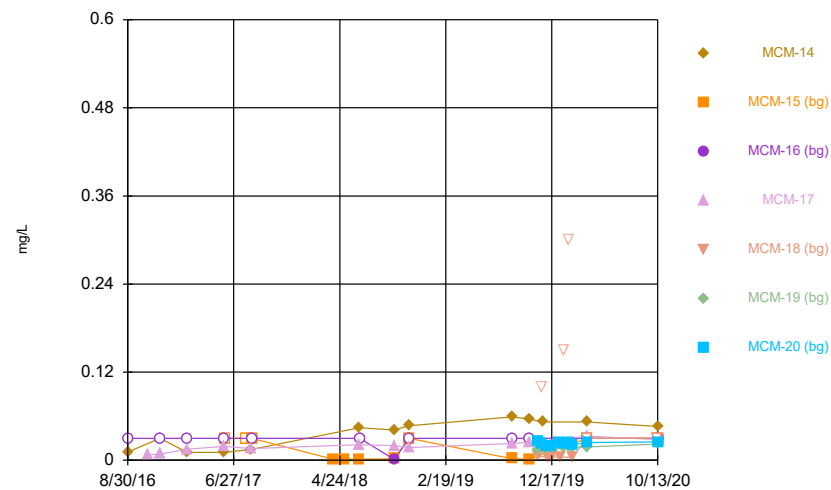
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



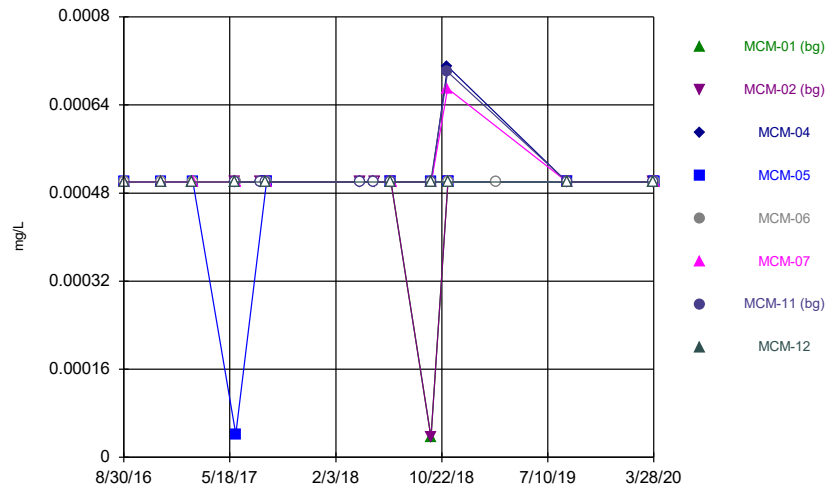
Constituent: Lithium Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



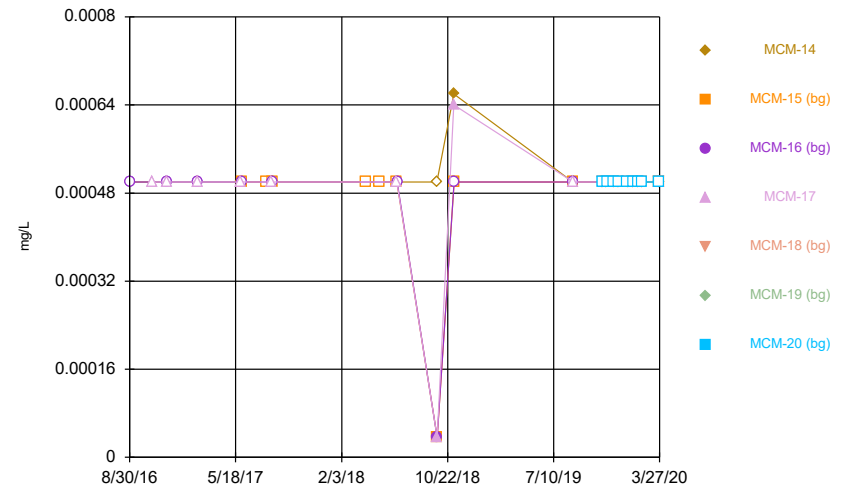
Constituent: Lithium Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



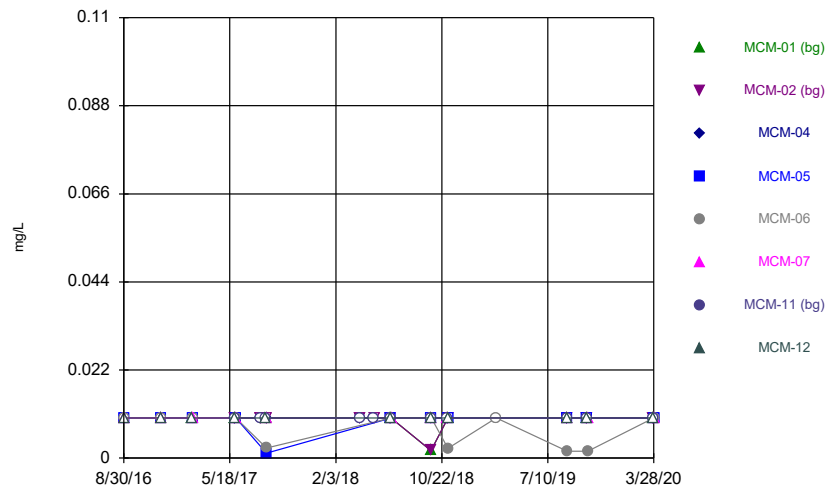
Constituent: Mercury Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



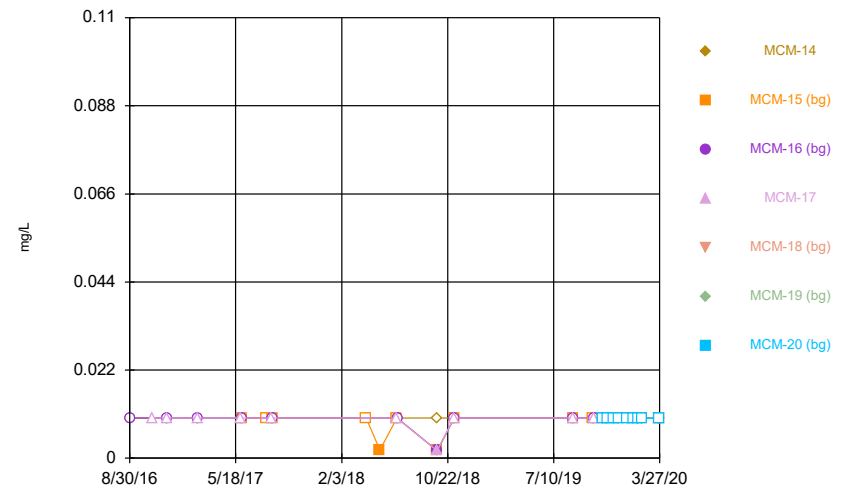
Constituent: Mercury Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



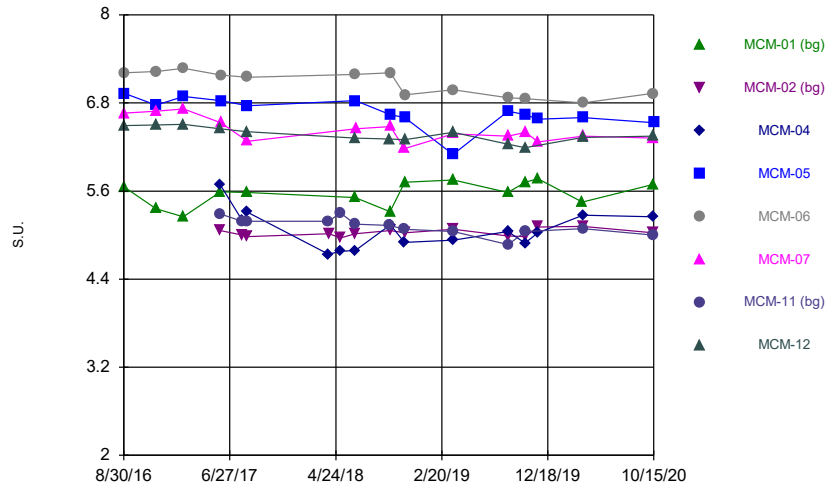
Constituent: Molybdenum Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



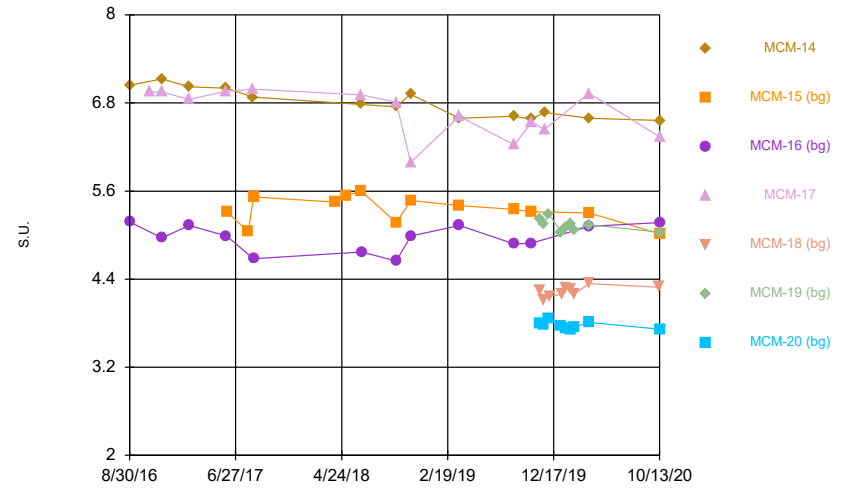
Constituent: Molybdenum Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



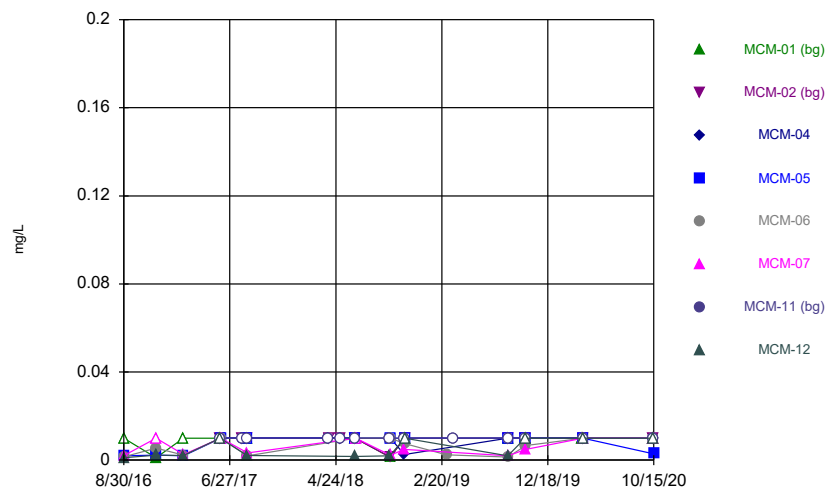
Constituent: pH Analysis Run 12/10/2020 3:16 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



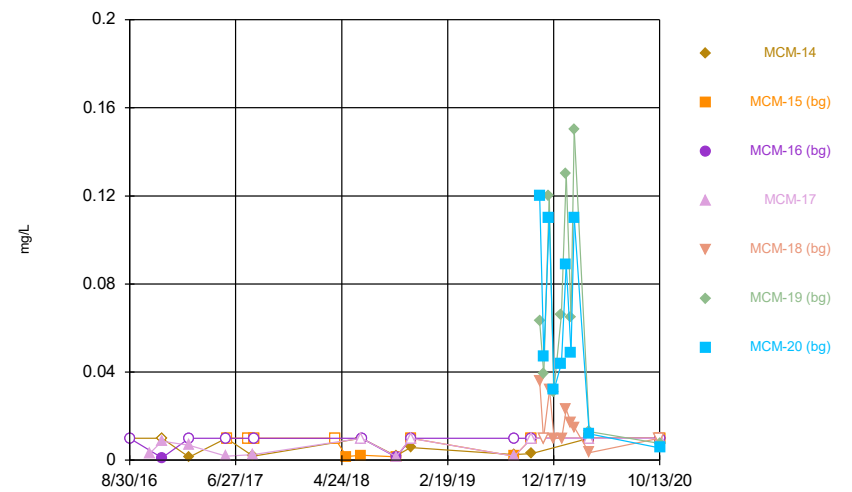
Constituent: pH Analysis Run 12/10/2020 3:16 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



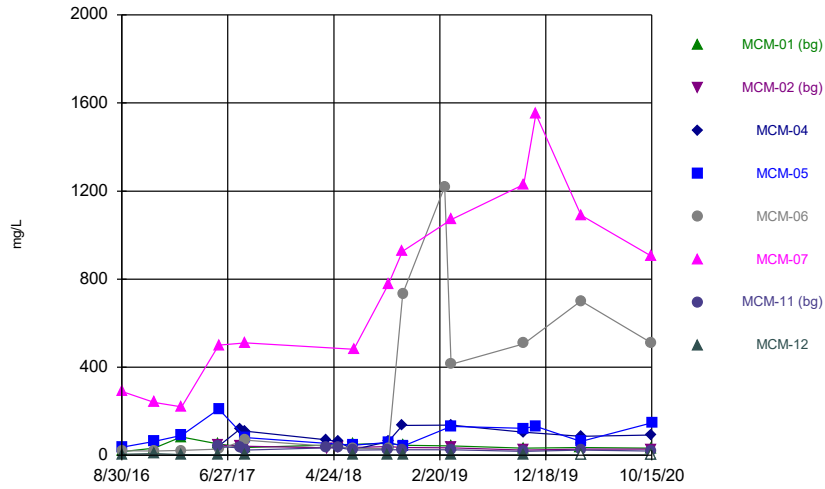
Constituent: Selenium Analysis Run 12/10/2020 3:16 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



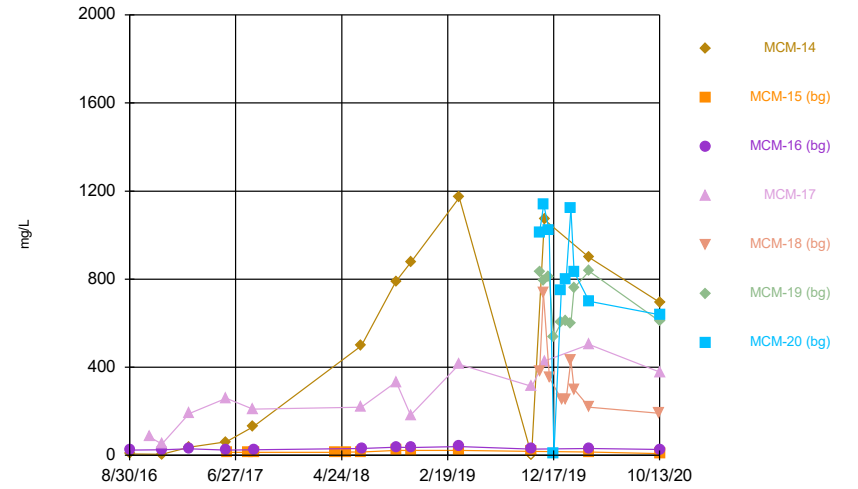
Constituent: Selenium Analysis Run 12/10/2020 3:16 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



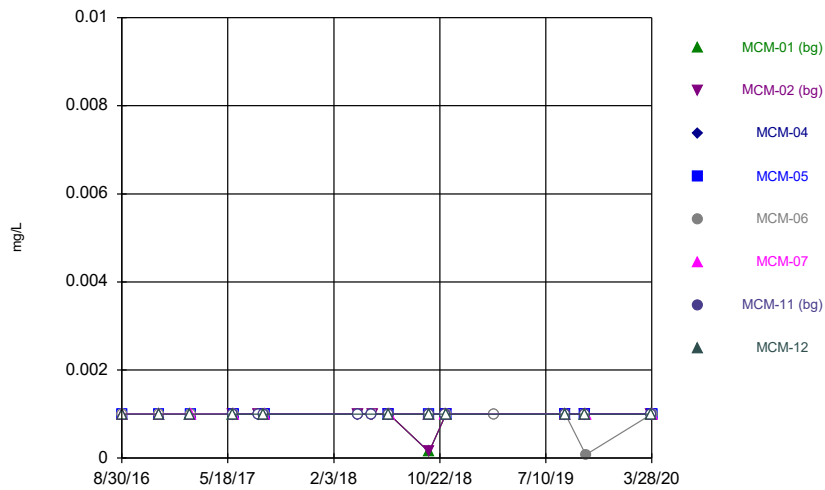
Constituent: Sulfate Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



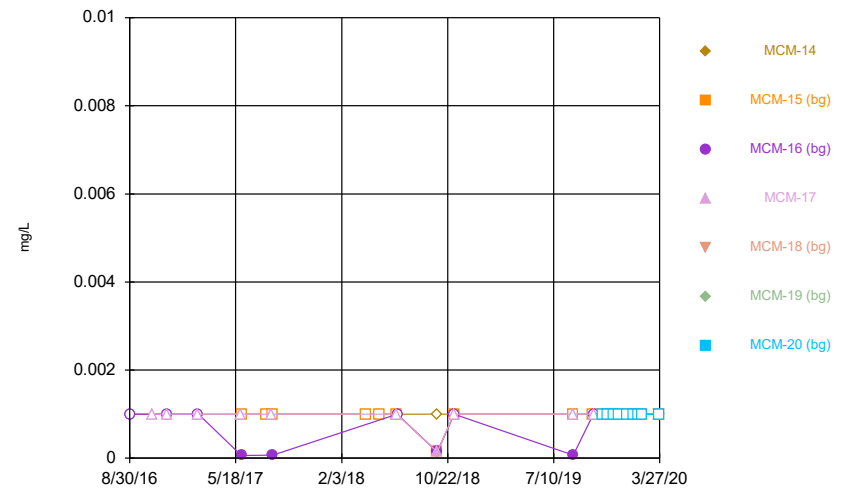
Constituent: Sulfate Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



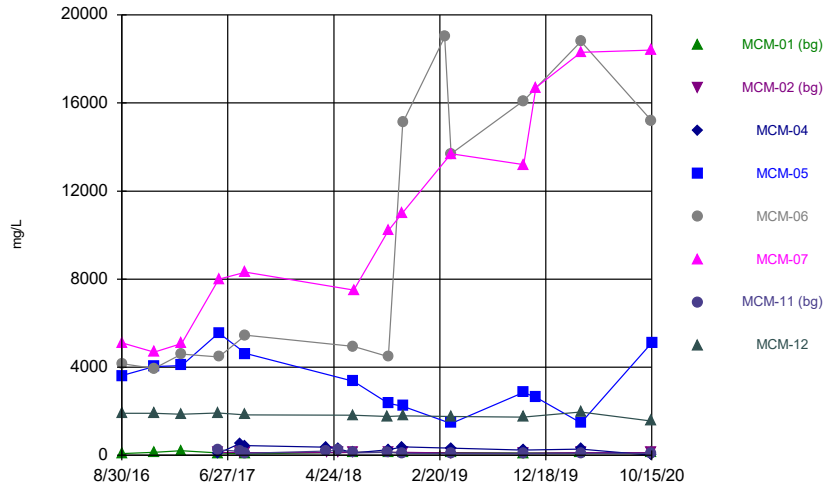
Constituent: Thallium Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



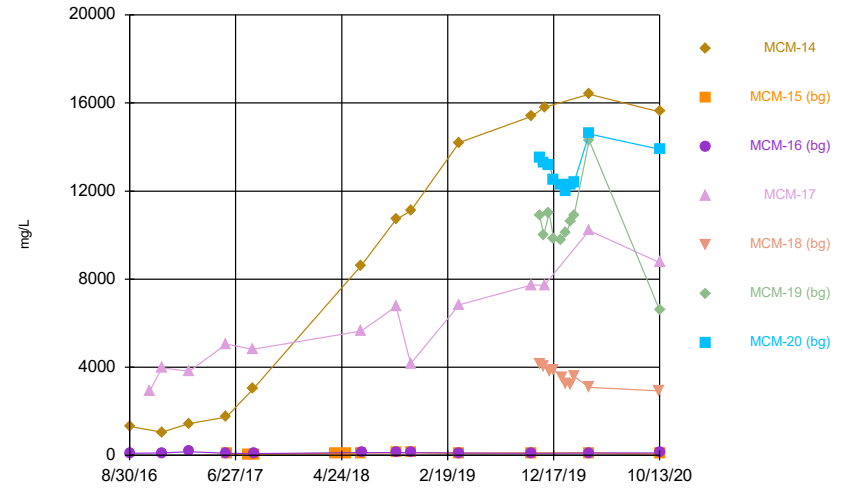
Constituent: Thallium Analysis Run 12/10/2020 3:16 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:16 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:16 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series

Constituent: Antimony (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.003							<0.003
8/31/2016				<0.003	<0.003	<0.003		
11/30/2016	<0.003			<0.003	<0.003	<0.003		<0.003
2/15/2017	<0.003							<0.003
2/16/2017				<0.003	<0.003	<0.003		
5/31/2017		<0.003					<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	<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	<0.003
6/20/2018			<0.003	<0.003	<0.003			
6/21/2018						<0.003		
9/25/2018							<0.003	<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			<0.003
3/6/2019					<0.003			
3/25/2019							<0.003	
8/27/2019	<0.003		<0.003					<0.003
8/28/2019		<0.003		<0.003	0.00098 (J)	<0.003	<0.003	
10/15/2019			<0.003					<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	<0.003
3/28/2020			<0.003	<0.003	0.0029 (J)	<0.003		

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.005							<0.005
8/31/2016				<0.005	0.212	0.0066		
11/30/2016	0.0018 (J)			0.0132	0.129	0.0281		<0.005
2/15/2017	0.0022 (J)							<0.005
2/16/2017				0.0372	0.257	0.0295		
5/31/2017		<0.005					0.0259	0.0007 (J)
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	0.0006 (J)
8/16/2017	0.0038 (J)	<0.005						
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	0.001 (J)
6/20/2018			0.0099	0.019	0.44			
6/21/2018						0.022 (J)		
9/25/2018							0.011	0.0011 (J)
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			0.0057
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					0.0011 (J)
8/28/2019		<0.005		0.0019 (J)	0.5	0.011	0.005 (J)	
10/15/2019			0.0038 (J)					0.0024 (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		<0.005					0.0034 (J)	<0.005
3/28/2020			0.0034 (J)	<0.005	0.3	0.012		
10/12/2020							0.0047 (J)	<0.005
10/13/2020	0.0061	<0.005	0.0022 (J)					
10/14/2020					0.43	0.013		
10/15/2020				0.024				

Time Series

Constituent: Arsenic (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.005		0.0018 (J)				
10/25/2016				<0.005			
11/30/2016	<0.005		<0.005	0.0072			
2/15/2017	<0.005		<0.005	0.0017 (J)			
5/31/2017	0.0008 (J)			0.0018 (J)			
6/1/2017			<0.005				
6/2/2017		0.0026 (J)					
8/2/2017		0.0047 (J)					
8/15/2017				0.0015 (J)			
8/16/2017	0.0007 (J)						
8/17/2017		0.0028 (J)	<0.005				
4/4/2018		0.0029 (J)					
5/8/2018		0.0048 (J)					
6/19/2018	0.0062 (J)	0.0019 (J)		0.0029 (J)			
6/20/2018			0.00058 (J)				
9/25/2018	0.0031 (J)						
9/26/2018		0.0023 (J)	0.00057	0.0015 (J)			
11/6/2018	0.0014 (J)			<0.005			
11/7/2018		0.0028	0.00057				
8/26/2019	0.0022 (J)						
8/27/2019		0.0041 (J)	0.0019 (J)	0.0024 (J)			
10/15/2019	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					<0.005	0.0092 (J)	0.022 (J)
2/13/2020					0.0066	0.021 (J)	0.029
3/27/2020	<0.005	0.0018 (J)	<0.005	<0.005	0.0043 (J)	0.017	0.027
10/12/2020					<0.005		
10/13/2020	<0.005	0.0042 (J)	<0.005	<0.005		0.0089	0.018

Time Series

Constituent: Barium (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	0.0443							0.108
8/31/2016				0.0289	0.0498	0.0771		
11/30/2016	0.0524			0.0168	0.0528	0.101		0.121
2/15/2017	0.124							0.111
2/16/2017				0.016	0.0555	0.0865		
5/31/2017		0.127					0.0646	0.131
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	0.126
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	0.13
6/20/2018			0.027	0.014	0.06			
6/21/2018						0.1		
9/25/2018							0.041	0.12
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			0.11
3/6/2019					0.16			
3/25/2019							0.036	
8/27/2019	0.077		0.083					0.14
8/28/2019		0.1		0.011	0.13	0.4	0.035	
10/15/2019			0.082					0.14
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	0.12
3/28/2020			0.039	0.0041 (J)	0.12	0.11		
10/12/2020							0.039	0.1
10/13/2020	0.06	0.086	0.055					
10/14/2020					0.14	0.19		
10/15/2020				0.45				

Time Series

Constituent: Barium (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0131		0.0973				
10/25/2016				0.063			
11/30/2016	0.0105		0.11	0.0628			
2/15/2017	0.0786		0.0945	0.0102			
5/31/2017	0.0199			0.061			
6/1/2017			0.121				
6/2/2017		0.0368 (J)					
8/2/2017		0.0355					
8/15/2017				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	0.092	0.038		0.076			
6/20/2018			0.13				
9/25/2018	0.098						
9/26/2018		0.049	0.13	0.099			
11/6/2018	0.1			0.052			
11/7/2018		0.05	0.12				
8/26/2019	0.12						
8/27/2019		0.048	0.13	0.11			
10/15/2019	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	0.13	0.041	0.13	0.16	0.076	0.12	0.12
10/12/2020					0.091		
10/13/2020	0.14	0.024	0.11	0.14		0.12	0.12

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.003							0.0003 (J)
8/31/2016				<0.003	<0.003	<0.003		
11/30/2016	<0.003			<0.003	<0.003	<0.003		0.0004 (J)
2/15/2017	<0.003							0.0004 (J)
2/16/2017				<0.003	<0.003	<0.003		
5/31/2017		0.0002 (J)					7E-05 (J)	0.0005 (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)	0.0005 (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)	0.00065 (J)
6/20/2018			0.00021 (J)	<0.003	<0.003			
6/21/2018						<0.003		
9/25/2018							0.0001 (J)	0.00066 (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			0.00058 (J)
3/6/2019					<0.003			
8/27/2019	9E-05 (J)		0.00032 (J)					0.0009 (J)
8/28/2019		0.00011 (J)		<0.003	<0.003	<0.003	8.4E-05 (J)	
10/15/2019			0.00035 (J)					0.00079 (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	<0.003
3/28/2020			<0.003	<0.003	<0.003	<0.003		
10/12/2020							<0.003	0.001 (J)
10/13/2020	<0.003	<0.003	<0.003					
10/14/2020					<0.003	<0.003		
10/15/2020				<0.003				

Time Series

Constituent: Beryllium (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.003		0.0001 (J)				
10/25/2016				0.0004 (J)			
11/30/2016	<0.003		0.0002 (J)	0.0003 (J)			
2/15/2017	<0.003		<0.003	<0.003			
5/31/2017	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				0.0002 (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	<0.003	0.00034 (J)		0.00032 (J)			
6/20/2018			0.00024 (J)				
9/25/2018	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		0.00041 (J)	0.00019 (J)				
8/26/2019	0.0001 (J)						
8/27/2019		0.00042 (J)	0.00021 (J)	0.00018 (J)			
10/15/2019	<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	0.004	0.011	0.018
10/12/2020					0.0041		
10/13/2020	<0.003	<0.003	<0.003	<0.003		0.015	0.017

Time Series

Constituent: Boron (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	0.0325 (J)							1.18
8/31/2016				0.56	0.632	0.863		
11/30/2016	0.0334 (J)			0.529	0.637	0.804		1.3
2/15/2017	0.254							1.33
2/16/2017				0.539	0.698	0.815		
5/31/2017		0.161					0.0521	1.38
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	1.14
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	1.2
6/20/2018			0.045	0.51	0.69			
6/21/2018						0.99		
9/25/2018							0.043	1
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			1.4
3/6/2019					1.5			
3/24/2019				0.44	1.1	1.2		1
3/25/2019	0.038 (J)	0.091	0.058				0.03 (J)	
10/15/2019			0.068					1.1
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)	1.5
3/28/2020			0.067 (J)	0.28 (J)	0.95	0.79		
10/12/2020							<0.5	1.3
10/13/2020	<0.5	<0.5	<0.5					
10/14/2020					1.5	1.8		
10/15/2020				0.61				

Time Series

Constituent: Boron (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.726		0.0972 (J)				
10/25/2016				1.73			
11/30/2016	0.565		0.0964	2.12			
2/15/2017	0.647		0.398	2.14			
5/31/2017	0.503			2.24			
6/1/2017			0.0776				
6/2/2017		0.0495					
8/2/2017		0.0333 (J)					
8/15/2017				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	0.76	0.064		1.7			
6/20/2018			0.079				
9/25/2018	0.61						
9/26/2018		0.06	0.072	1.3			
11/6/2018	0.75			1.8			
11/7/2018		0.062 (J)	0.074				
3/24/2019	0.95			1.4			
3/25/2019		0.057	0.067				
10/15/2019	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	1.3	0.076 (J)	0.088 (J)	1.8	0.24 (J)	0.96	0.94
10/12/2020					0.24 (J)		
10/13/2020	1.1	<0.5	<0.5	1.8		0.73	1.1

Time Series

Constituent: Cadmium (mg/L) Analysis Run 12/10/2020 3:17 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.0025							<0.0025
8/31/2016				<0.0025	<0.0025	<0.0025		
11/30/2016	<0.0025			<0.0025	<0.0025	<0.0025		<0.0025
2/15/2017	<0.0025							<0.0025
2/16/2017				<0.0025	<0.0025	<0.0025		
5/31/2017		<0.0025					<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	<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	<0.0025
6/20/2018			<0.0025	<0.0025	<0.0025			
6/21/2018						<0.0025		
9/25/2018							0.0002 (J)	<0.0025
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			<0.0025
3/6/2019					<0.0025			
8/27/2019	<0.0025		<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	<0.0025
3/28/2020			<0.0025	<0.0025	<0.0025	<0.0025		

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	7.3							7.05
8/31/2016				65	82.8	119		
11/30/2016	10.8			71.7	68.7	103		8.69
2/15/2017	14.3							8.34
2/16/2017				74	94.8	114		
5/31/2017		5.9					18.6	8.85
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	8.05
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	8.3
6/20/2018			4.3	72.8	121			
6/21/2018						179		
6/28/2018	13							8.9
9/25/2018							6.2 (D)	6.8
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)			8.5
3/6/2019					341			
3/24/2019				20.9 (J)	277	243		7.4
3/25/2019	12.6 (J)	4.7	20.8 (J)				2.5 (D)	
10/15/2019			15.5					7.9
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	8.3
3/28/2020			15.5	25.8	286	286		
10/12/2020							2.8	6.1
10/13/2020	9.8	3.8	12.5					
10/14/2020					245	207		
10/15/2020				69.1				

Time Series

Constituent: Calcium (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	42.8		4.02				
10/25/2016				69.4			
11/30/2016	33.2		4.87	83.9			
2/15/2017	56.1		6.61	96.3			
5/31/2017	73.6			122			
6/1/2017			6.42				
6/2/2017		2.77					
8/2/2017		1.27					
8/15/2017				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	285	7.4		136			
6/20/2018			5.7				
6/28/2018	294			138			
9/25/2018	283						
9/26/2018		8.5 (J)	5.3	148			
11/6/2018	297			24.7			
11/7/2018		9.8	5.3				
3/24/2019	338			136			
3/25/2019		7.8	5.7				
10/15/2019	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	286	5.9	5.4	222	23.2	122	113
10/12/2020					19.1		
10/13/2020	40.9	0.83	5.7	86.4		125	128

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	9.7							800
8/31/2016				1800	2200	2600		
11/30/2016	19			1100	2100	2800		760
2/15/2017	21							740
2/16/2017				2100	2500	3100		
5/31/2017		39					98	740
6/1/2017	12		22					
6/2/2017				3100	2500	4600		
8/2/2017		42	230				57	
8/15/2017							15	750
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	760
6/20/2018			27.5	1800	3100			
6/21/2018						3920		
9/25/2018							31.3	752 (D)
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			665
3/6/2019					11700			
3/24/2019				717	6470	8720		744
3/25/2019	19.4	33.5	78.5				12.9	
10/15/2019			46					744
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	675
3/28/2020			71.4	693	9190	9070		
10/12/2020							13.9	552
10/13/2020	13.5	25.7	54.4					
10/14/2020					6630	7910		
10/15/2020				1660				

Time Series

Constituent: Chloride (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	450		26				
10/25/2016				1300			
11/30/2016	310		27	400			
2/15/2017	490		30	2000			
5/31/2017	820			2500			
6/1/2017			27				
6/2/2017		11					
8/2/2017		3.2					
8/15/2017				2500			
8/16/2017	1500						
8/17/2017		12	32				
4/4/2018		13.4					
5/8/2018		13.2					
6/19/2018	5180	13.7		3050			
6/20/2018			30				
9/25/2018	7220						
9/26/2018		18.5	28.4	3965 (D)			
11/6/2018	6020			2230			
11/7/2018		20.2	25.1				
3/24/2019	7400			3960			
3/25/2019		19.7	21.8				
10/15/2019	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	7680	14.1	23.6	4770	1450	6870	7110
10/12/2020					1340		
10/13/2020	6230	3.8	23.3	3980		5260	5980

Time Series

Constituent: Chromium (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.01							0.0054 (J)
8/31/2016				0.0013 (J)	0.001 (J)	0.0022 (J)		
11/30/2016	<0.01			0.0012 (J)	<0.01	<0.01		0.0073 (J)
2/15/2017	<0.01							0.0045 (J)
2/16/2017				0.0012 (J)	0.0011 (J)	0.0028 (J)		
5/31/2017		<0.01					<0.01	0.0052 (J)
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)	0.005 (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	0.0047 (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	0.0016	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			<0.01
3/6/2019					<0.01			
3/25/2019							<0.01	
8/27/2019	0.00079 (J)		0.0018 (J)					0.0056 (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)					0.0057 (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	<0.01
3/28/2020			<0.01	<0.01	<0.01	<0.01		

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.005							<0.005
8/31/2016				<0.005	<0.005	<0.005		
11/30/2016	<0.005			<0.005	0.0009 (J)	0.0011 (J)		<0.005
2/15/2017	<0.005							<0.005
2/16/2017				<0.005	<0.005	<0.005		
5/31/2017		0.0005 (J)					<0.005	0.0005 (J)
6/1/2017	<0.005		<0.005					
6/2/2017				<0.005	<0.005	<0.005		
8/2/2017		0.0005 (J)	<0.005				0.0006 (J)	
8/15/2017							0.0004 (J)	0.0005 (J)
8/16/2017	<0.005	0.0005 (J)						
8/17/2017			<0.005	<0.005	0.0003 (J)	<0.005		
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	0.00053 (J)
6/20/2018			<0.005	<0.005	<0.005			
6/21/2018						<0.005		
9/25/2018							<0.005	<0.005
9/26/2018	0.00052	0.00052						
9/27/2018			<0.005	<0.005	<0.005	<0.005		
11/6/2018			0.0048 (J)			<0.005	<0.005	
11/7/2018	<0.005	<0.005		<0.005	<0.005			<0.005
3/6/2019					<0.005			
8/27/2019	<0.005		0.0078					0.0007 (J)
8/28/2019		0.00042 (J)		<0.005	<0.005	<0.005	<0.005	
10/15/2019			0.0085					0.00054 (J)
10/16/2019	<0.005	0.00037 (J)		<0.005			<0.005	
10/17/2019					<0.005	<0.005		
11/20/2019			0.009					
3/26/2020	<0.005							
3/27/2020		<0.005					<0.005	<0.005
3/28/2020			0.0041 (J)	<0.005	<0.005	<0.005		
10/12/2020							<0.005	<0.005
10/13/2020	<0.005	<0.005	0.0063					
10/14/2020					<0.005	<0.005		
10/15/2020				0.0019 (J)				

Time Series

Constituent: Cobalt (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0006 (J)		<0.005				
10/25/2016				<0.005			
11/30/2016	<0.005		<0.005	0.0007 (J)			
2/15/2017	<0.005		<0.005	<0.005			
5/31/2017	<0.005			<0.005			
6/1/2017			<0.005				
6/2/2017		<0.005					
8/2/2017		<0.005					
8/15/2017				0.0004 (J)			
8/16/2017	<0.005						
8/17/2017		<0.005	0.0004 (J)				
4/4/2018		<0.005					
5/8/2018		<0.005					
6/19/2018	<0.005	<0.005		<0.005			
6/20/2018			<0.005				
9/25/2018	<0.005						
9/26/2018		0.00052	0.00052	0.00052			
11/6/2018	<0.005			<0.005			
11/7/2018		<0.005	<0.005				
8/26/2019	<0.005						
8/27/2019		<0.005	0.0003 (J)	<0.005			
10/15/2019	<0.005	<0.005					
10/16/2019			<0.005	<0.005			
11/7/2019					<0.005	<0.005	0.026
11/18/2019					<0.005		
11/19/2019						<0.005	0.022 (J)
12/4/2019						<0.005	0.022
12/5/2019					<0.005		
12/17/2019						<0.005	
12/18/2019					<0.005		0.031
1/8/2020						<0.005	0.035
1/9/2020					<0.005		
1/21/2020					<0.005	<0.005	0.031
2/4/2020					<0.005	<0.005	0.031 (J)
2/13/2020					<0.005	<0.005	0.031
3/27/2020	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.036
10/12/2020					<0.005		
10/13/2020	<0.005	<0.005	<0.005	<0.005		<0.005	0.032

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	0.929							1.4
8/31/2016				2.39 (D)	2.47 (D)	5.4 (D)		
11/30/2016	5.64			1.66	1.6	3.13		4.37
2/15/2017	1.41							2.21
2/16/2017				2.71	1.83	3.09		
5/31/2017		1.17 (U)					1.2	2.62
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)	2.69
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)	2.96
6/20/2018			3.53	1.95	2.84			
6/21/2018						5.24		
9/25/2018							1.15 (U)	2.23
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			2.14
8/27/2019	1.2 (U)		4.4					2.91
8/28/2019		0.679 (U)		1.67	6.86	8.73	0.434 (U)	
10/15/2019			4.92					3.28
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)	2.33
3/28/2020			4.16	1.44 (U)	11 (U)	11.7		
10/12/2020							2.7	2.66
10/13/2020	0.855 (U)	0.56 (U)	3.71					
10/14/2020					8.97	13.1		
10/15/2020				2.56				

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	1.31		0.977 (U)				
10/25/2016				2.22			
11/30/2016	0.438 (U)		0.994	2.01			
2/15/2017	0.3 (U)		1.65	1.56			
5/31/2017	1.77			1.92			
6/1/2017			1.22				
6/2/2017		1.47					
8/2/2017		1.99					
8/15/2017				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	5.39	1.83		2.82			
6/20/2018			1.78				
9/25/2018	6.22						
9/26/2018		0.637 (U)	1.56	3.15 (D)			
11/6/2018	5.38			2.95			
11/7/2018		0.894 (U)	0.651 (U)				
8/26/2019	7.68						
8/27/2019		2.33	1.03 (U)	5.82			
10/15/2019	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	9.63	1.84	1.51	9.54	10.2	22.8	47.2
10/12/2020					8.83		
10/13/2020	7.43	3.32	1.71	7.75		14.1	30.3

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	0.03 (J)							1.5
8/31/2016				0.93	0.41	0.92		
11/30/2016	0.04 (J)			0.93	0.61	0.99		1.4
2/15/2017	0.007 (J)							1.3
2/16/2017				0.6	0.3 (J)	0.54		
5/31/2017		0.01 (J)					0.85	1.2
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)	1.2
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)	0.91
6/20/2018			0.033 (J)	0.5	0.22 (J)			
6/21/2018						0.28 (J)		
9/25/2018							0.15 (J)	1.1
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)			<0.1
3/6/2019					<0.1			
3/24/2019				0.32	0.19 (J)	0.14 (J)		0.99
3/25/2019	0.038 (J)	0.039 (J)	0.055 (J)				0.12 (J)	
8/27/2019	<0.1		<0.1					1.1
8/28/2019		<0.1		0.36	<0.1	<0.1	0.068 (J)	
10/15/2019			0.095 (J)					1
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)	1.1
3/28/2020			<0.1	0.34	<0.1	<0.1		
10/12/2020							<0.1	1.2
10/13/2020	<0.1	<0.1	<0.1					
10/14/2020					<0.1	<0.1		
10/15/2020				0.22				

Time Series

Constituent: Fluoride (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.5		0.04 (J)				
10/25/2016				1.1			
11/30/2016	0.49		0.18 (J)	1.3			
2/15/2017	0.58		0.02 (J)	1.3			
5/31/2017	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			
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	<0.1	0.057 (J)		0.6			
6/20/2018			0.038 (J)				
9/25/2018	<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				
3/24/2019	0.14 (J)			0.31			
3/25/2019		0.036 (J)	0.041 (J)				
8/26/2019	<0.1						
8/27/2019		<0.1	<0.1	<0.1			
10/15/2019	<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	<0.1	<0.1	<0.1	<0.1	0.06 (J)	<0.1	<0.1
10/12/2020					0.34		
10/13/2020	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1

Time Series

Constituent: Lead (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.005							0.0001 (J)
8/31/2016				<0.005	<0.005	<0.005		
11/30/2016	<0.005			0.0002 (J)	<0.005	<0.005		<0.005
2/15/2017	<0.005							<0.005
2/16/2017				<0.005	<0.005	0.0002 (J)		
5/31/2017		<0.005					<0.005	9E-05 (J)
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	<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	<0.005
6/20/2018			<0.005	<0.005	<0.005			
6/21/2018						<0.005		
9/25/2018							<0.005	<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			<0.005
3/6/2019					<0.005			
3/25/2019							<0.005	
8/27/2019	<0.005		<0.005					0.00022 (J)
8/28/2019		<0.005		<0.005	<0.005	0.0001 (J)	<0.005	
10/15/2019			<0.005					5.6E-05 (J)
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	<0.005
3/28/2020			<0.005	<0.005	<0.005	<0.005		
10/12/2020							<0.005	<0.005
10/13/2020	<0.005	<0.005	<0.005					
10/14/2020					<0.005	<0.005		
10/15/2020				<0.005				

Time Series

Constituent: Lead (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	<0.005		<0.005				
10/25/2016				<0.005			
11/30/2016	<0.005		0.0002 (J)	<0.005			
2/15/2017	<0.005		<0.005	<0.005			
5/31/2017	<0.005			<0.005			
6/1/2017			<0.005				
6/2/2017		<0.005					
8/2/2017		0.0001 (J)					
8/15/2017				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			
6/20/2018			<0.005				
9/25/2018	<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				
8/26/2019	<0.005						
8/27/2019		0.00011 (J)	<0.005	0.00014 (J)			
10/15/2019	<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
10/12/2020					<0.005		
10/13/2020	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.03							0.0102 (J)
8/31/2016				0.0219 (J)	0.0389 (J)	0.0122 (J)		
11/30/2016	<0.03			0.0333 (J)	0.0303 (J)	0.011 (J)		0.0106 (J)
2/15/2017	<0.03							0.0115 (J)
2/16/2017				0.0376 (J)	0.05 (J)	0.0142 (J)		
5/31/2017		<0.03					0.0047 (J)	0.011 (J)
6/1/2017	<0.03		<0.03					
6/2/2017				0.0346 (J)	0.0477 (J)	0.0229 (J)		
8/2/2017		<0.03	<0.03				0.0036 (J)	
8/15/2017							<0.03	0.0123 (J)
8/16/2017	<0.03	<0.03						
8/17/2017			<0.03	0.0367 (J)	0.0645	0.0241 (J)		
4/4/2018			0.0013 (J)				0.0041 (J)	
4/5/2018		<0.03						
5/8/2018			0.0012 (J)				0.0052 (J)	
5/9/2018		<0.03						
6/19/2018	<0.03	<0.03					0.0017 (J)	0.012 (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)	0.011 (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)	<0.03	
11/7/2018	<0.03	<0.03		0.022 (J)	0.11			0.013 (J)
3/6/2019					0.12			
8/27/2019	<0.03		0.002 (J)					0.012 (J)
8/28/2019		<0.03		0.023 (J)	0.13	0.12	0.00082 (J)	
10/15/2019			0.0019 (J)					0.012 (J)
10/16/2019	<0.03	<0.03		0.021 (J)			<0.03	
10/17/2019					0.12	0.096		
11/20/2019						0.12		
3/26/2020	<0.03							
3/27/2020		<0.03					<0.03	<0.03
3/28/2020			<0.03	0.014 (J)	0.064	0.027 (J)		
10/12/2020							<0.03	0.011 (J)
10/13/2020	<0.03	<0.03	<0.03					
10/14/2020					0.11	0.039 (J)		
10/15/2020				0.57				

Time Series

Constituent: Lithium (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	0.0112 (J)		<0.03				
10/25/2016				0.007 (J)			
11/30/2016	<0.03		<0.03	0.0086 (J)			
2/15/2017	0.0105 (J)		<0.03	0.0149 (J)			
5/31/2017	0.0106 (J)			0.019 (J)			
6/1/2017			<0.03				
6/2/2017		<0.03					
8/2/2017		<0.03					
8/15/2017				0.016 (J)			
8/16/2017	0.0145 (J)						
8/17/2017		<0.03	<0.03				
4/4/2018		0.0015 (J)					
5/8/2018		0.0014 (J)					
6/19/2018	0.044 (J)	0.0016 (J)		0.021 (J)			
6/20/2018			<0.03				
9/25/2018	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		<0.03	<0.03				
8/26/2019	0.059						
8/27/2019		0.002 (J)	<0.03	0.023 (J)			
10/15/2019	0.056 (J)	0.0016 (J)					
10/16/2019			<0.03	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	0.052	<0.03	<0.03	0.033 (J)	<0.03	0.018 (J)	0.024 (J)
10/12/2020					<0.03		
10/13/2020	0.046 (J)	<0.03	<0.03	0.028 (J)		0.022 (J)	0.025 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.0005							<0.0005
8/31/2016				<0.0005	<0.0005	<0.0005		
11/30/2016	<0.0005			<0.0005	<0.0005	<0.0005		<0.0005
2/15/2017	<0.0005							<0.0005
2/16/2017				<0.0005	<0.0005	<0.0005		
5/31/2017		<0.0005					<0.0005	<0.0005
6/1/2017	<0.0005		<0.0005					
6/2/2017				4.2E-05 (J)	<0.0005	<0.0005		
8/2/2017		<0.0005	<0.0005				<0.0005	
8/15/2017							<0.0005	<0.0005
8/16/2017	<0.0005	<0.0005						
8/17/2017			<0.0005	<0.0005	<0.0005	<0.0005		
4/4/2018			<0.0005				<0.0005	
4/5/2018		<0.0005						
5/8/2018			<0.0005				<0.0005	
5/9/2018		<0.0005						
6/19/2018	<0.0005	<0.0005					<0.0005	<0.0005
6/20/2018			<0.0005	<0.0005	<0.0005			
6/21/2018						<0.0005		
9/25/2018							<0.0005	<0.0005
9/26/2018	3.6E-05	3.6E-05						
9/27/2018			<0.0005	<0.0005	<0.0005	<0.0005		
11/6/2018			0.00071			0.00067	0.0007	
11/7/2018	<0.0005	<0.0005		<0.0005	<0.0005			<0.0005
3/6/2019					<0.0005			
8/27/2019	<0.0005		<0.0005					<0.0005
8/28/2019		<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	
3/26/2020	<0.0005							
3/27/2020		<0.0005					<0.0005	<0.0005
3/28/2020			<0.0005	<0.0005	<0.0005	<0.0005		

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.01							<0.01
8/31/2016				<0.01	<0.01	<0.01		
11/30/2016	<0.01			<0.01	<0.01	<0.01		<0.01
2/15/2017	<0.01							<0.01
2/16/2017				<0.01	<0.01	<0.01		
5/31/2017		<0.01					<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	<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	<0.01
6/20/2018			<0.01	<0.01	<0.01			
6/21/2018						<0.01		
9/25/2018							<0.01	<0.01
9/26/2018	0.0019	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)			<0.01 (D)
3/6/2019					<0.01			
8/27/2019	<0.01		<0.01					<0.01
8/28/2019		<0.01		<0.01	0.0017 (J)	<0.01	<0.01	
10/15/2019			<0.01					<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	<0.01
3/28/2020			<0.01	<0.01	<0.01	<0.01		

Time Series

Constituent: pH (S.U.) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	5.66							6.49
8/31/2016				6.93	7.21	6.66		
11/30/2016	5.36			6.77	7.23	6.69		6.5
2/15/2017	5.25							6.51
2/16/2017				6.89	7.27	6.72		
5/31/2017		5.06					5.29	6.45
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	6.41
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	6.32
6/20/2018			4.79	6.83	7.19			
6/21/2018						6.45		
9/25/2018							5.13	6.31
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			6.3
3/24/2019				6.1	6.98	6.38		6.4
3/25/2019	5.75	5.08	4.93				5.05	
8/27/2019	5.58		5.05					6.24
8/28/2019		4.99		6.69	6.87	6.35	4.87	
10/15/2019			4.89					6.19
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	6.33
3/28/2020			5.27	6.6	6.8	6.35		
10/12/2020							5	6.35
10/13/2020	5.69	5.03	5.25					
10/14/2020					6.93	6.32		
10/15/2020				6.53				

Time Series

Constituent: pH (S.U.) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	7.04		5.18				
10/25/2016				6.95			
11/30/2016	7.13		4.96	6.95			
2/15/2017	7.02		5.13	6.85			
5/31/2017	7			6.96			
6/1/2017			4.99				
6/2/2017		5.31					
8/2/2017		5.05					
8/15/2017				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	6.78	5.6		6.91			
6/20/2018			4.77				
9/25/2018	6.75						
9/26/2018		5.17	4.65	6.81			
11/6/2018	6.92			5.99			
11/7/2018		5.47	4.99				
3/24/2019	6.59	5.4		6.62			
3/25/2019			5.13				
8/26/2019	6.62						
8/27/2019		5.35	4.88	6.23			
10/15/2019	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	6.59	5.3	5.12	6.93	4.34	5.14	3.81
10/12/2020					4.29		
10/13/2020	6.56	5.02	5.17	6.34		5.04	3.72

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.01							0.0011 (J)
8/31/2016				0.002 (J)	0.0015 (J)	0.0021 (J)		
11/30/2016	0.0011 (J)			0.0023 (J)	0.0054 (J)	<0.01		0.0023 (J)
2/15/2017	<0.01							0.0021 (J)
2/16/2017				0.002 (J)	0.0022 (J)	0.0025 (J)		
5/31/2017		<0.01					<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	0.0021 (J)
8/16/2017	<0.01	<0.01						
8/17/2017			<0.01	<0.01	0.002 (J)	0.0033 (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	0.0017 (J)
6/20/2018			<0.01	<0.01	<0.01			
6/21/2018						<0.01		
9/25/2018							<0.01	0.002 (J)
9/26/2018	0.0014	0.0014						
9/27/2018			<0.01	<0.01	<0.01	0.0023 (J)		
11/6/2018			0.0025 (J)			0.0048 (J)	<0.01	
11/7/2018	<0.01	<0.01		<0.01	0.0075 (J)			<0.01
3/6/2019					0.0024 (J)			
3/25/2019							<0.01	
8/27/2019	<0.01		<0.01					0.0019 (J)
8/28/2019		<0.01		<0.01	0.0014 (J)	0.0019 (J)	<0.01	
10/15/2019			<0.01					<0.01
10/16/2019	<0.01	<0.01		<0.01			<0.01	
10/17/2019					0.0066 (J)	0.0049 (J)		
3/26/2020	<0.01							
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	<0.01
10/13/2020	<0.01	<0.01	<0.01					
10/14/2020					<0.01	<0.01		
10/15/2020				0.0028 (J)				

Time Series

Constituent: Selenium (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	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				
10/25/2016				0.003 (J)			
11/30/2016	<0.01		0.0011 (J)	0.0087 (J)			
2/15/2017	0.0014 (J)		<0.01	0.0067 (J)			
5/31/2017	<0.01			0.0018 (J)			
6/1/2017			<0.01				
6/2/2017		<0.01					
8/2/2017		<0.01					
8/15/2017				0.0025 (J)			
8/16/2017	0.0018 (J)						
8/17/2017		<0.01	<0.01				
4/4/2018		<0.01					
5/8/2018		0.0016 (J)					
6/19/2018	<0.01	0.0022 (J)		<0.01			
6/20/2018			<0.01				
9/25/2018	0.0019 (J)						
9/26/2018		0.0015 (J)	0.0014	0.0016 (J)			
11/6/2018	0.0057 (J)			<0.01			
11/7/2018		<0.01	<0.01				
8/26/2019	0.0025 (J)						
8/27/2019		0.0018 (J)	<0.01	0.0018 (J)			
10/15/2019	0.003 (J)	<0.01					
10/16/2019			<0.01	<0.01			
11/7/2019					0.036	0.063	0.12
11/18/2019					<0.01		
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	<0.01	<0.01	<0.01	<0.01	0.0034 (J)	0.013	0.012
10/12/2020					<0.01		
10/13/2020	<0.01	<0.01	<0.01	<0.01		0.0076 (J)	0.0056 (J)

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/10/2020 3:17 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	17							4.3
8/31/2016				37	21	290		
11/30/2016	33			63	19	240		7.6
2/15/2017	83							3
2/16/2017				90	22	220		
5/31/2017		46					40	2.5
6/1/2017	51		42					
6/2/2017				210	28	500		
8/2/2017		43	120				34	
8/15/2017							24	3.2
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	1.6
6/20/2018			25.3	46 (J)	33			
6/21/2018						481		
9/25/2018							25.6	1
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			0.41 (J)
3/6/2019					1220 (J)			
3/24/2019				131	413	1070		1.5
3/25/2019	43	34.2	137				24.9	
10/15/2019			105					0.54 (J)
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	<1
3/28/2020			86.6	63.8	701	1090		
10/12/2020							19.3	<1
10/13/2020	32.3	27.6	92.3					
10/14/2020					510	904		
10/15/2020				147				

Time Series

Constituent: Sulfate (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	6.4		24				
10/25/2016				84			
11/30/2016	4.5		26	52			
2/15/2017	37		30	190			
5/31/2017	61			260			
6/1/2017			24				
6/2/2017		13					
8/2/2017		14					
8/15/2017				210			
8/16/2017	130						
8/17/2017		14	26				
4/4/2018		13.4					
5/8/2018		14.8					
6/19/2018	498	15.5		218			
6/20/2018			31.2				
9/25/2018	790						
9/26/2018		23	36.8	333 (D)			
11/6/2018	875			182			
11/7/2018		22.2	35				
3/24/2019	1170			413			
3/25/2019		22.4	40.1				
10/15/2019	<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	899	14.6	31.2	504	219	836	700
10/12/2020					191		
10/13/2020	695	7.6	26.8	378		609	638

Time Series

Constituent: Thallium (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	<0.001							<0.001
8/31/2016				<0.001	<0.001	<0.001		
11/30/2016	<0.001			<0.001	<0.001	<0.001		<0.001
2/15/2017	<0.001							<0.001
2/16/2017				<0.001	<0.001	<0.001		
5/31/2017		<0.001					<0.001	<0.001
6/1/2017	<0.001		<0.001					
6/2/2017				<0.001	<0.001	<0.001		
8/2/2017		<0.001	<0.001				<0.001	
8/15/2017							<0.001	<0.001
8/16/2017	<0.001	<0.001						
8/17/2017			<0.001	<0.001	<0.001	<0.001		
4/4/2018			<0.001				<0.001	
4/5/2018		<0.001						
5/8/2018			<0.001				<0.001	
5/9/2018		<0.001						
6/19/2018	<0.001	<0.001					<0.001	<0.001
6/20/2018			<0.001	<0.001	<0.001			
6/21/2018						<0.001		
9/25/2018							<0.001	<0.001
9/26/2018	0.00014	0.00014						
9/27/2018			<0.001	<0.001	<0.001	<0.001		
11/6/2018			<0.001			<0.001	<0.001	
11/7/2018	<0.001	<0.001		<0.001	<0.001			<0.001
3/6/2019					<0.001			
8/27/2019	<0.001		<0.001					<0.001
8/28/2019		<0.001		<0.001	<0.001	<0.001	<0.001	
10/15/2019			<0.001					<0.001
10/16/2019	<0.001	<0.001		<0.001			<0.001	
10/17/2019					7.6E-05 (J)	<0.001		
3/26/2020	<0.001							
3/27/2020		<0.001					<0.001	<0.001
3/28/2020			<0.001	<0.001	<0.001	<0.001		

Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12
8/30/2016	86							1910
8/31/2016				3620	4160	5100		
11/30/2016	131			4030	3950	4680		1910
2/15/2017	212							1870
2/16/2017				4080	4600	5080		
5/31/2017		123					257	1920
6/1/2017	103		97					
6/2/2017				5560	4470	8000		
8/2/2017		136	538				183	
8/15/2017							90	1840
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	1820
6/20/2018			114	3370	4940			
6/21/2018						7500		
9/25/2018							137	1760
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			1800
3/6/2019					19000			
3/24/2019				1450	13700	13700		1770
3/25/2019	116	111	327				74	
10/15/2019			237					1730
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	1970
3/28/2020			284	1470	18800	18300		
10/12/2020							94	1560
10/13/2020	113	118	<25					
10/14/2020					15200	18400		
10/15/2020				5100				

Time Series

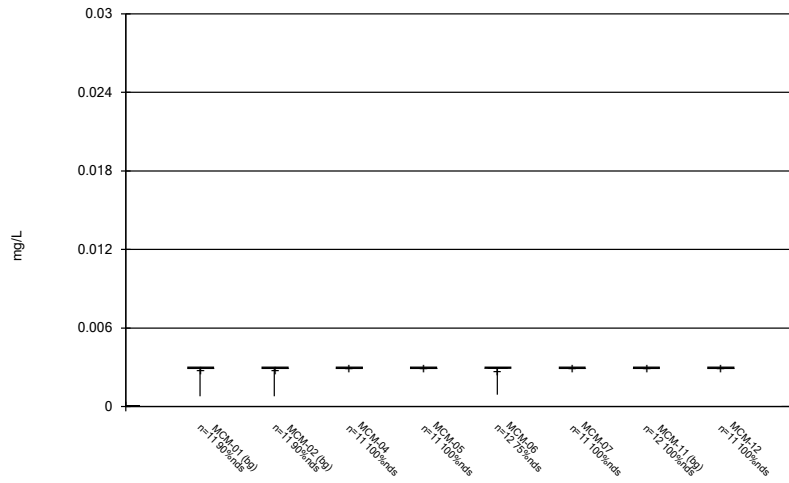
Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 12/10/2020 3:17 PM

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-14	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	1310		99				
10/25/2016				2900			
11/30/2016	1050		111	3970			
2/15/2017	1440		170	3820			
5/31/2017	1740			5050			
6/1/2017			98				
6/2/2017		69					
8/2/2017		35					
8/15/2017				4820			
8/16/2017	3010						
8/17/2017		51	84				
4/4/2018		90					
5/8/2018		89					
6/19/2018	8630	110		5640			
6/20/2018			123				
9/25/2018	10700						
9/26/2018		124	117	6770 (D)			
11/6/2018	11100			4160			
11/7/2018		125	120				
3/24/2019	14200			6840			
3/25/2019		98	101				
10/15/2019	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	16400	110	110	10200	3090	14300	14600
10/12/2020					2920		
10/13/2020	15600	63	115	8750		6600	13900

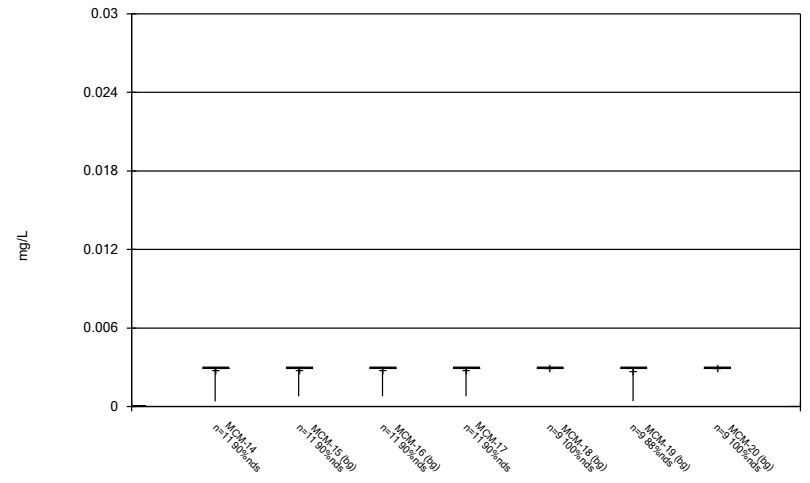
FIGURE B.

Box & Whiskers Plot



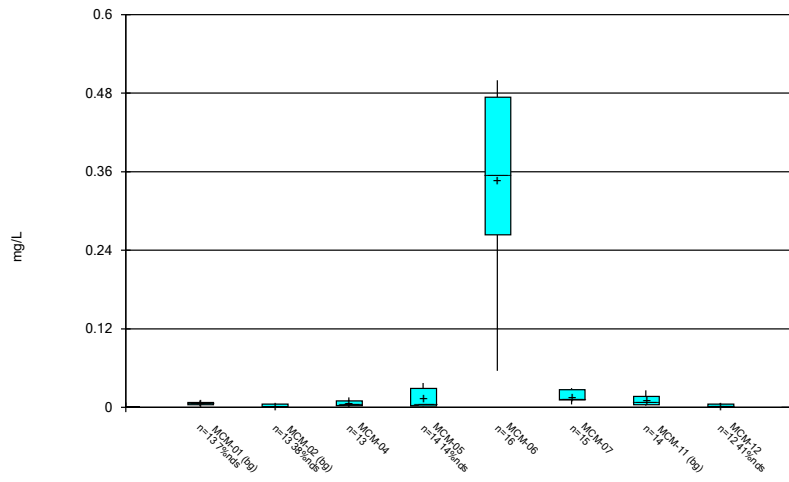
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



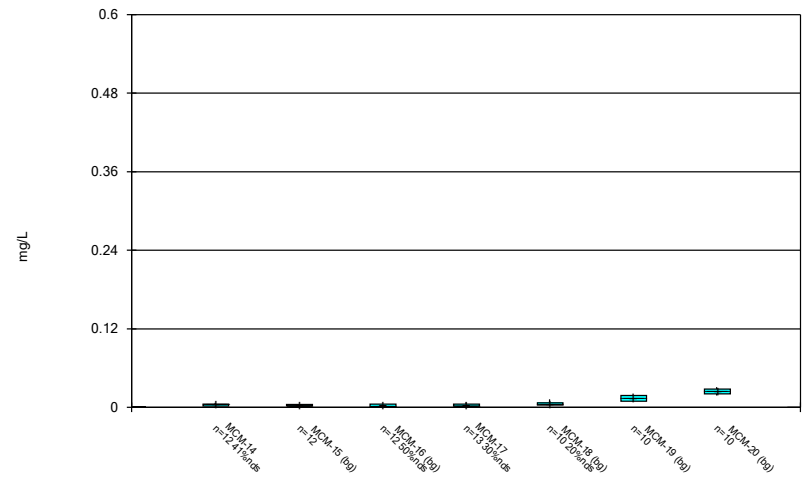
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



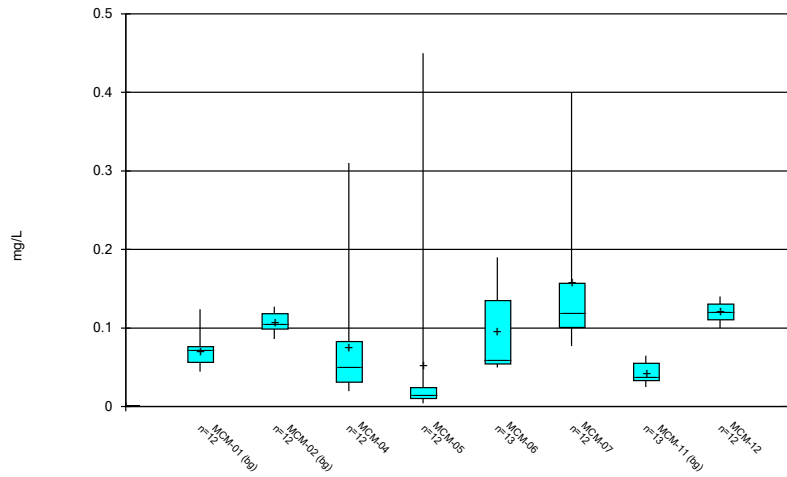
Constituent: Arsenic Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



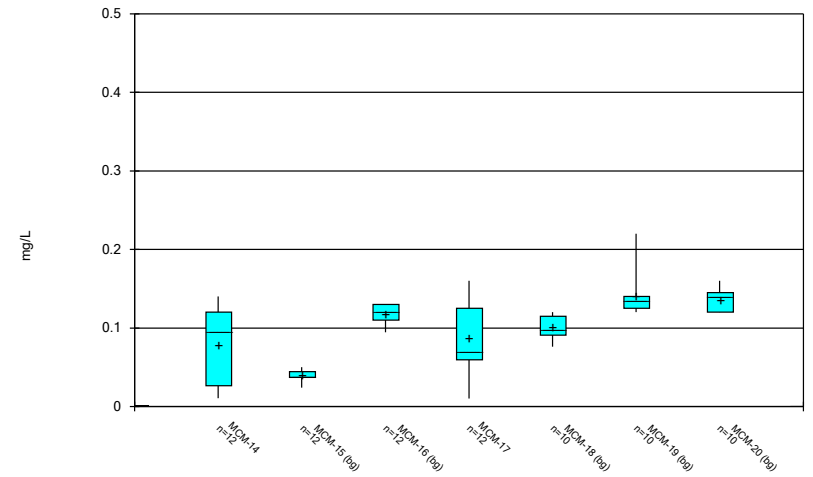
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



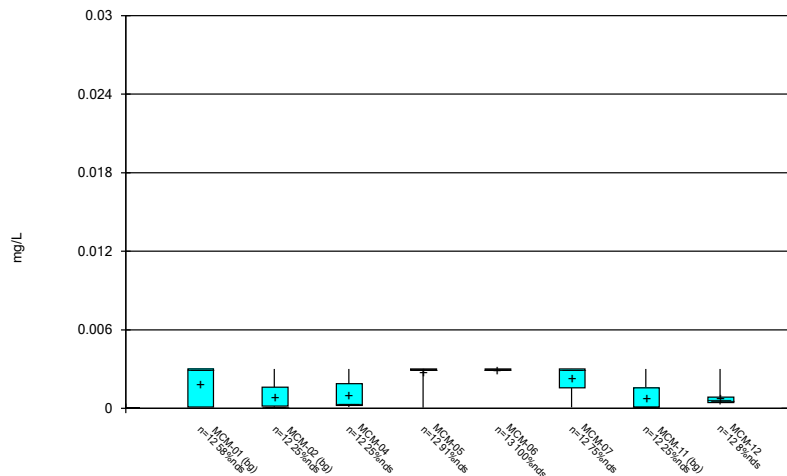
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



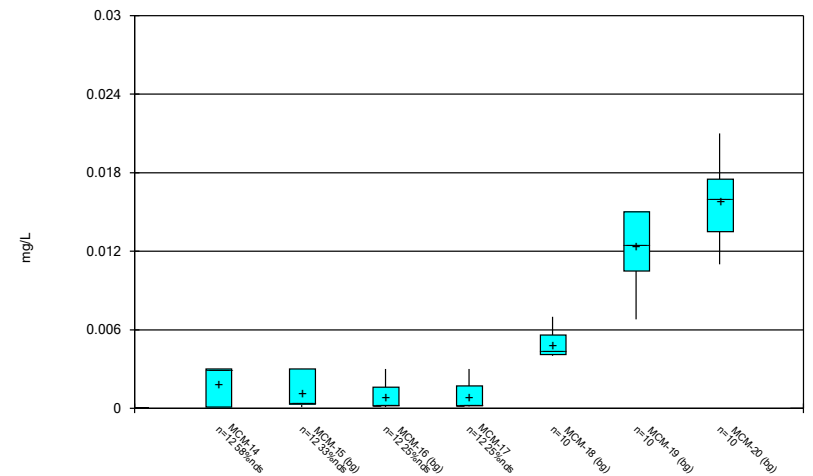
Constituent: Barium Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



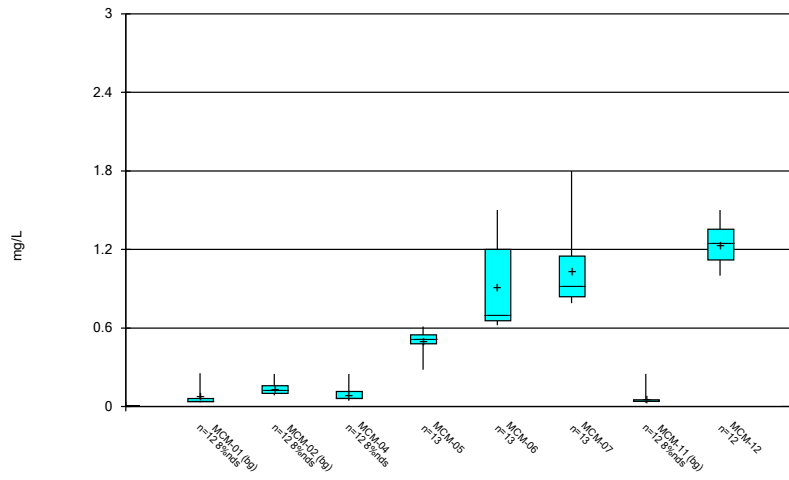
Constituent: Beryllium Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



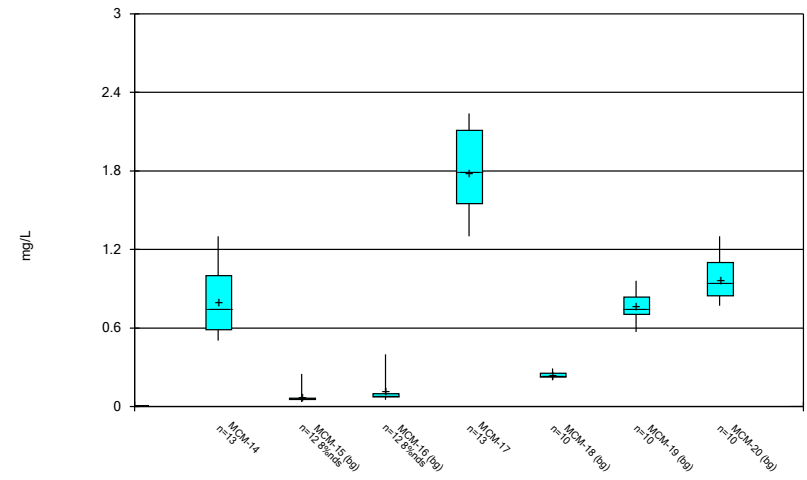
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



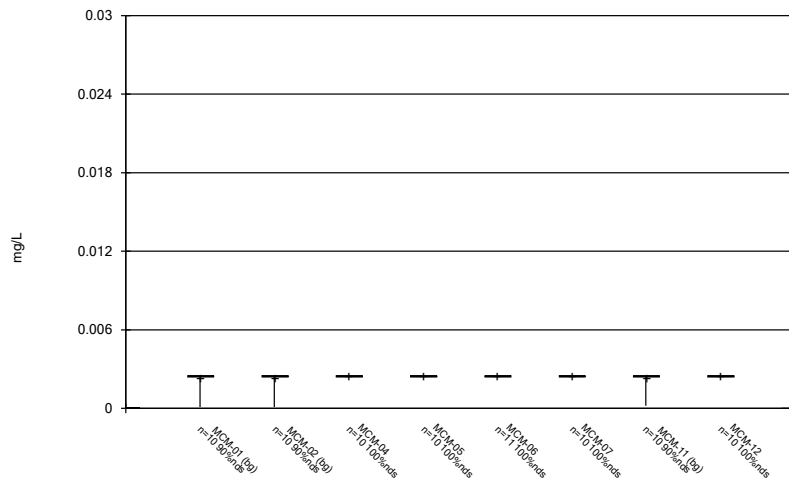
Constituent: Boron Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



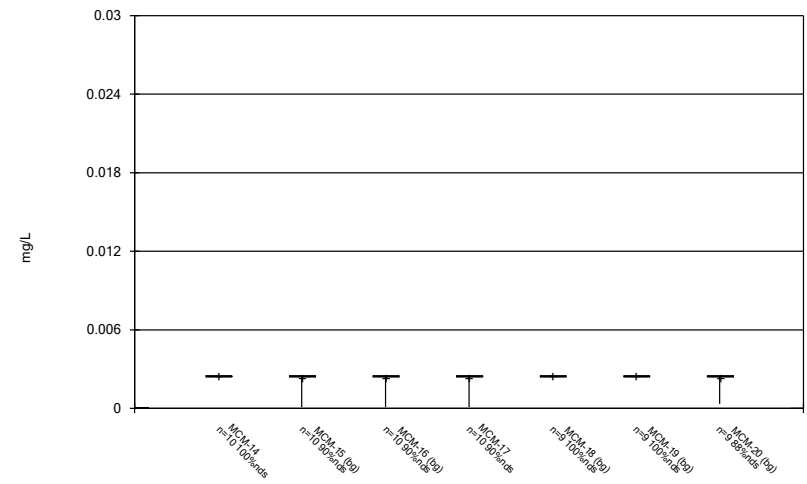
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



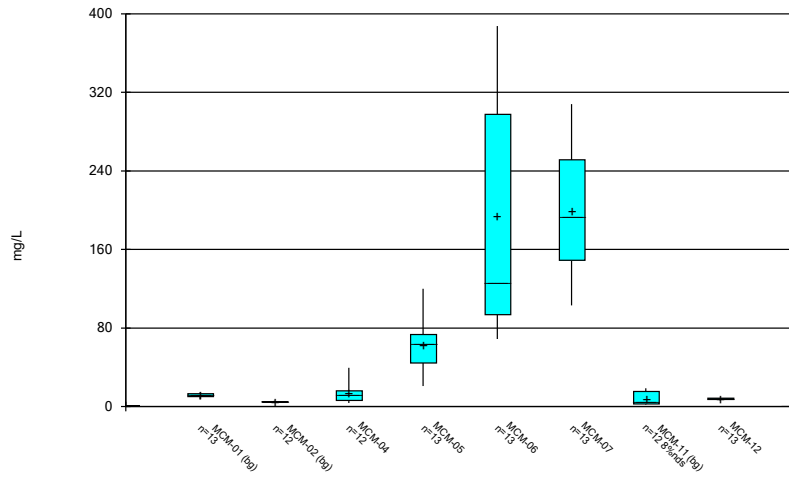
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



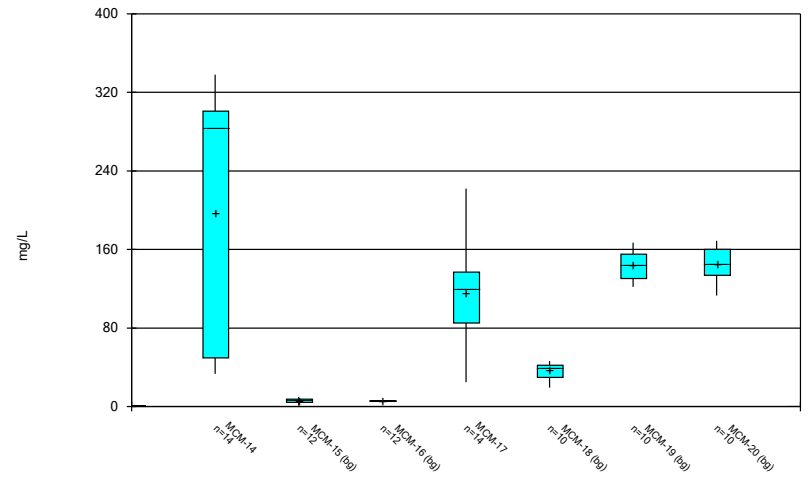
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Box & Whiskers Plot



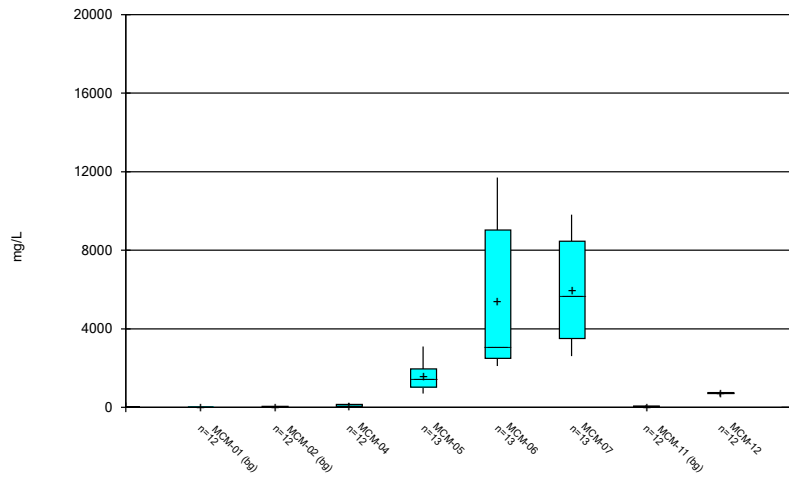
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Box & Whiskers Plot



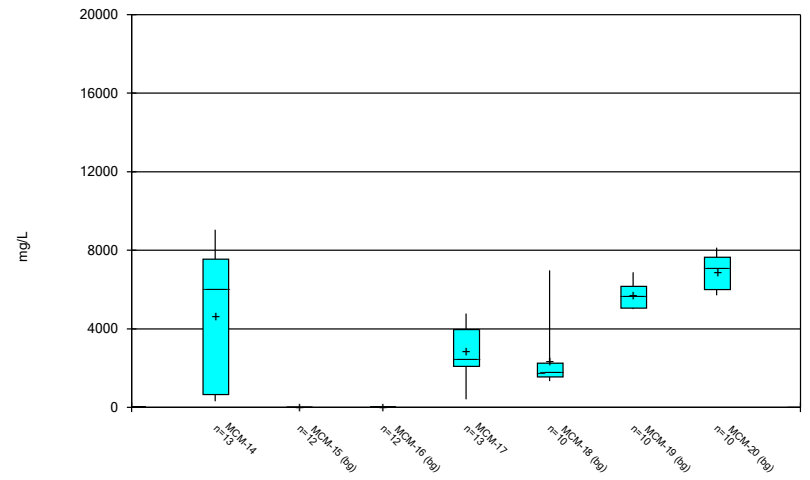
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Box & Whiskers Plot



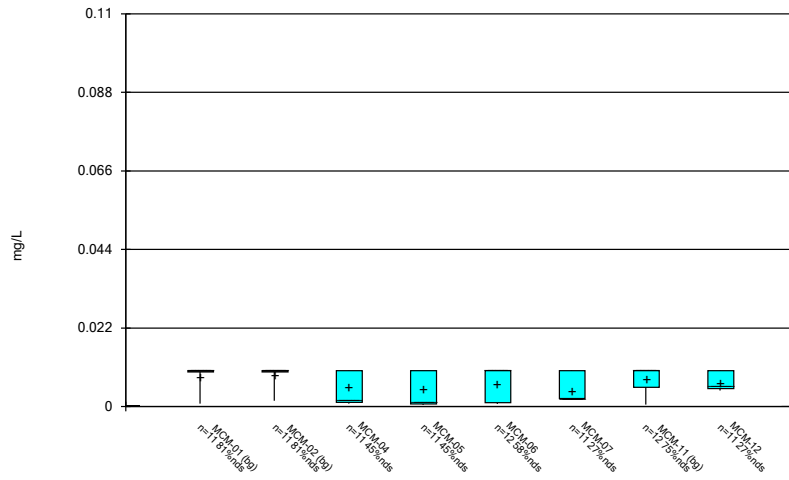
Constituent: Chloride Analysis Run 12/10/2020 3:23 PM
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



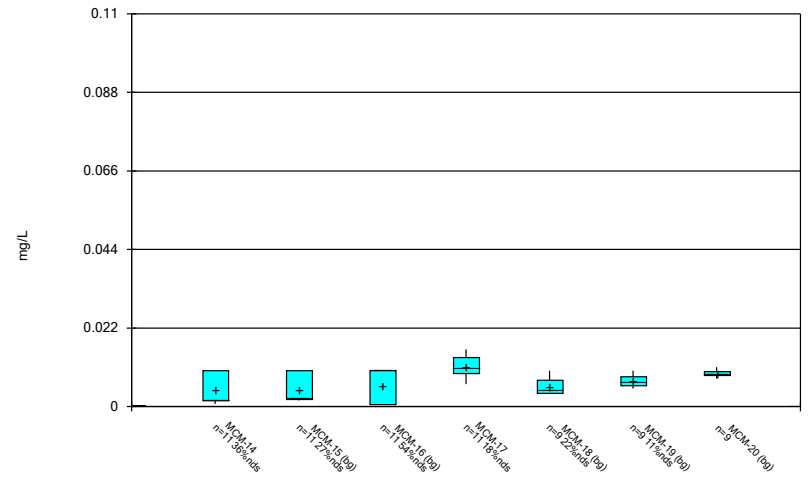
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



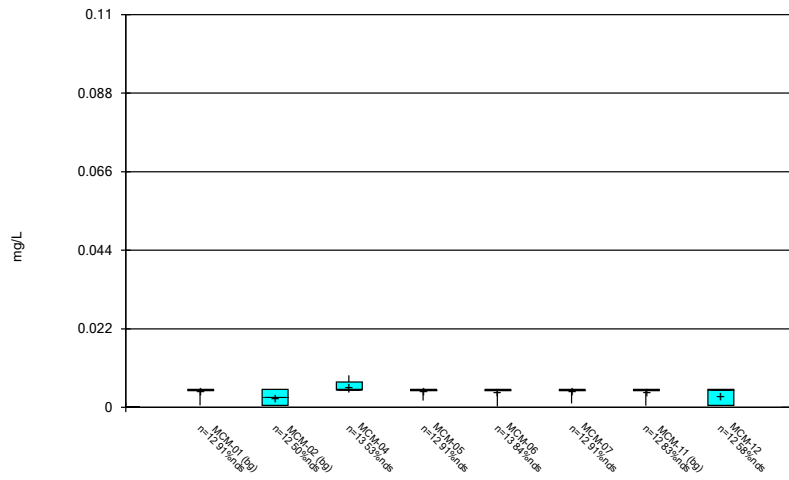
Constituent: Chromium Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



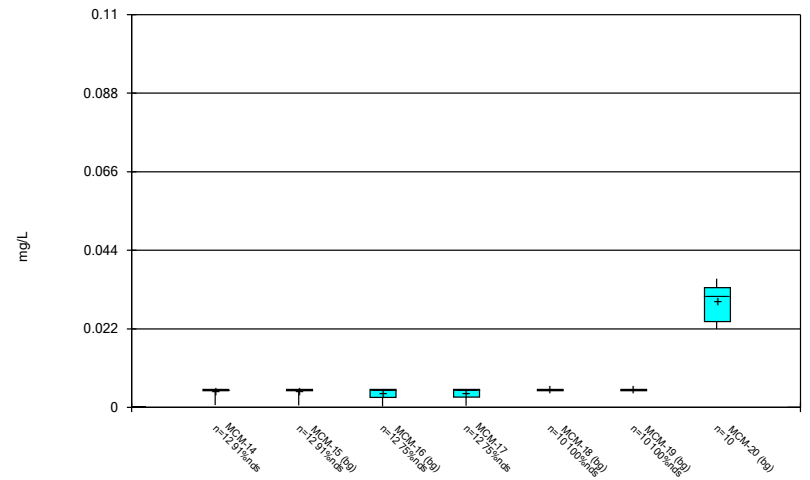
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



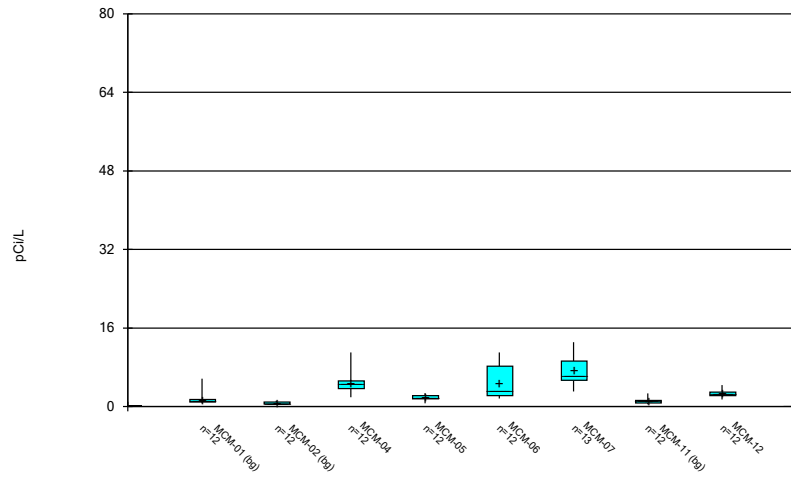
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



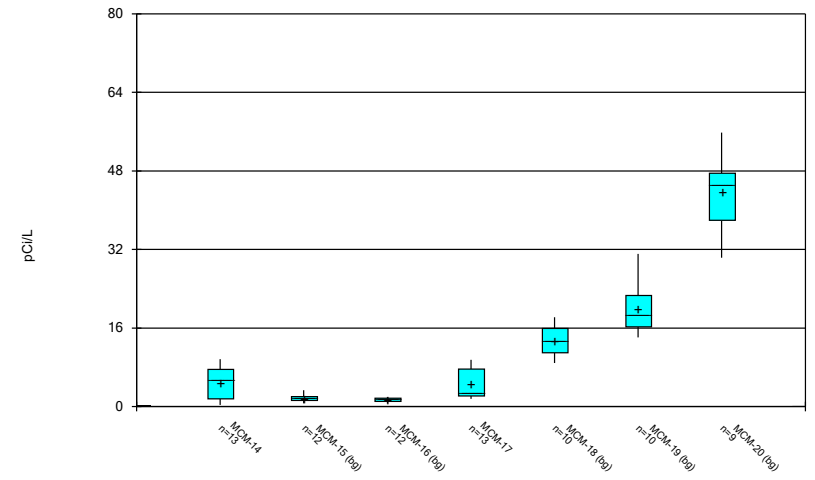
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



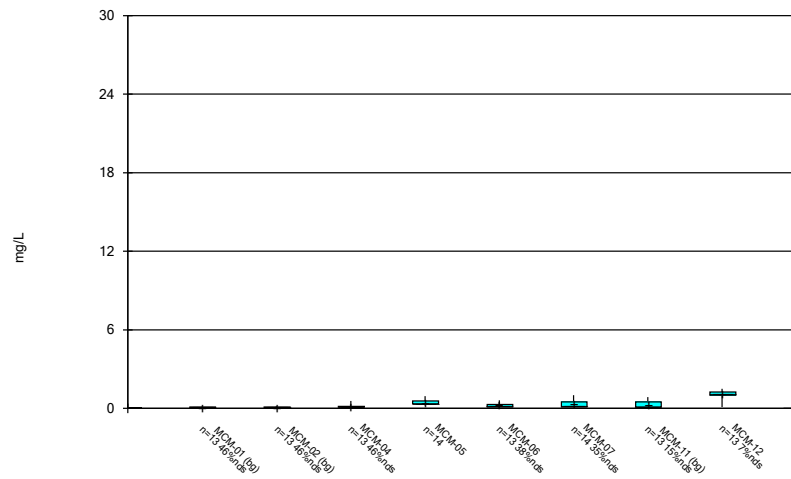
Constituent: Combined Radium 226 + 228 Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



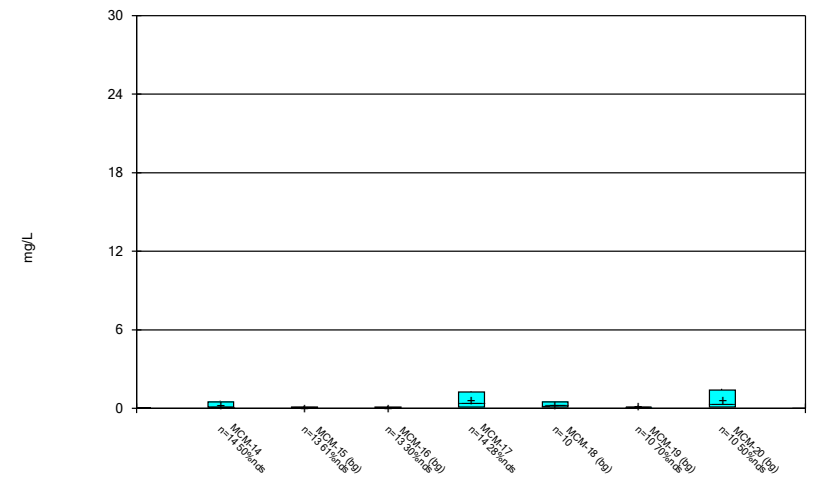
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



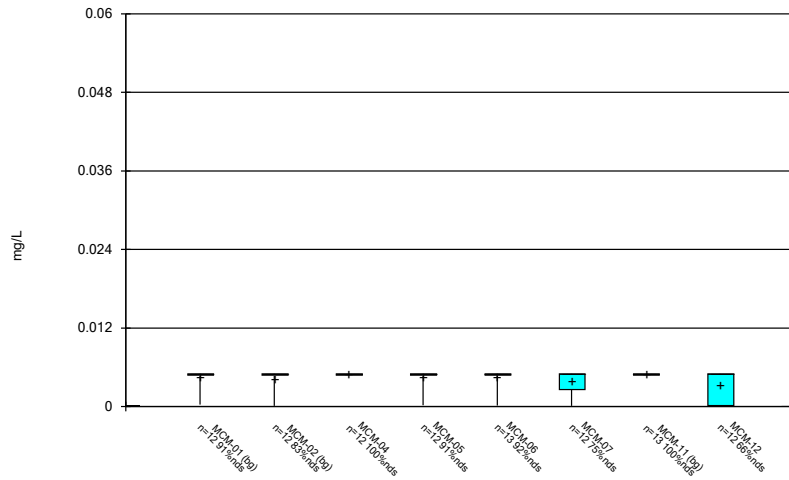
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



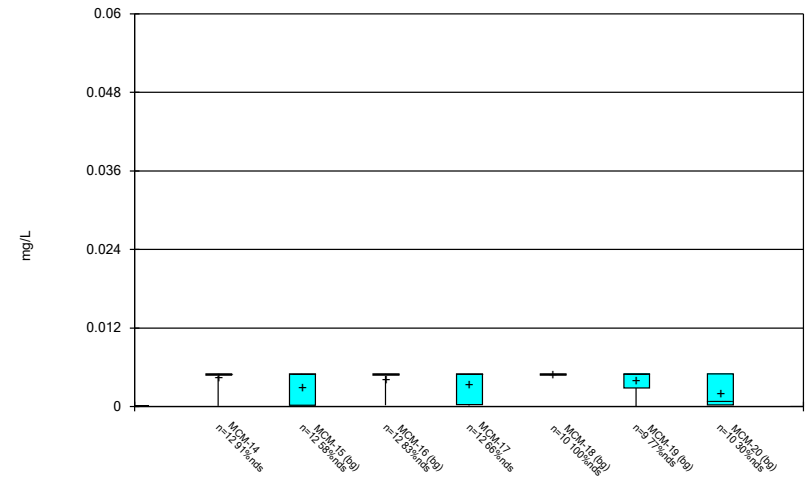
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



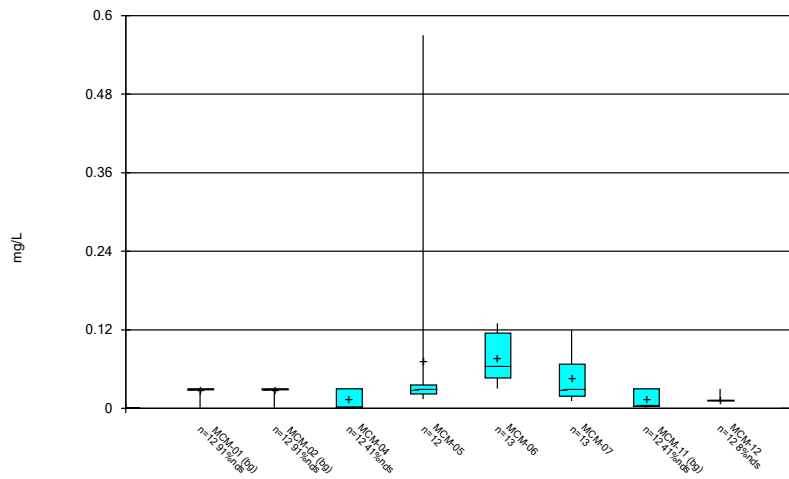
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



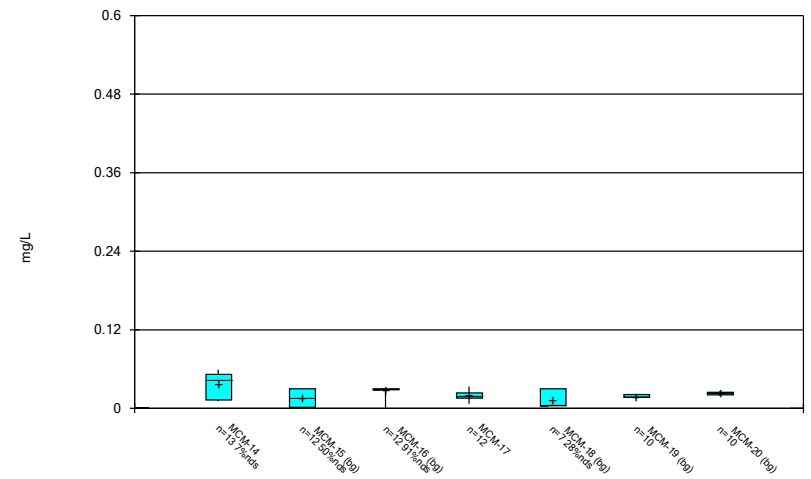
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



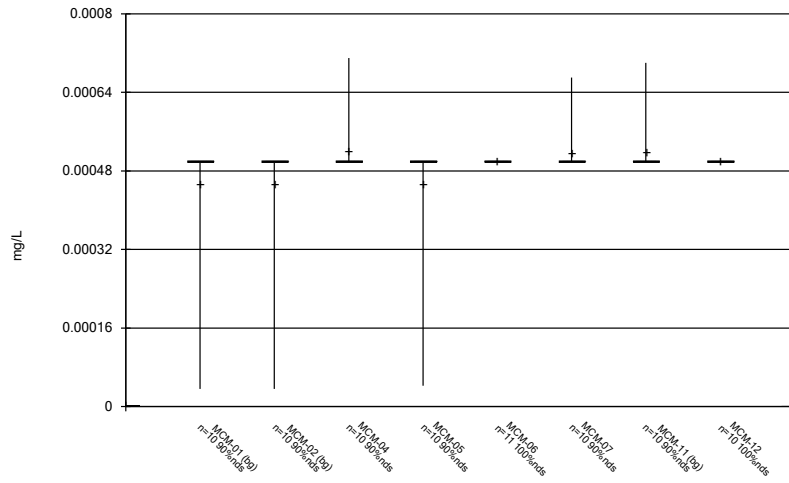
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Box & Whiskers Plot



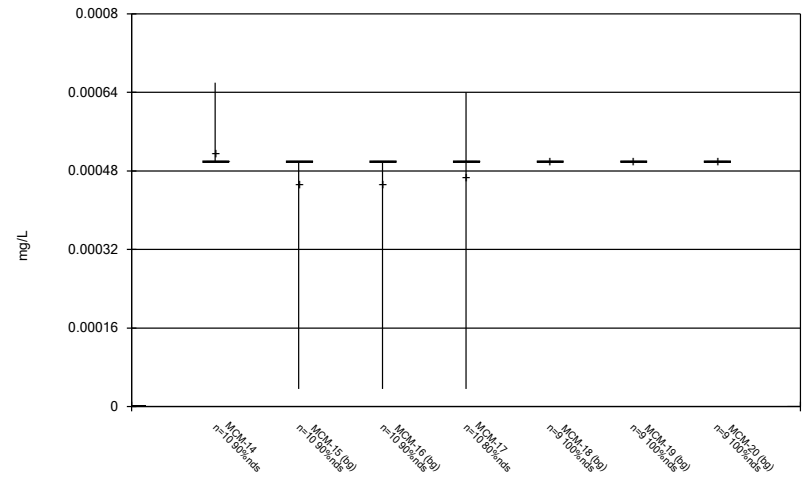
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



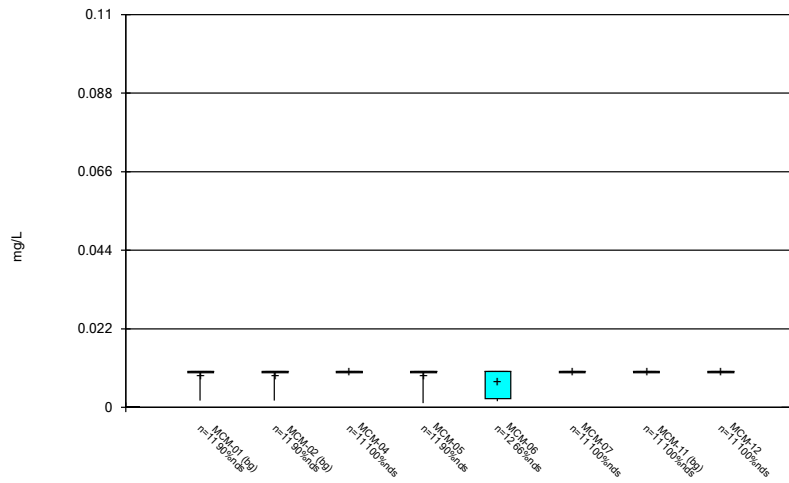
Constituent: Mercury Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



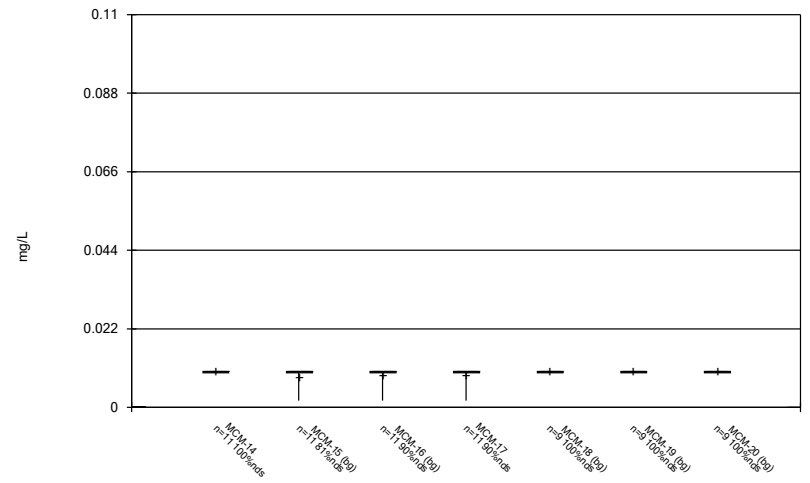
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



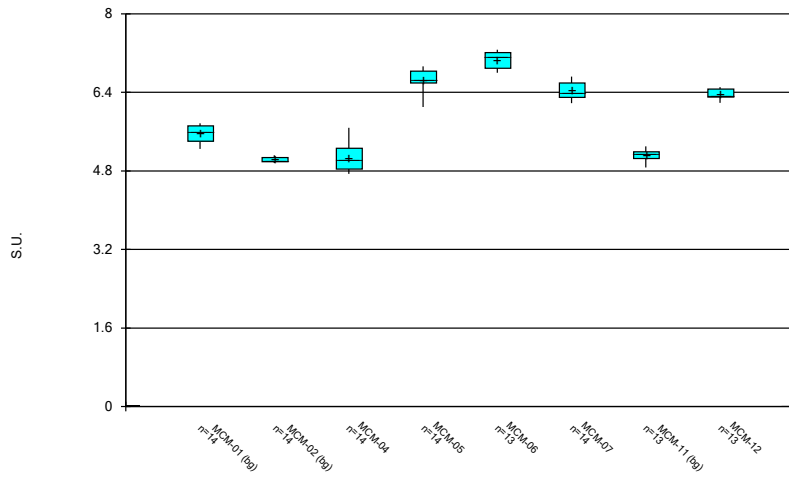
Constituent: Molybdenum Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



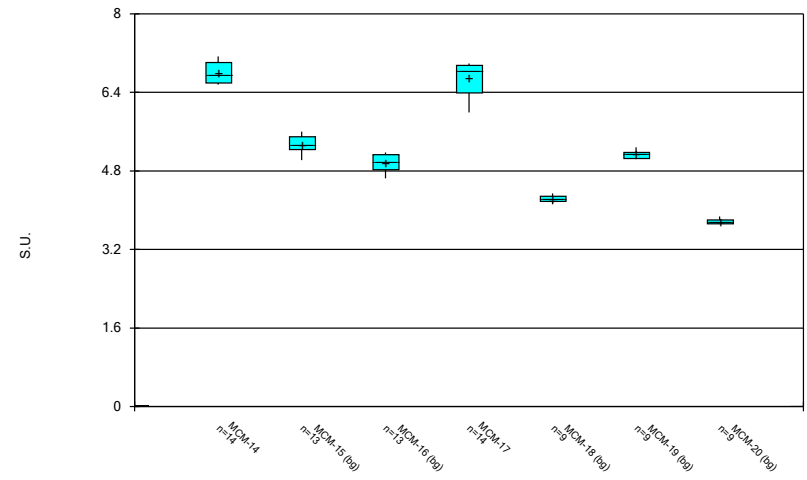
Constituent: Molybdenum Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



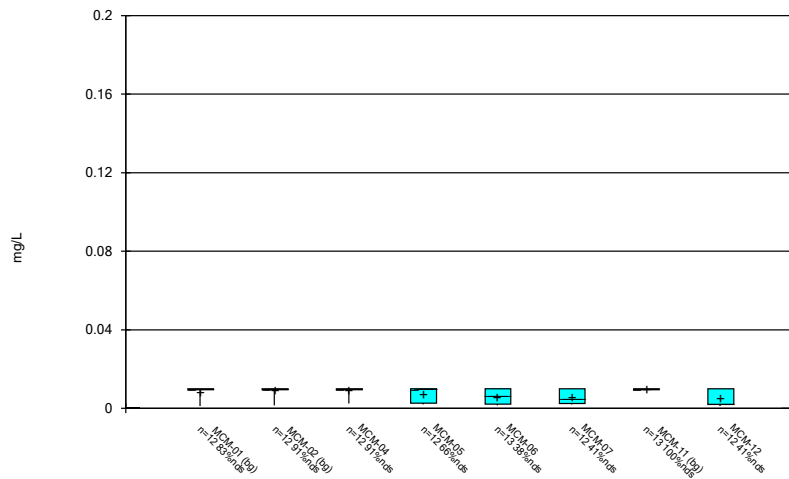
Constituent: pH Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



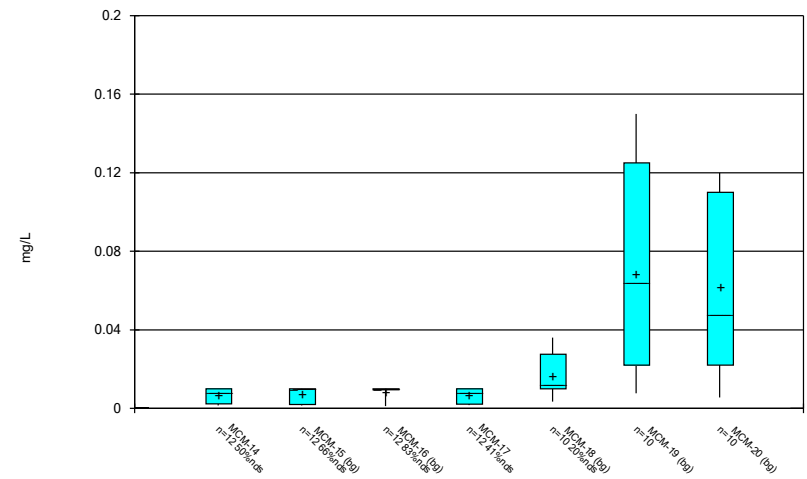
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



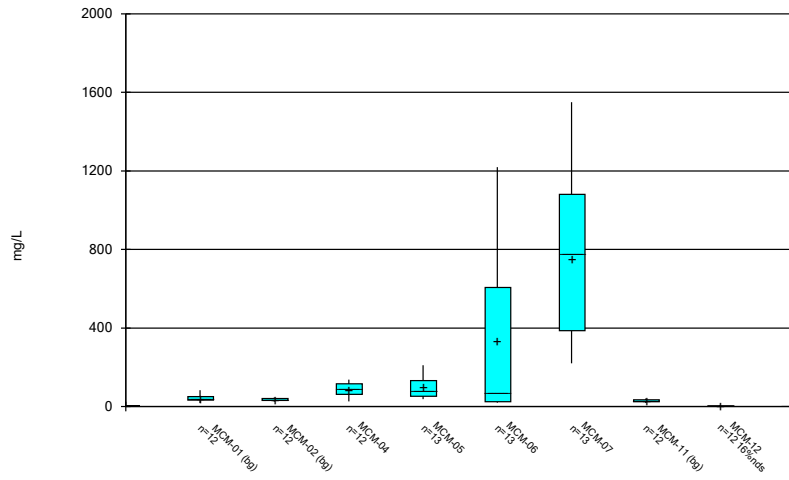
Constituent: Selenium Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



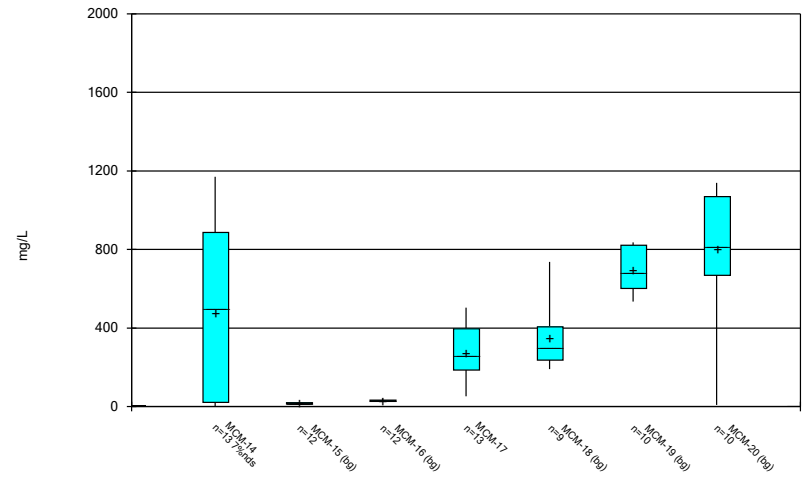
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



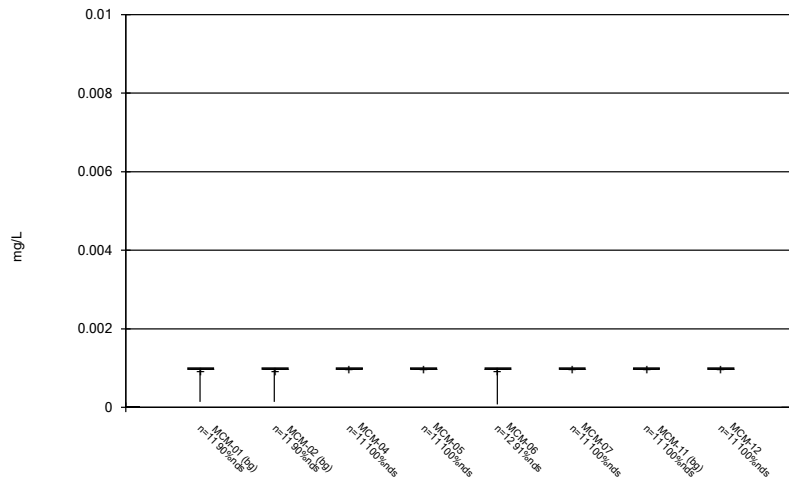
Constituent: Sulfate Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



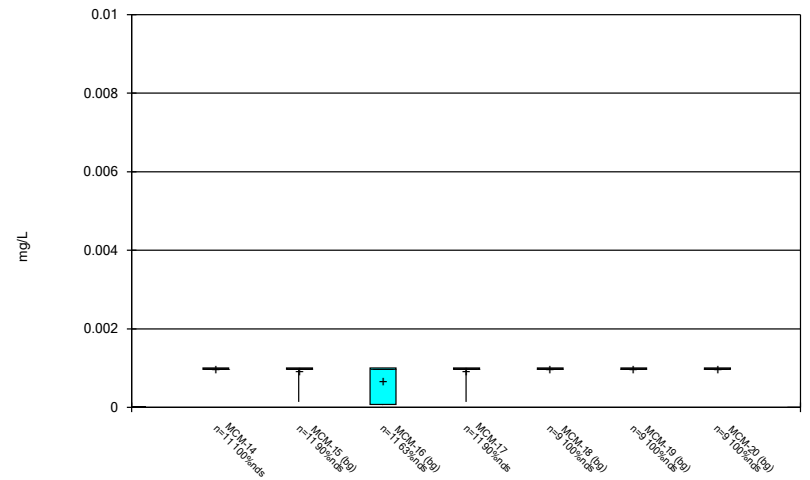
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



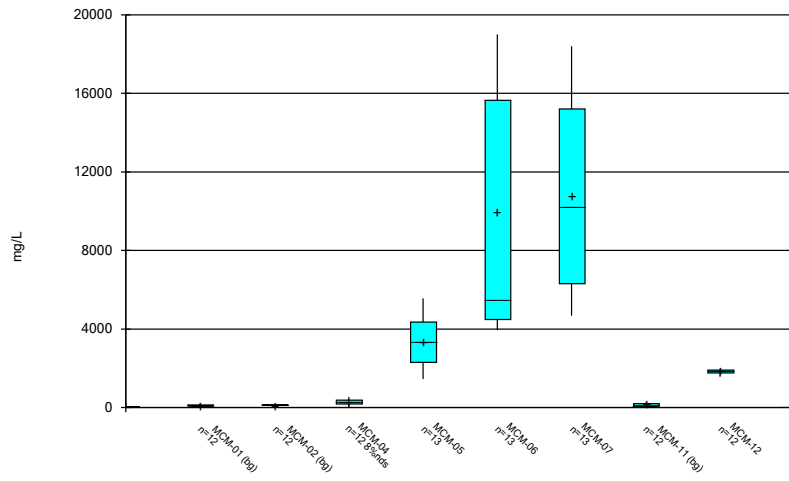
Constituent: Thallium Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



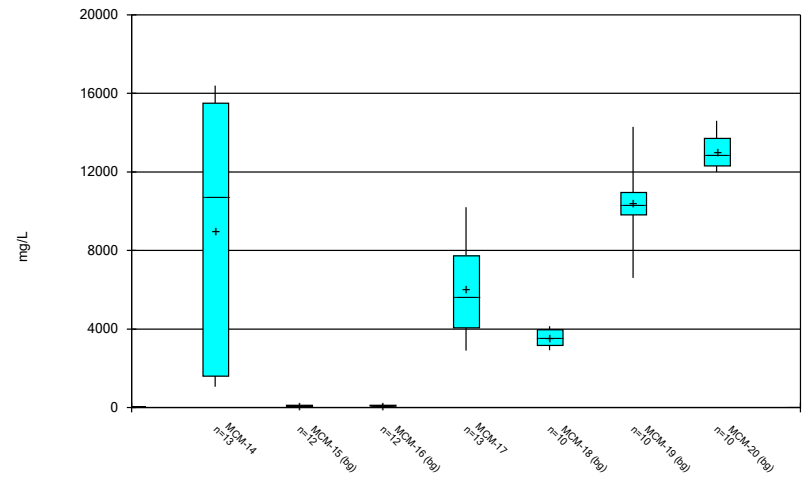
Constituent: Thallium Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:23 PM
 Plant McManus Client: Southern Company Data: McManus Ash Pond

FIGURE C.

Outlier Summary

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:26 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 Printed 12/10/2020, 3:32 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-06	1.3	n/a	10/14/2020	1.5	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-07	1.3	n/a	10/14/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-17	1.3	n/a	10/13/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-06	169	n/a	10/14/2020	245	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	10/14/2020	207	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.77	3.72	10/15/2020	6.53	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.77	3.72	10/14/2020	6.93	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.77	3.72	10/14/2020	6.32	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.77	3.72	10/12/2020	6.35	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.77	3.72	10/13/2020	6.56	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.77	3.72	10/13/2020	6.34	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-06	14600	n/a	10/14/2020	15200	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-07	14600	n/a	10/14/2020	18400	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-14	14600	n/a	10/13/2020	15600	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2

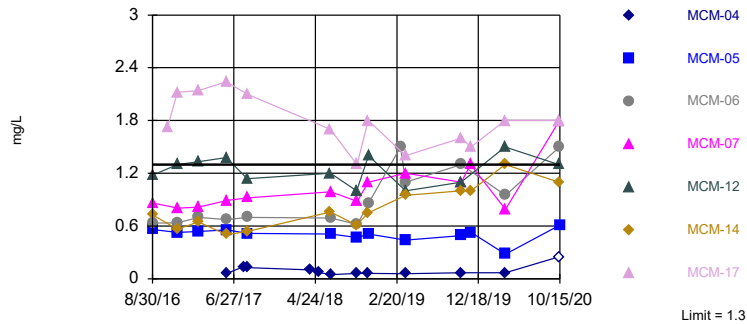
Appendix III - Interwell Prediction Limits - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:32 PM

Constituent	Well	Upper Lim	Lower Lim	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-04	1.3	n/a	10/13/2020	0.25ND	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-05	1.3	n/a	10/15/2020	0.61	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-06	1.3	n/a	10/14/2020	1.5	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-07	1.3	n/a	10/14/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-12	1.3	n/a	10/12/2020	1.3	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-14	1.3	n/a	10/13/2020	1.1	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-17	1.3	n/a	10/13/2020	1.8	Yes	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-04	169	n/a	10/13/2020	12.5	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	10/15/2020	69.1	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-06	169	n/a	10/14/2020	245	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	10/14/2020	207	Yes	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-12	169	n/a	10/12/2020	6.1	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	10/13/2020	40.9	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-17	169	n/a	10/13/2020	86.4	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-04	8130	n/a	10/13/2020	54.4	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	10/15/2020	1660	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-06	8130	n/a	10/14/2020	6630	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-07	8130	n/a	10/14/2020	7910	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-12	8130	n/a	10/12/2020	552	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-14	8130	n/a	10/13/2020	6230	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-17	8130	n/a	10/13/2020	3980	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-04	1.5	n/a	10/13/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	10/15/2020	0.22	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-06	1.5	n/a	10/14/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-07	1.5	n/a	10/14/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-12	1.5	n/a	10/12/2020	1.2	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-14	1.5	n/a	10/13/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-17	1.5	n/a	10/13/2020	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-04	5.77	3.72	10/13/2020	5.25	No	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.77	3.72	10/15/2020	6.53	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.77	3.72	10/14/2020	6.93	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.77	3.72	10/14/2020	6.32	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.77	3.72	10/12/2020	6.35	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.77	3.72	10/13/2020	6.56	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.77	3.72	10/13/2020	6.34	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-04	1140	n/a	10/13/2020	92.3	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	10/15/2020	147	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-06	1140	n/a	10/14/2020	510	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-07	1140	n/a	10/14/2020	904	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-12	1140	n/a	10/12/2020	0.5ND	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-14	1140	n/a	10/13/2020	695	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-17	1140	n/a	10/13/2020	378	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-04	14600	n/a	10/13/2020	12.5ND	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-05	14600	n/a	10/15/2020	5100	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-06	14600	n/a	10/14/2020	15200	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-07	14600	n/a	10/14/2020	18400	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-12	14600	n/a	10/12/2020	1560	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-14	14600	n/a	10/13/2020	15600	Yes	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-17	14600	n/a	10/13/2020	8750	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2

Exceeds Limit: MCM-06, MCM-07, MCM-17

Prediction Limit
Interwell Non-parametric

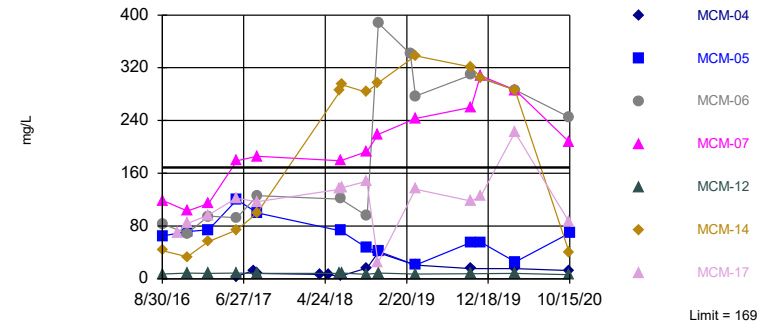


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. 5.556% NDs. Annual per-constituent alpha = 0.003314. Individual comparison alpha = 0.0002371 (1 of 2). Comparing 7 points to limit.

Constituent: Boron Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Exceeds Limit: MCM-06, MCM-07

Prediction Limit
Interwell Non-parametric

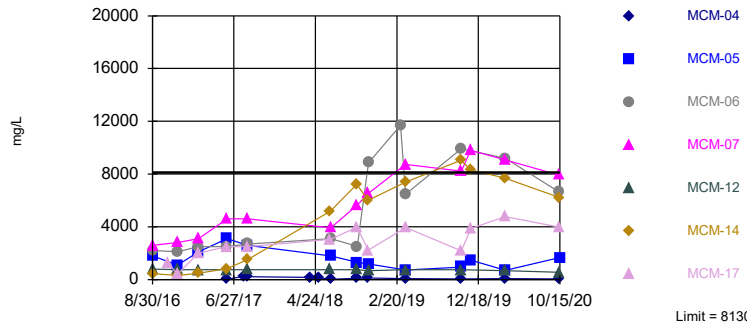


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 91 background values. 1.099% NDs. Annual per-constituent alpha = 0.003253. Individual comparison alpha = 0.0002327 (1 of 2). Comparing 7 points to limit.

Constituent: Calcium Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric

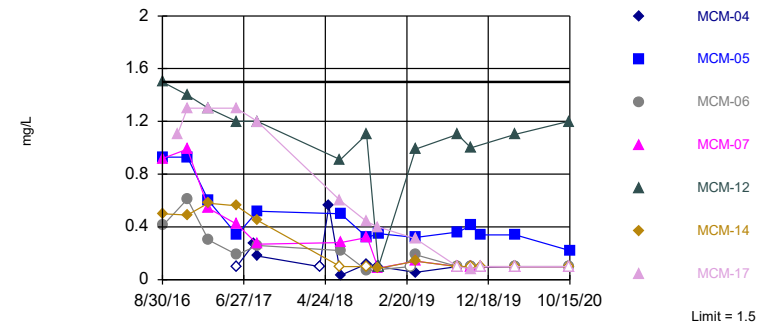


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. Annual per-constituent alpha = 0.003314. Individual comparison alpha = 0.0002371 (1 of 2). Comparing 7 points to limit.

Constituent: Chloride Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric

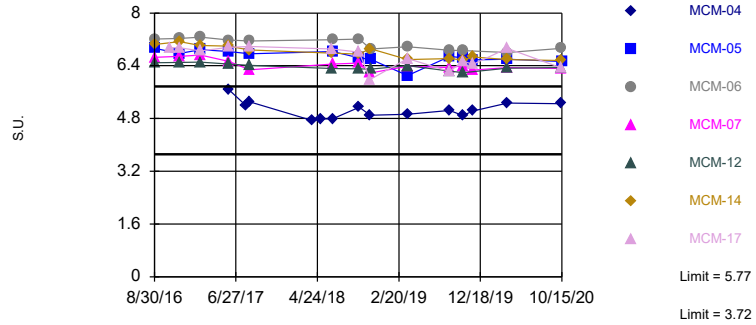


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 95 background values. 40% NDs. Annual per-constituent alpha = 0.003006. Individual comparison alpha = 0.000215 (1 of 2). Comparing 7 points to limit.

Constituent: Fluoride Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Exceeds Limits: MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, MCM-17

Prediction Limit
Interwell Non-parametric



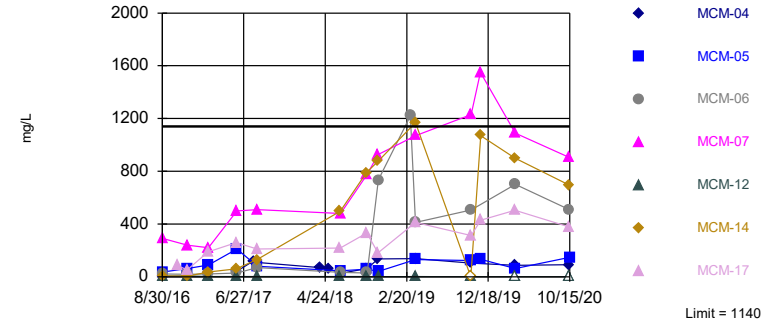
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 94 background values. Annual per-constituent alpha = 0.006135. Individual comparison alpha = 0.0004389 (1 of 2). Comparing 7 points to limit.

Constituent: pH Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Hollow symbols indicate censored values.

Within Limit

Prediction Limit
Interwell Non-parametric



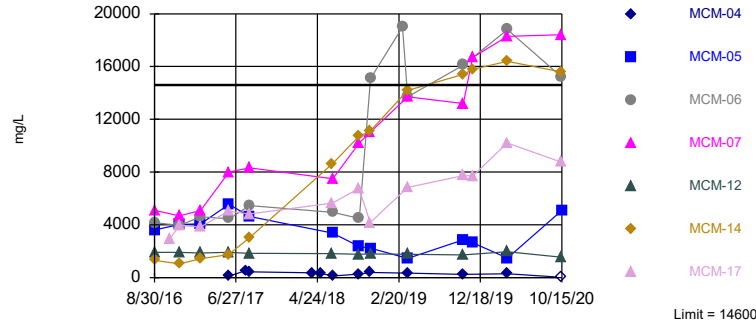
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 89 background values. Annual per-constituent alpha = 0.0034. Individual comparison alpha = 0.0002432 (1 of 2). Comparing 7 points to limit.

Constituent: Sulfate Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Hollow symbols indicate censored values.

Exceeds Limit: MCM-06, MCM-07, MCM-14

Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. Annual per-constituent alpha = 0.003314. Individual comparison alpha = 0.0002371 (1 of 2). Comparing 7 points to limit.

Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:27 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (bg)
8/30/2016	0.0325 (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	0.161
6/1/2017	0.0564			0.0776					
6/2/2017					0.674	0.891	0.555		
8/2/2017									0.158
8/15/2017		1.14						2.1	
8/16/2017	0.0435		0.539						0.148
8/17/2017				0.0853	0.7	0.922	0.516		
4/4/2018									
4/5/2018									0.13
5/8/2018									
5/9/2018									0.12
6/19/2018	0.04 (J)	1.2	0.76					1.7	0.13
6/20/2018				0.079	0.69		0.51		
6/21/2018						0.99			
9/25/2018		1	0.61						
9/26/2018	0.038 (J)			0.072				1.3	0.1
9/27/2018					0.62	0.88	0.47		
11/6/2018			0.75			1.1		1.8	
11/7/2018	0.037 (J)	1.4		0.074	0.86		0.51		0.1
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					0.091
10/15/2019		1.1	1						
10/16/2019	0.036 (J)			0.051			0.49	1.6	0.085
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	0.17 (J)
3/28/2020					0.95	0.79	0.28 (J)		
10/12/2020		1.3							
10/13/2020	<0.5		1.1	<0.5				1.8	<0.5
10/14/2020					1.5	1.8			
10/15/2020							0.61		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	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	0.0521					
6/1/2017		0.0608				
6/2/2017			0.0495			
8/2/2017	0.0392 (J)	0.137	0.0333 (J)			
8/15/2017	0.0448					
8/16/2017						
8/17/2017		0.128	0.0593			
4/4/2018	0.046	0.1	0.065			
4/5/2018						
5/8/2018	0.048	0.074	0.062			
5/9/2018						
6/19/2018	0.04		0.064			
6/20/2018		0.045				
6/21/2018						
9/25/2018	0.043					
9/26/2018			0.06			
9/27/2018		0.06				
11/6/2018	0.046	0.06				
11/7/2018			0.062 (J)			
3/6/2019						
3/24/2019						
3/25/2019	0.03 (J)	0.058	0.057			
10/15/2019		0.068	0.046			
10/16/2019	0.032 (J)					
10/17/2019						
11/7/2019				1.1	0.27	0.84
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	0.24 (J)	0.75
2/4/2020				0.96 (J)	0.24 (J)	0.79 (J)
2/13/2020				0.88	0.22	0.74
3/26/2020						
3/27/2020	0.058 (J)		0.076 (J)	0.94	0.24 (J)	0.96
3/28/2020		0.067 (J)				
10/12/2020	<0.5				0.24 (J)	
10/13/2020		<0.5	<0.5	1.1		0.73
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	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 12/10/2020 3:32 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

10/15/2020	MCM-01 (bg)	MCM-12	MCM-16 (bg)	MCM-14	MCM-05	MCM-06	MCM-07	MCM-17	MCM-11 (bg)
					69.1				

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-02 (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	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				163	46.2	158
11/18/2019					41.8	
11/19/2019				169		152
11/20/2019						
11/21/2019						
12/4/2019				140		142
12/5/2019					40.5	
12/17/2019						136
12/18/2019				145	42	
1/8/2020				157		147
1/9/2020					37.1	
1/21/2020				152	40.1	167
2/4/2020				139	36.2	142
2/13/2020				146	38.9	148
3/26/2020						
3/27/2020	4.9		5.9	113	23.2	122
3/28/2020		15.5				
10/12/2020					19.1	
10/13/2020	3.8	12.5	0.83	128		125
10/14/2020						

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

10/15/2020 MCM-02 (bg) MCM-04 MCM-15 (bg) MCM-20 (bg) MCM-18 (bg) MCM-19 (bg)

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (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	39
6/1/2017	12			27					
6/2/2017					2500	4600	3100		
8/2/2017									42
8/15/2017		750						2500	
8/16/2017	14		1500						41
8/17/2017				32	2700	4600	2600		
4/4/2018									
4/5/2018									40.2
5/8/2018									
5/9/2018									40.6
6/19/2018	24.4	760	5180					3050	37.7
6/20/2018				30	3100		1800		
6/21/2018						3920			
9/25/2018		752 (D)	7220						
9/26/2018	23.4			28.4				3965 (D)	33.4
9/27/2018					2510 (D)	5660 (D)	1300		
11/6/2018			6020			6520		2230	
11/7/2018	21.8	665		25.1	8860		1180		30.7
3/6/2019					11700				
3/24/2019		744	7400		6470	8720	717	3960	
3/25/2019	19.4			21.8					33.5
10/15/2019		744	9050						
10/16/2019	21.4			20			941 (D)	2181.5 (D)	33.1
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	32.9
3/28/2020					9190	9070	693		
10/12/2020		552							
10/13/2020	13.5		6230	23.3				3980	25.7
10/14/2020					6630	7910			
10/15/2020							1660		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	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	98					
6/1/2017		22				
6/2/2017			11			
8/2/2017	57	230	3.2			
8/15/2017	15					
8/16/2017						
8/17/2017		210	12			
4/4/2018	69	156	13.4			
4/5/2018						
5/8/2018	72.3	140	13.2			
5/9/2018						
6/19/2018	17.3		13.7			
6/20/2018		27.5				
6/21/2018						
9/25/2018	31.3					
9/26/2018			18.5			
9/27/2018		101				
11/6/2018	9.8	107				
11/7/2018			20.2			
3/6/2019						
3/24/2019						
3/25/2019	12.9	78.5	19.7			
10/15/2019		46	17.1			
10/16/2019	12.2					
10/17/2019						
11/7/2019				7880	2360	6170
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	1630	5010
2/4/2020				5700	1760	5030
2/13/2020				7060	1850	6140
3/26/2020						
3/27/2020	14.5		14.1	7110	1450	6870
3/28/2020		71.4				
10/12/2020	13.9				1340	
10/13/2020		54.4	3.8	5980		5260
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	MCM-05	MCM-17	MCM-02 (bg)
8/30/2016	0.03 (J)	0.04 (J)	0.5	1.5					
8/31/2016					0.92	0.41	0.93		
10/25/2016								1.1	
11/30/2016	0.04 (J)	0.18 (J)	0.49	1.4	0.99	0.61	0.93	1.3	
2/15/2017	0.007 (J)	0.02 (J)	0.58	1.3				1.3	
2/16/2017					0.54	0.3 (J)	0.6		
5/31/2017			0.56	1.2				1.3	0.01 (J)
6/1/2017	<0.1	0.005 (J)							
6/2/2017					0.42	0.19 (J)	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)			0.27 (J)	0.26 (J)	0.52		
4/4/2018									
4/5/2018									<0.1
5/8/2018									
5/9/2018									<0.1
6/19/2018	<0.1		<0.1	0.91				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			<0.1	1.1					
9/26/2018	0.12 (J)	0.029						0.44 (D)	0.029
9/27/2018					0.32 (D)	0.068 (J)	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			0.14 (J)	0.99	0.14 (J)	0.19 (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	<0.1		1.1				<0.1	
8/28/2019					<0.1	<0.1	0.36		<0.1
10/15/2019			<0.1	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		<0.1	<0.1	1.1				<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 12/10/2020 3:32 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	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		

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	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 12/10/2020 3:32 PM View: Appendix III
Plant McManus Client: Southern Company Data: McManus Ash Pond

	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						

Prediction Limit

Constituent: pH (S.U.) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-14	MCM-12	MCM-16 (bg)	MCM-07	MCM-06	MCM-05	MCM-17	MCM-02 (bg)
8/30/2016	5.66	7.04	6.49	5.18					
8/31/2016					6.66	7.21	6.93		
10/25/2016								6.95	
11/30/2016	5.36	7.13	6.5	4.96	6.69	7.23	6.77	6.95	
2/15/2017	5.25	7.02	6.51	5.13				6.85	
2/16/2017					6.72	7.27	6.89		
5/31/2017		7	6.45					6.96	5.06
6/1/2017	5.59			4.99					
6/2/2017					6.53	7.18	6.83		
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	6.28	7.15	6.76		
4/4/2018									
4/5/2018									5.02
5/8/2018									
5/9/2018									4.96
6/19/2018	5.51	6.78	6.32					6.91	5.02
6/20/2018				4.77		7.19	6.83		
6/21/2018					6.45				
9/25/2018		6.75	6.31						
9/26/2018	5.32			4.65				6.81	5.06
9/27/2018					6.48	7.21	6.64		
11/6/2018		6.92			6.18			5.99	
11/7/2018	5.72		6.3	4.99		6.91	6.6		5.03
3/24/2019		6.59	6.4		6.38	6.98	6.1	6.62	
3/25/2019	5.75			5.13					5.08
8/26/2019		6.62							
8/27/2019	5.58		6.24	4.88				6.23	
8/28/2019					6.35	6.87	6.69		4.99
10/15/2019		6.58	6.19						
10/16/2019	5.72			4.89			6.64	6.54	4.98
10/17/2019					6.4	6.86			
11/7/2019									
11/18/2019									
11/19/2019									5.11
11/20/2019	5.77				6.27		6.58		
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		6.59	6.33	5.12				6.93	5.12
3/28/2020					6.35	6.8	6.6		
10/12/2020			6.35						
10/13/2020	5.69	6.56		5.17				6.34	5.03
10/14/2020					6.32	6.93			
10/15/2020							6.53		

Prediction Limit

Constituent: pH (S.U.) Analysis Run 12/10/2020 3:32 PM View: Appendix III
 Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-20 (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	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				4.25	3.79	5.21
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				4.28	3.73	5.1
2/4/2020				4.26	3.72	5.15
2/13/2020				4.2	3.75	5.07
3/26/2020						
3/27/2020	5.09		5.3	4.34	3.81	5.14
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: Sulfate (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	MCM-05	MCM-17	MCM-11 (bg)
8/30/2016	17	24	6.4	4.3					
8/31/2016					290	21	37		
10/25/2016								84	
11/30/2016	33	26	4.5	7.6	240	19	63	52	
2/15/2017	83	30	37	3				190	
2/16/2017					220	22	90		
5/31/2017			61	2.5				260	40
6/1/2017	51	24							
6/2/2017					500	28	210		
8/2/2017									34
8/15/2017				3.2				210	24
8/16/2017	36		130						
8/17/2017		26			510	69	80		
4/4/2018									33.9
4/5/2018									
5/8/2018									35.7
5/9/2018									
6/19/2018	50.3		498	1.6				218	23.7
6/20/2018		31.2				33	46 (J)		
6/21/2018					481				
9/25/2018			790	1					25.6
9/26/2018	54.1	36.8						333 (D)	
9/27/2018					777 (D)	29.4 (D)	58.5 (J)		
11/6/2018			875		926			182	25.2
11/7/2018	45.6	35		0.41 (J)		734	41.3 (J)		
3/6/2019						1220 (J)			
3/24/2019			1170	1.5	1070	413	131	413	
3/25/2019	43	40.1							24.9
10/15/2019			<1	0.54 (J)					
10/16/2019	31.9	28.5					122.5 (D)	312.5 (D)	17.4
10/17/2019					1230	507			
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		31.2	899	<1				504	23.4
3/28/2020					1090	701	63.8		
10/12/2020				<1					19.3
10/13/2020	32.3	26.8	695					378	
10/14/2020					904	510			
10/15/2020							147		

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	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	46					
6/1/2017		42				
6/2/2017			13			
8/2/2017	43	120	14			
8/15/2017						
8/16/2017	41					
8/17/2017		110	14			
4/4/2018		70.6	13.4			
4/5/2018	33.4					
5/8/2018		61.4	14.8			
5/9/2018	36					
6/19/2018	35.5		15.5			
6/20/2018		25.3				
6/21/2018						
9/25/2018						
9/26/2018	39.6		23			
9/27/2018		63.4				
11/6/2018		136				
11/7/2018	35.8		22.2			
3/6/2019						
3/24/2019						
3/25/2019	34.2	137	22.4			
10/15/2019		105	17.9			
10/16/2019	24.4					
10/17/2019						
11/7/2019				1010	832	379
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	611	254
2/4/2020				1120	599	432
2/13/2020				833	761	300
3/26/2020						
3/27/2020	28.6		14.6	700	836	219
3/28/2020		86.6				
10/12/2020						191
10/13/2020	27.6	92.3	7.6	638	609	
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-12	MCM-14	MCM-16 (bg)	MCM-06	MCM-07	MCM-05	MCM-17	MCM-02 (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	123
6/1/2017	103			98					
6/2/2017					4470	8000	5560		
8/2/2017									136
8/15/2017		1840						4820	
8/16/2017	65		3010						124
8/17/2017				84	5450	8320	4620		
4/4/2018									
4/5/2018									128
5/8/2018									
5/9/2018									127
6/19/2018	142	1820	8630					5640	143
6/20/2018				123	4940		3370		
6/21/2018						7500			
9/25/2018		1760	10700						
9/26/2018	133			117				6770 (D)	132
9/27/2018					4480	10200	2360		
11/6/2018			11100			11000		4160	
11/7/2018	121	1800		120	15100		2230		134
3/6/2019					19000				
3/24/2019		1770	14200		13700	13700	1450	6840	
3/25/2019	116			101					111
10/15/2019		1730	15400						
10/16/2019	104			95			2860	7740	96
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	119
3/28/2020					18800	18300	1470		
10/12/2020		1560							
10/13/2020	113		15600	115				8750	118
10/14/2020					15200	18400			
10/15/2020							5100		

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 12/10/2020 3:32 PM View: Appendix III

Plant McManus Client: Southern Company Data: McManus Ash Pond

	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	257					
6/1/2017		97				
6/2/2017			69			
8/2/2017	183	538	35			
8/15/2017	90					
8/16/2017						
8/17/2017		445	51			
4/4/2018	197	365	90			
4/5/2018						
5/8/2018	225	304	89			
5/9/2018						
6/19/2018	112		110			
6/20/2018		114				
6/21/2018						
9/25/2018	137					
9/26/2018			124			
9/27/2018		255				
11/6/2018	89	388				
11/7/2018			125			
3/6/2019						
3/24/2019						
3/25/2019	74	327	98			
10/15/2019		237	107			
10/16/2019	82					
10/17/2019						
11/7/2019				13500	4140	10900
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	3280	10100
2/4/2020				12300	3220	10600
2/13/2020				12400	3580	10900
3/26/2020						
3/27/2020	87		110	14600	3090	14300
3/28/2020		284				
10/12/2020	94				2920	
10/13/2020		<25	63	13900		6600
10/14/2020						
10/15/2020						

FIGURE E.

Appendix III Trend Tests - Prediction Limit Exceedances - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:34 PM

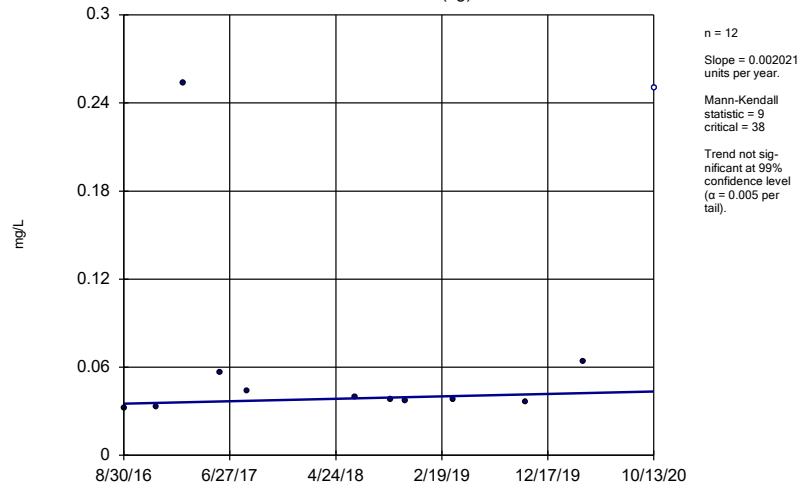
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-06	0.1871	49	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	48.63	59	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-27.95	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.0923	-62	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.113	-51	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.08197	-54	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-12	-0.07539	-44	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1382	-72	-48	Yes	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-06	4156	52	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-07	3571	68	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-14	4524	72	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-18 (bg)	-2315	-37	-30	Yes	10	0	n/a	n/a	0.01	NP

Appendix III Trend Tests - Prediction Limit Exceedances - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:34 PM

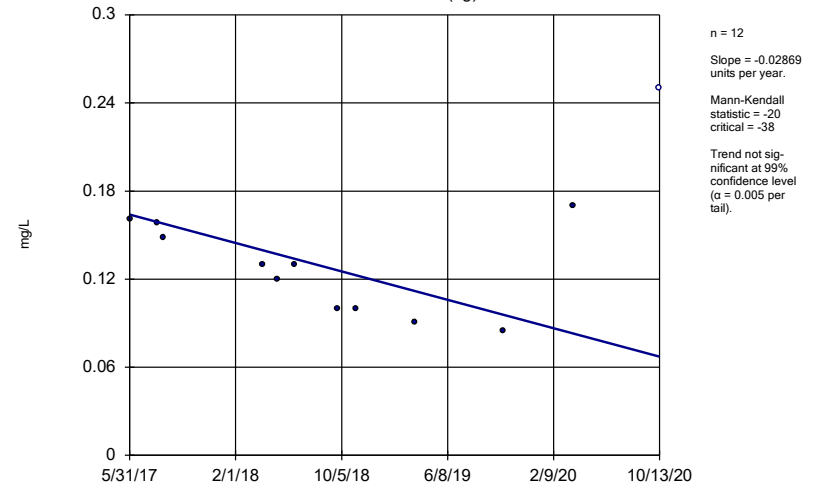
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-01 (bg)	0.002021	9	38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-02 (bg)	-0.02869	-20	-38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-06	0.1871	49	43	Yes	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-07	0.1459	43	43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-11 (bg)	0.001433	5	38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-15 (bg)	0.007692	21	38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-16 (bg)	-0.0109	-22	-38	No	12	8.333	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-17	-0.09555	-21	-43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-18 (bg)	0	-6	-30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-19 (bg)	0	0	30	No	10	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-20 (bg)	0.1848	3	30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-01 (bg)	0.3136	4	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-02 (bg)	-0.2937	-23	-38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-06	59.02	42	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	48.63	59	43	Yes	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-11 (bg)	-4.667	-38	-38	No	12	8.333	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-15 (bg)	1.376	15	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-16 (bg)	0	2	38	No	12	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-27.95	-35	-30	Yes	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-19 (bg)	-36.5	-18	-30	No	10	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-20 (bg)	-63.32	-25	-30	No	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-01 (bg)	0.05473	25	48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-02 (bg)	0.02274	25	48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.0923	-62	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.113	-51	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-07	-0.08659	-48	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.08197	-54	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-12	-0.07539	-44	-43	Yes	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1382	-72	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-15 (bg)	-0.08406	-20	-43	No	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-16 (bg)	0.005464	2	43	No	13	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-17	-0.1427	-42	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-18 (bg)	0.1725	20	25	No	9	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-19 (bg)	-0.1816	-16	-25	No	9	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-20 (bg)	-0.1225	-15	-25	No	9	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-01 (bg)	-4.393	-8	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-02 (bg)	-4.101	-18	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-06	4156	52	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-07	3571	68	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-11 (bg)	-43.29	-34	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-14	4524	72	43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-15 (bg)	15.28	25	38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-16 (bg)	-0.6384	-2	-38	No	12	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-18 (bg)	-2315	-37	-30	Yes	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-19 (bg)	0	0	30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids [TDS] (mg/L)	MCM-20 (bg)	-1278	-4	-30	No	10	0	n/a	n/a	0.01	NP

Sen's Slope Estimator MCM-01 (bg)



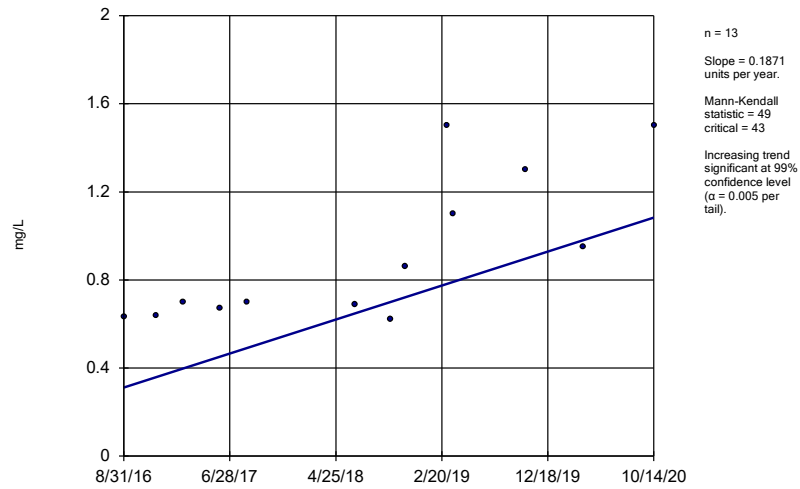
Constituent: Boron Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator MCM-02 (bg)



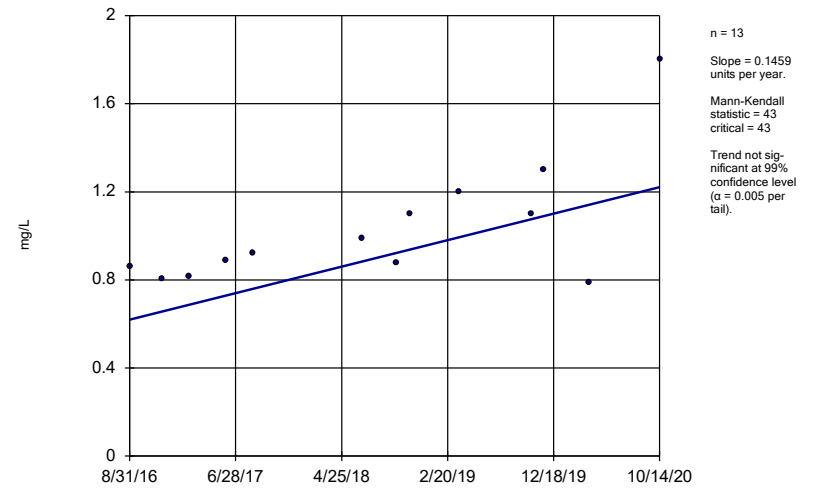
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator MCM-06



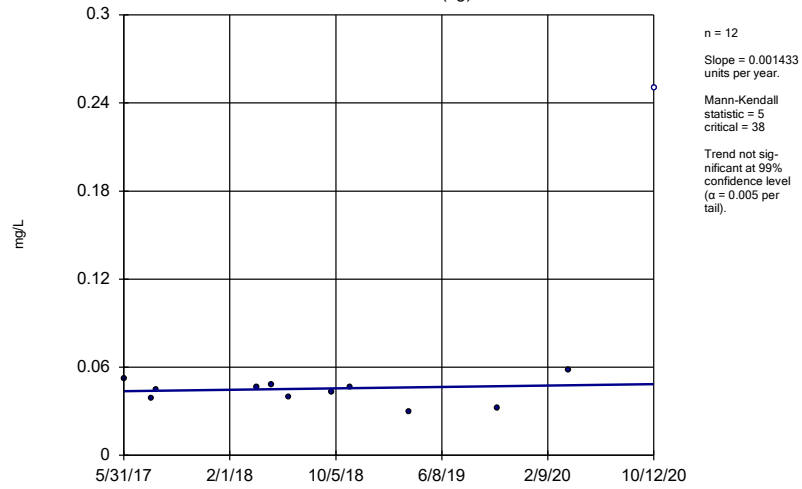
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator MCM-07



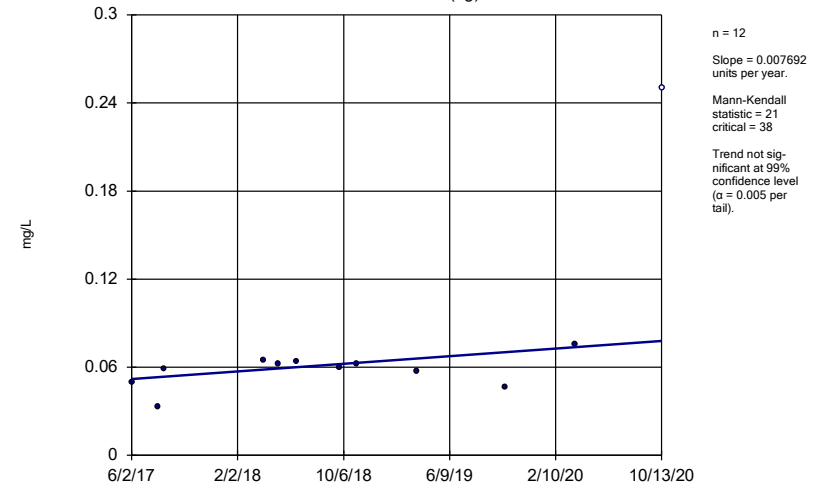
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-11 (bg)



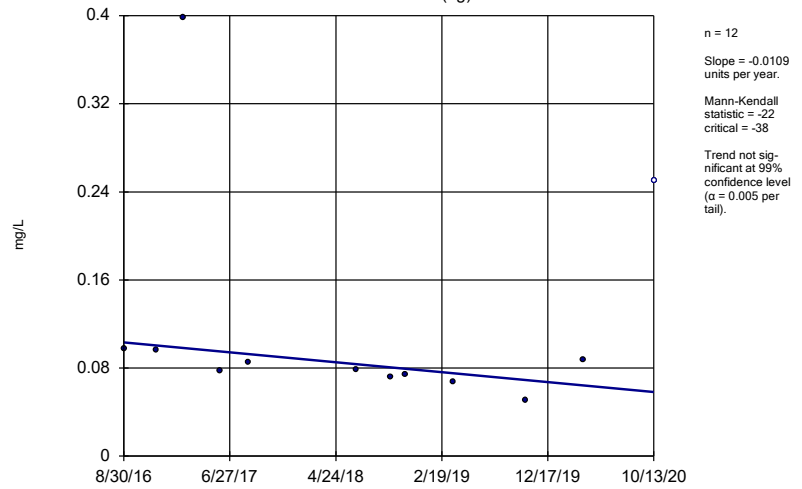
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-15 (bg)



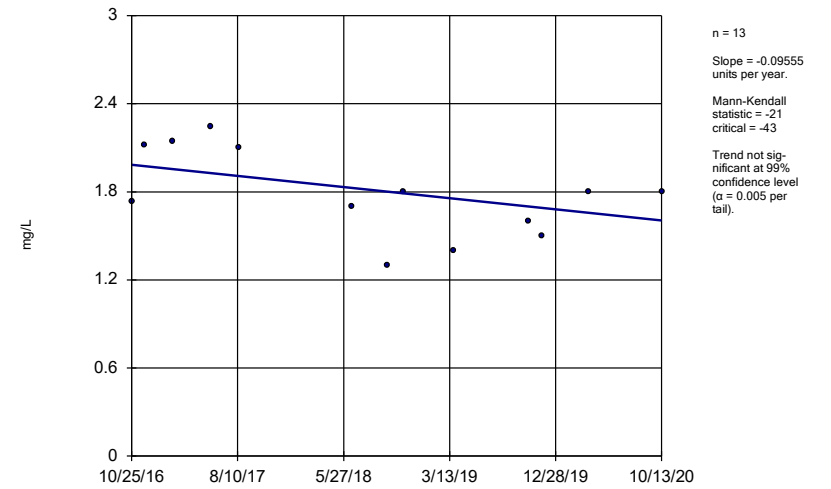
Constituent: Boron Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-16 (bg)



Constituent: Boron Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

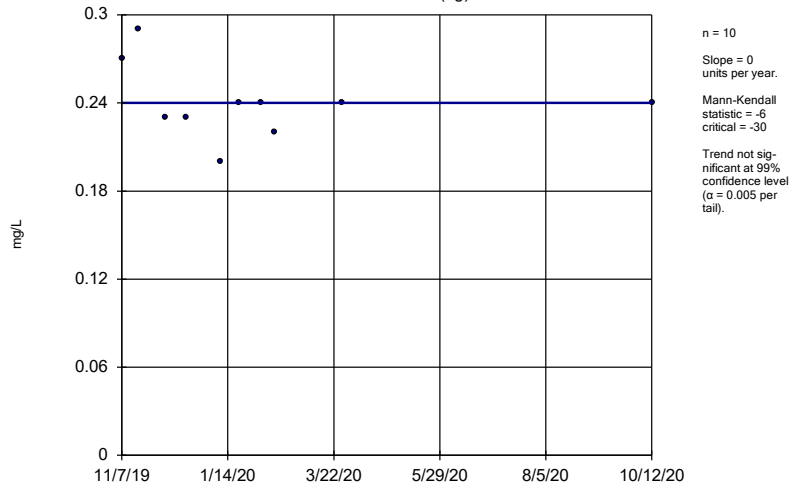
Sen's Slope Estimator
MCM-17



Constituent: Boron Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

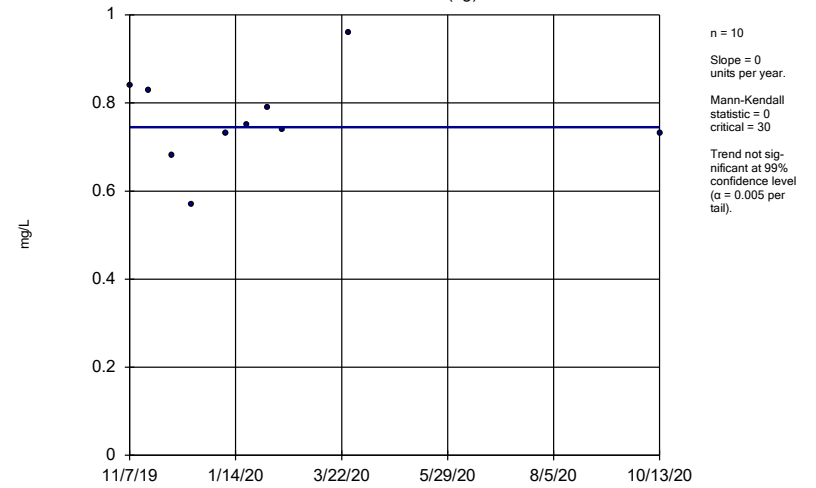
MCM-18 (bg)



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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

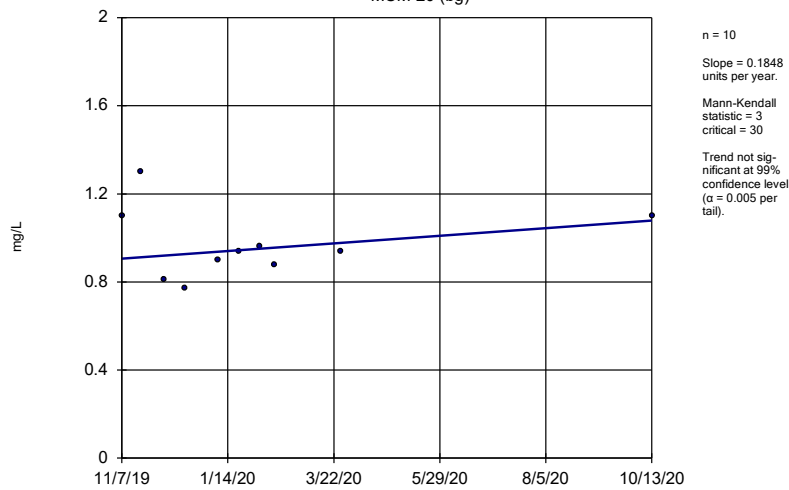
MCM-19 (bg)



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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

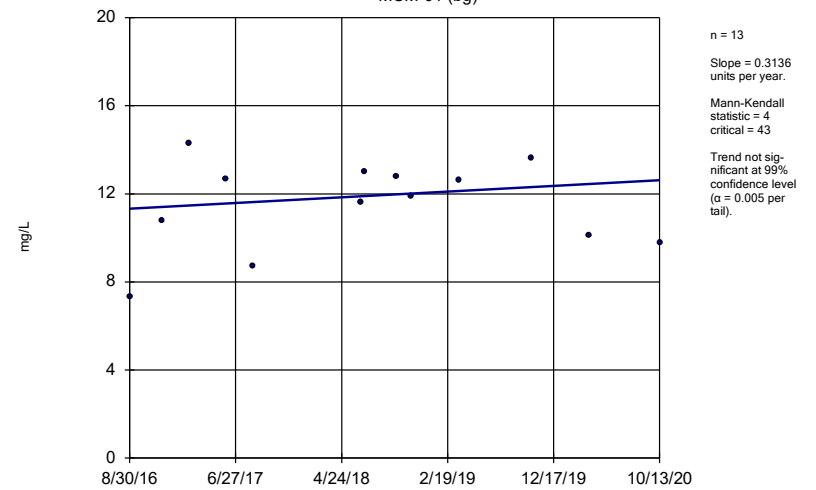
MCM-20 (bg)



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 Plant McManus Client: Southern Company Data: McManus Ash Pond

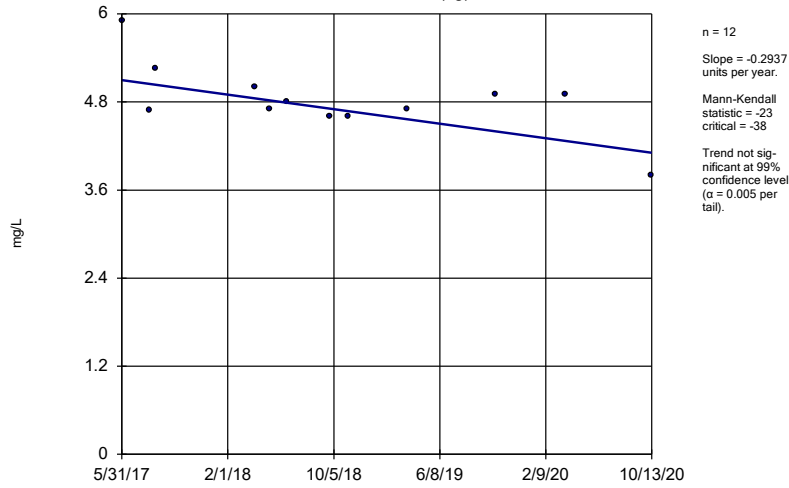
Sen's Slope Estimator

MCM-01 (bg)



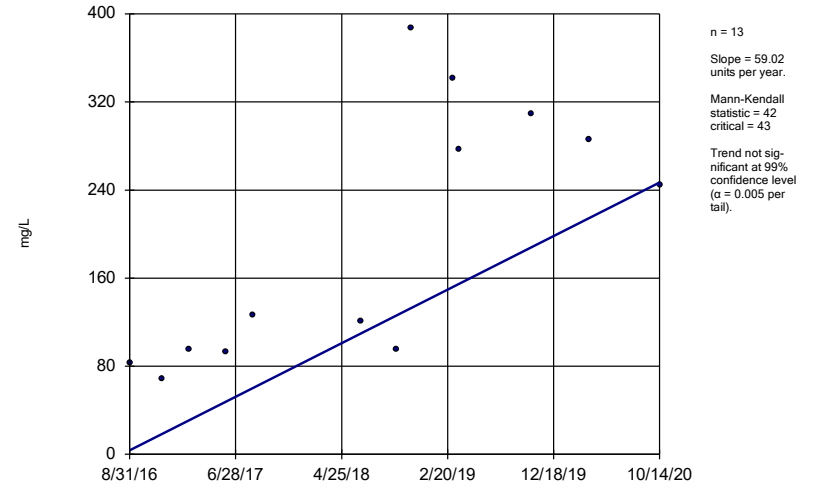
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-02 (bg)



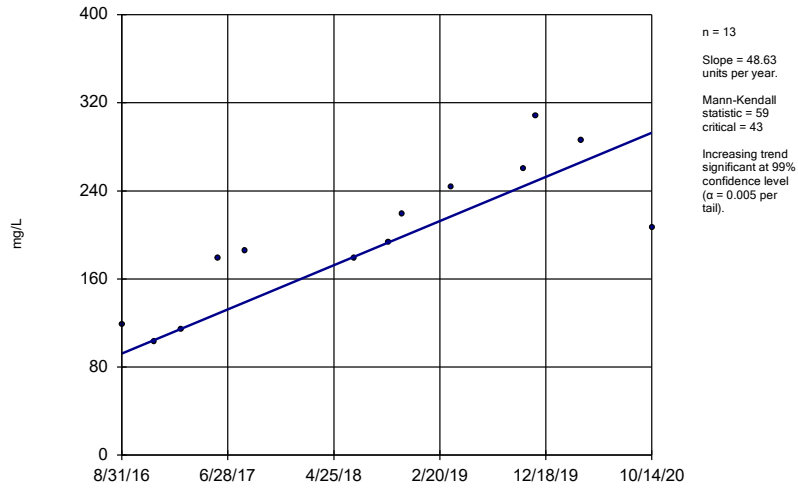
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-06



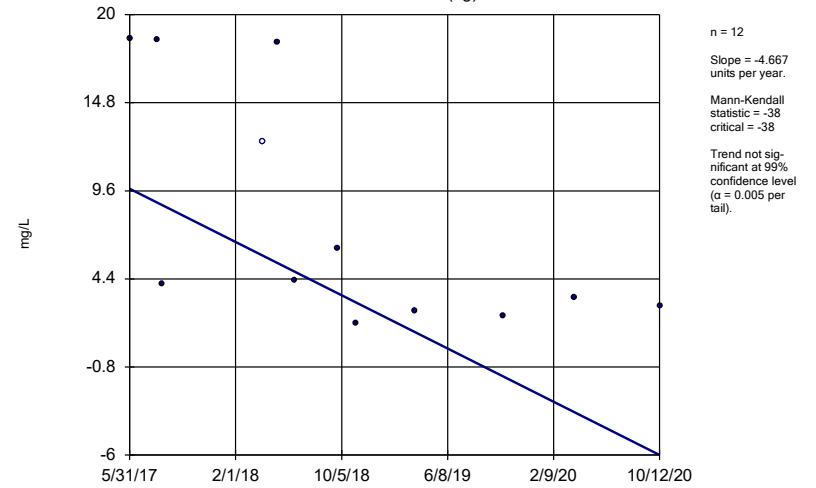
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-07



Constituent: Calcium Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

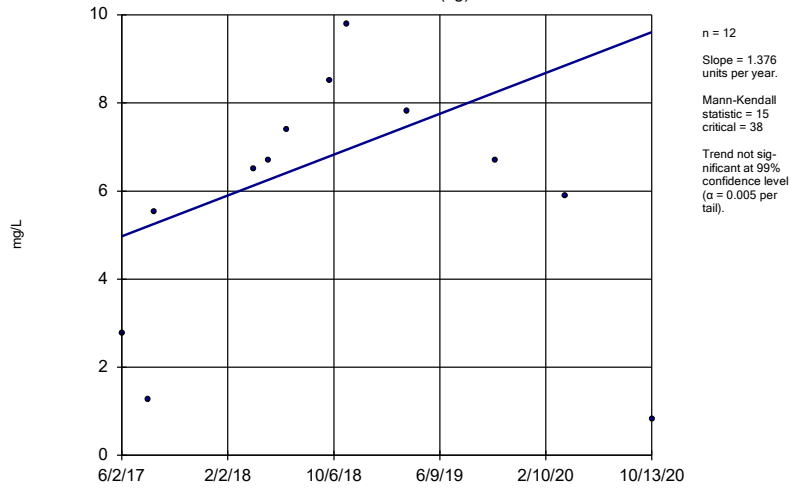
Sen's Slope Estimator
MCM-11 (bg)



Constituent: Calcium Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

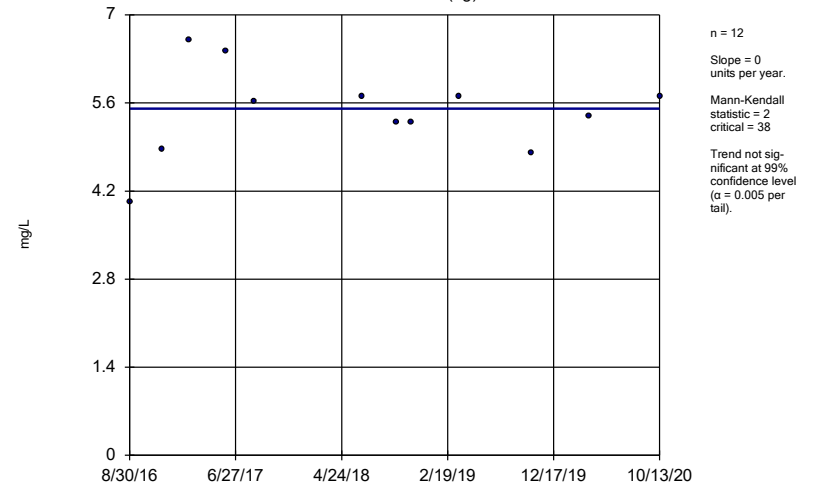
MCM-15 (bg)



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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

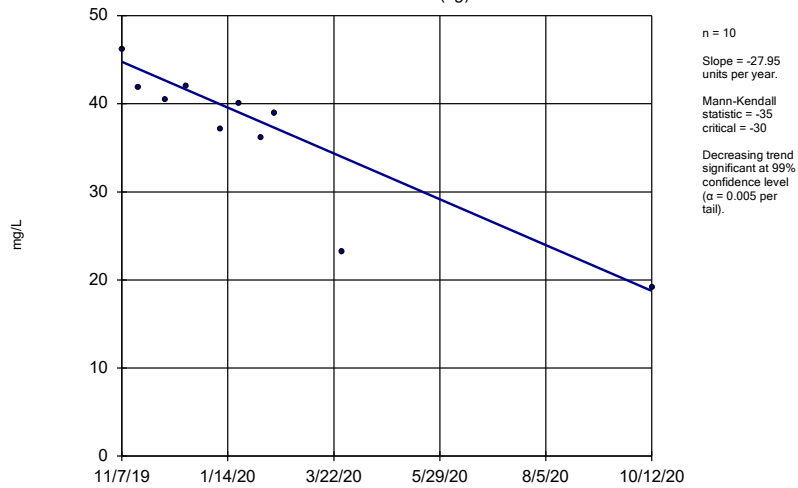
MCM-16 (bg)



Constituent: Calcium Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

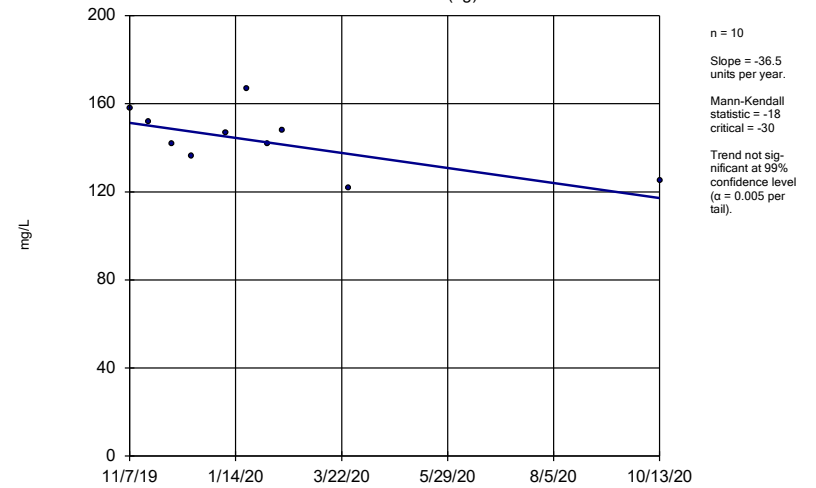
MCM-18 (bg)



Constituent: Calcium Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond

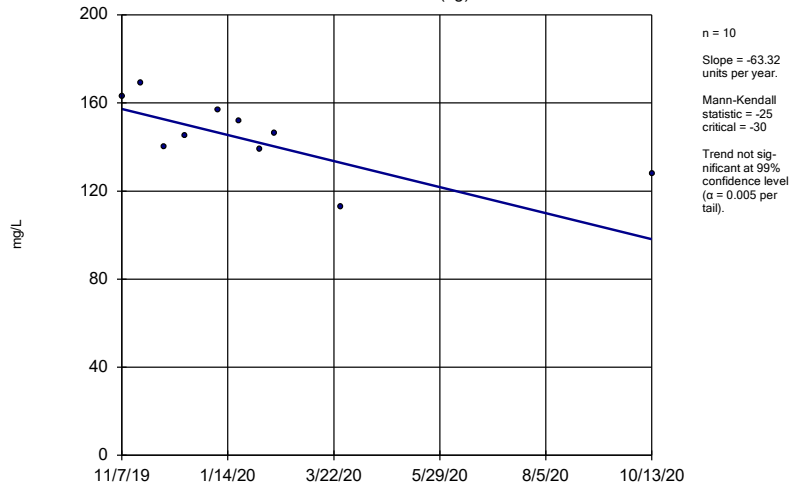
Sen's Slope Estimator

MCM-19 (bg)



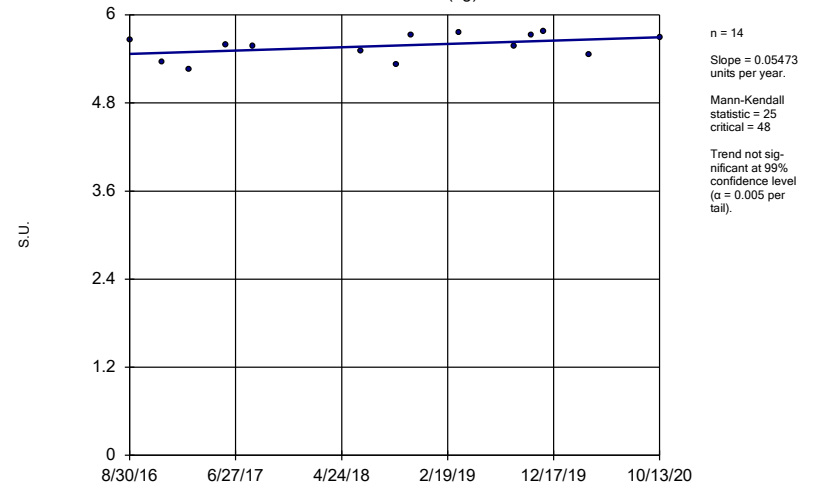
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 Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-20 (bg)

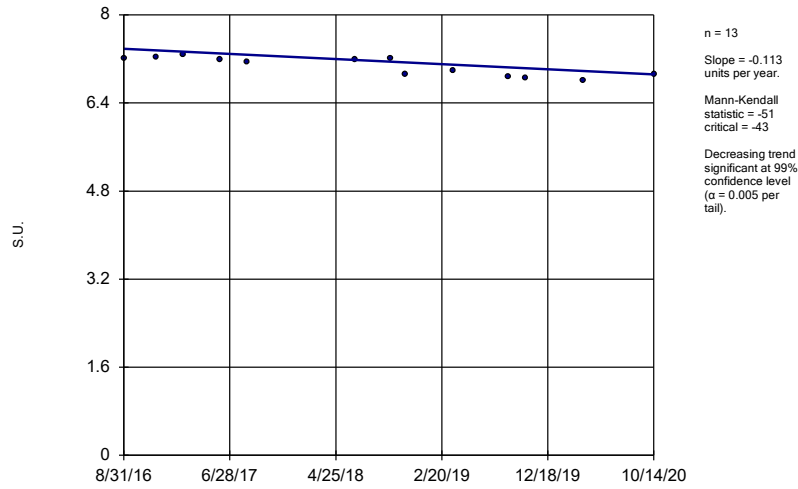


Constituent: Calcium Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-01 (bg)

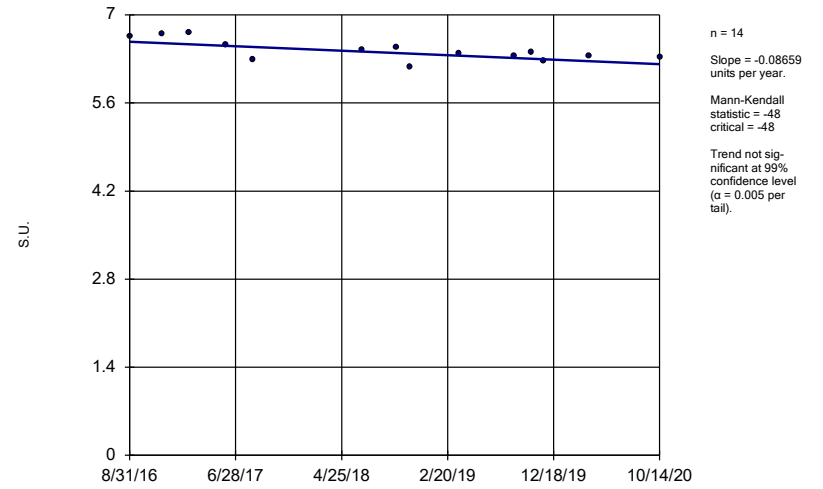


Sen's Slope Estimator
MCM-06



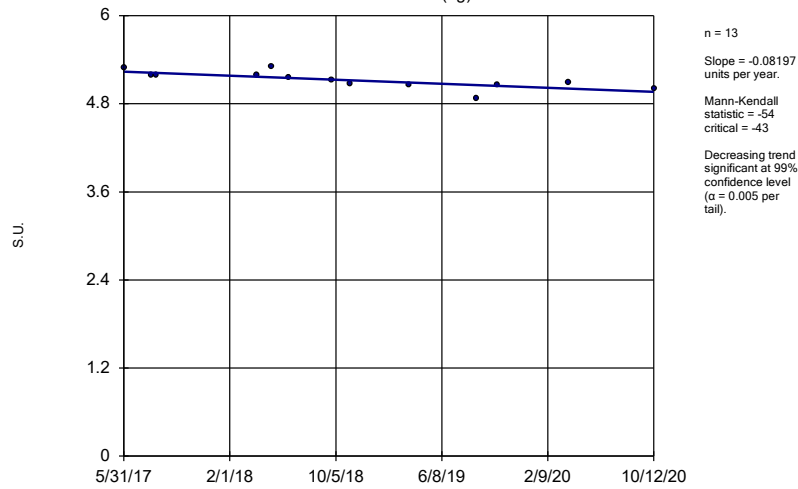
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-07



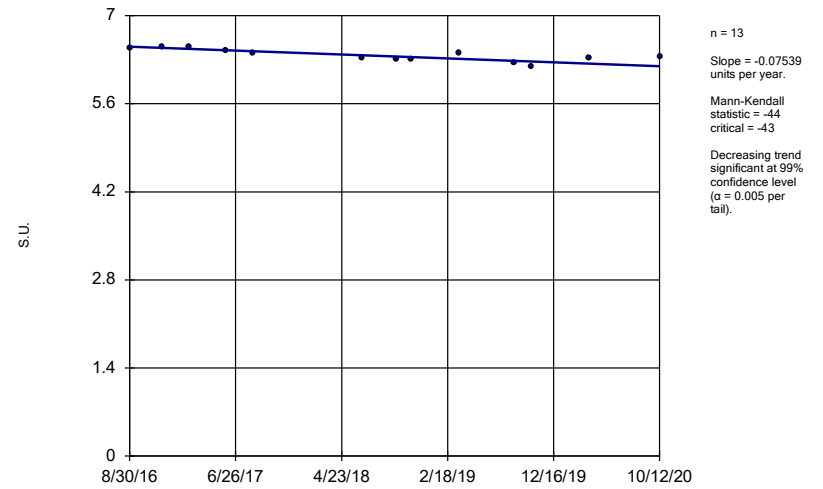
Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-11 (bg)



Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

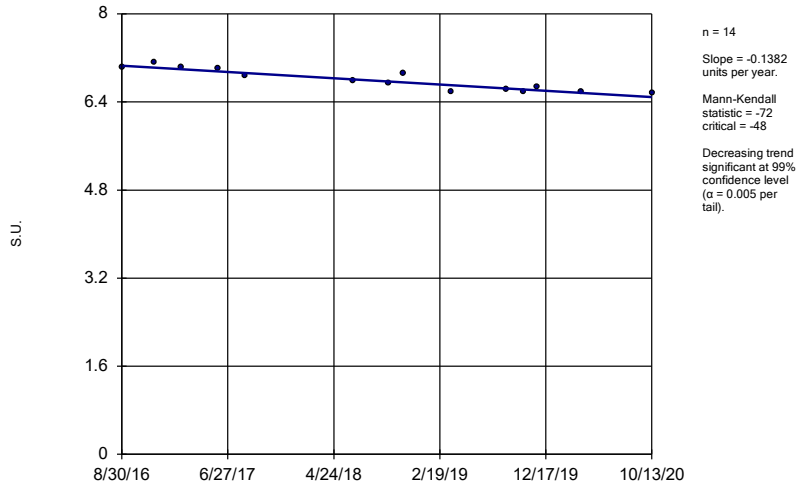
Sen's Slope Estimator
MCM-12



Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

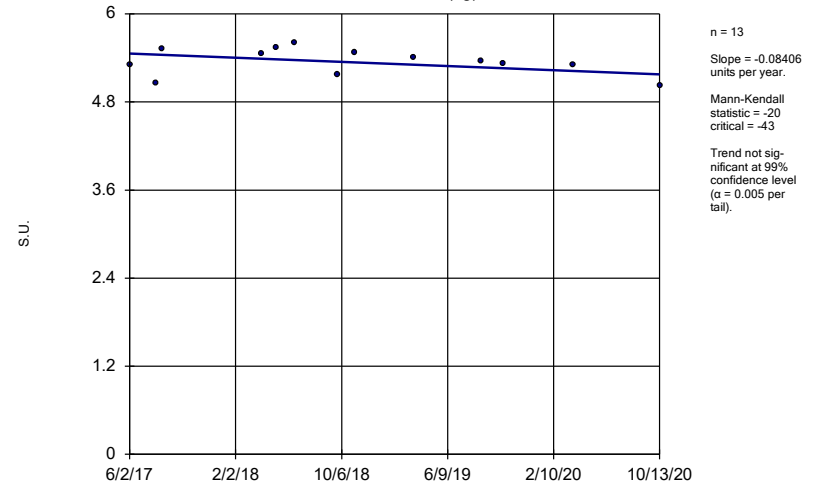
MCM-14



Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

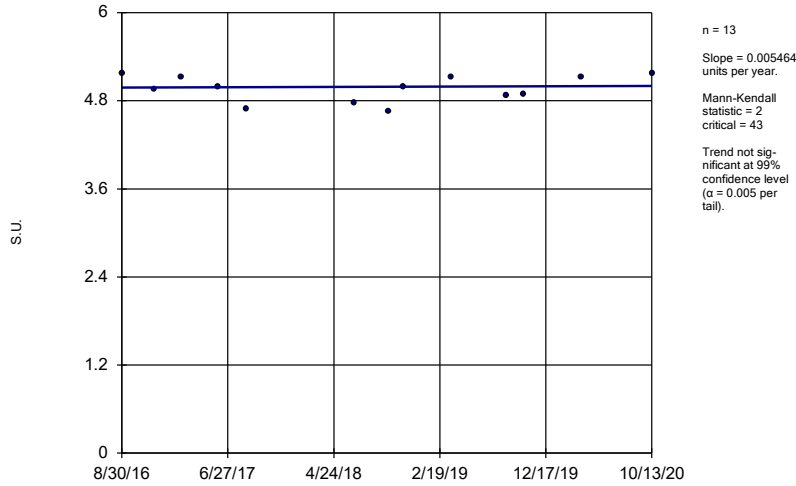
MCM-15 (bg)



Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

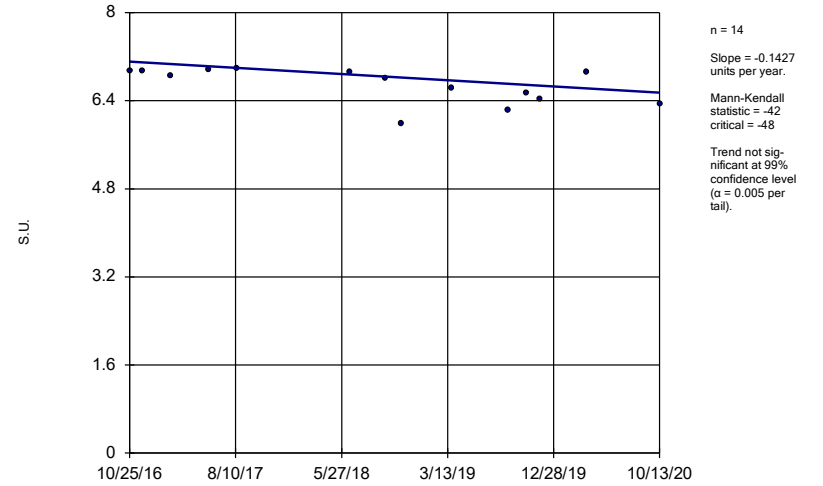
MCM-16 (bg)



Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

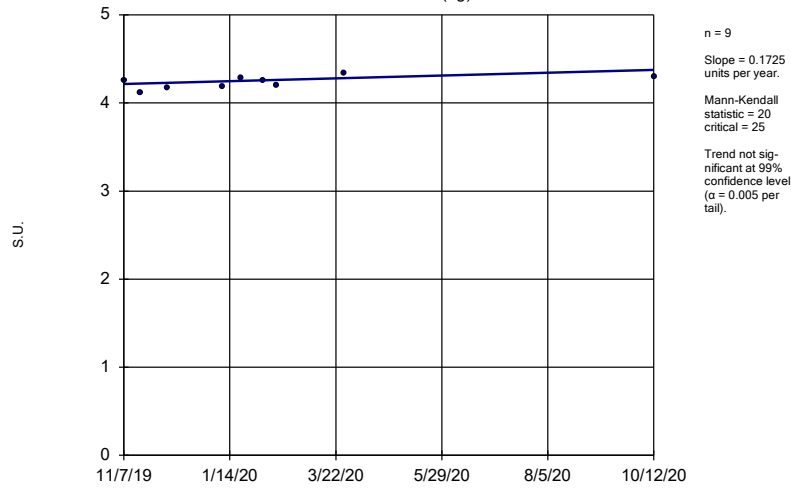
Sen's Slope Estimator

MCM-17



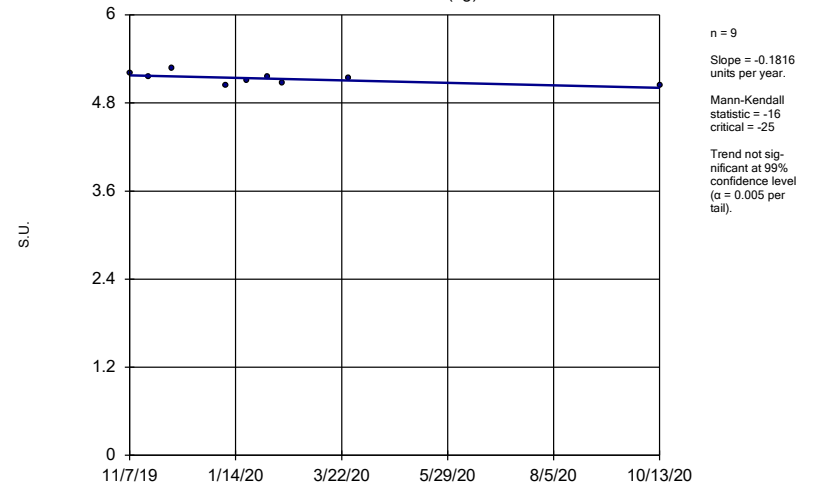
Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-18 (bg)



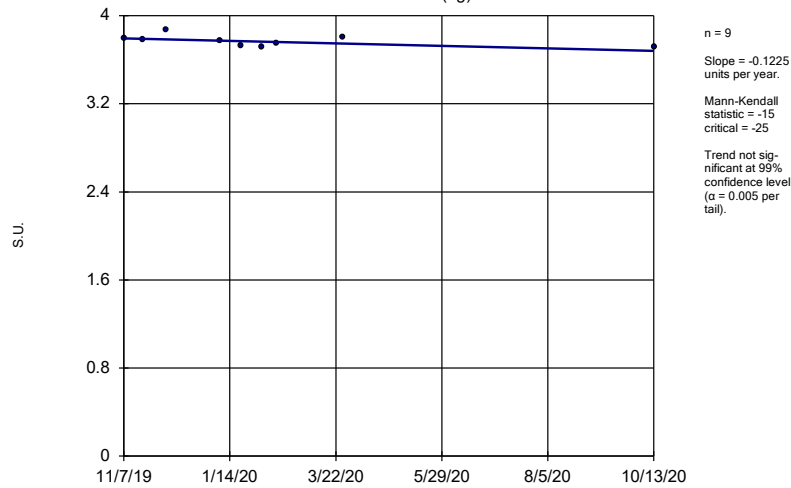
Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-19 (bg)



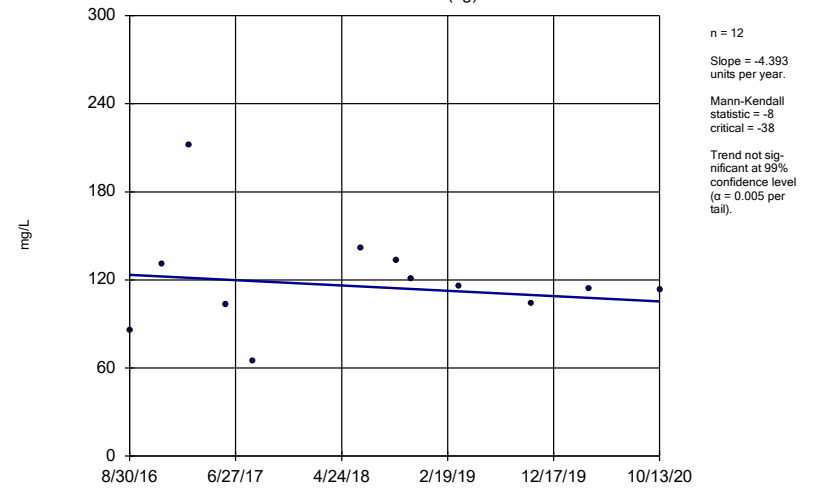
Constituent: pH Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-20 (bg)



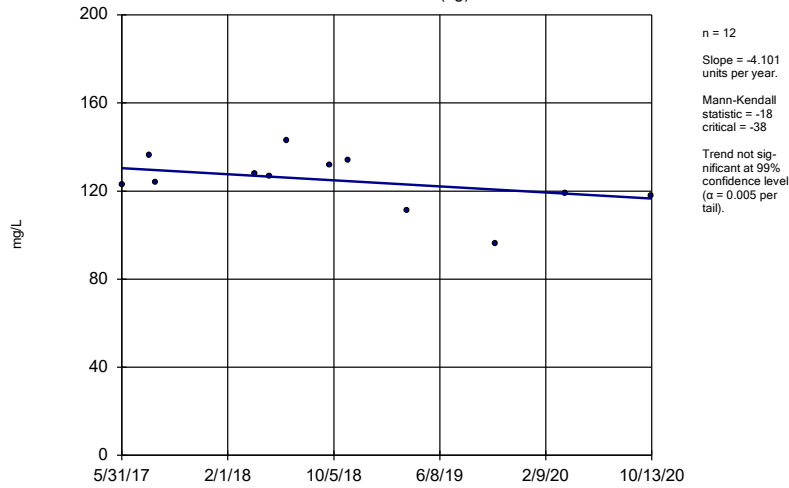
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-01 (bg)



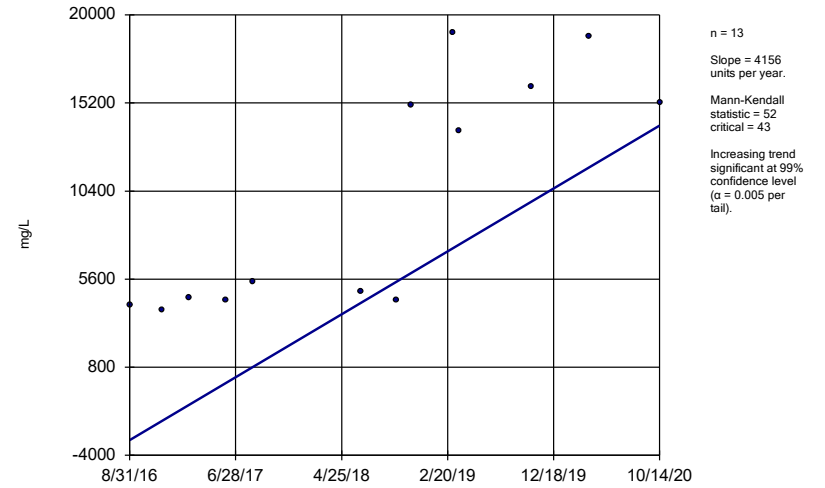
Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-02 (bg)



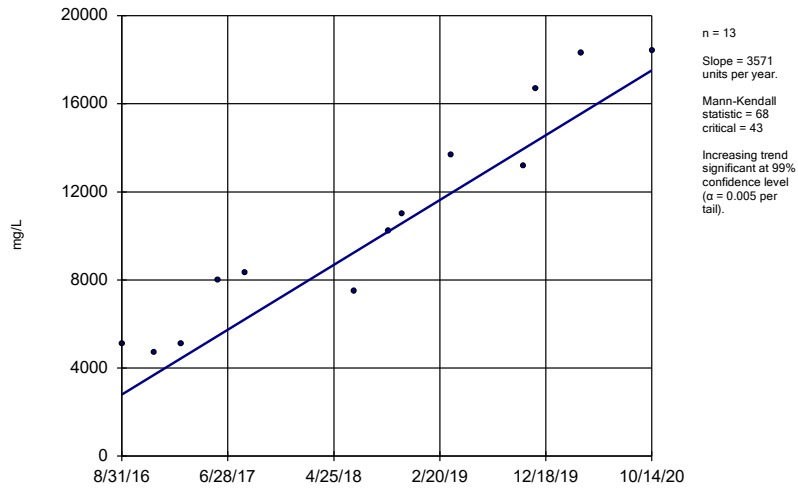
Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-06



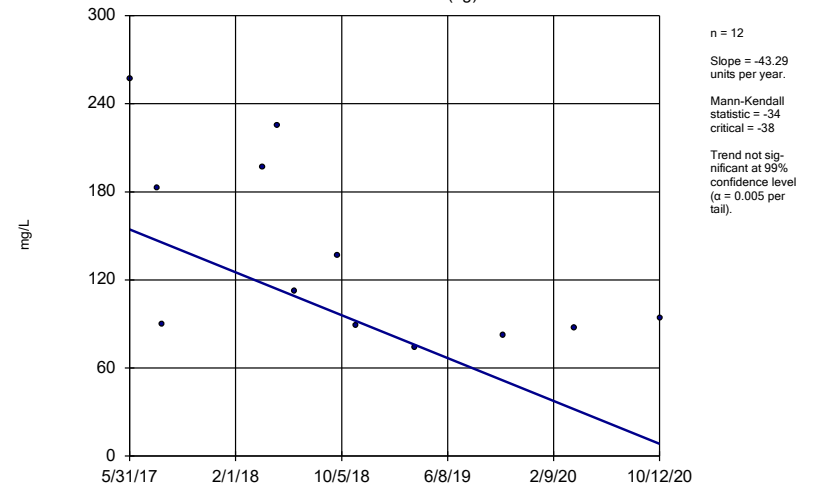
Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator
MCM-07



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

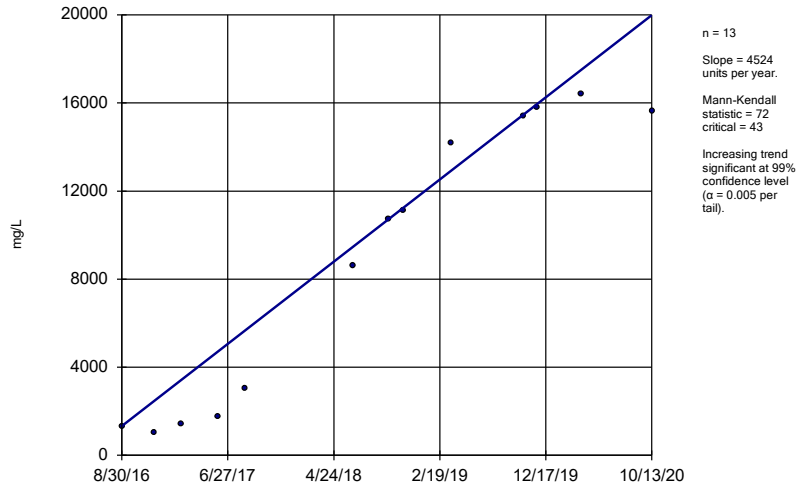
Sen's Slope Estimator
MCM-11 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

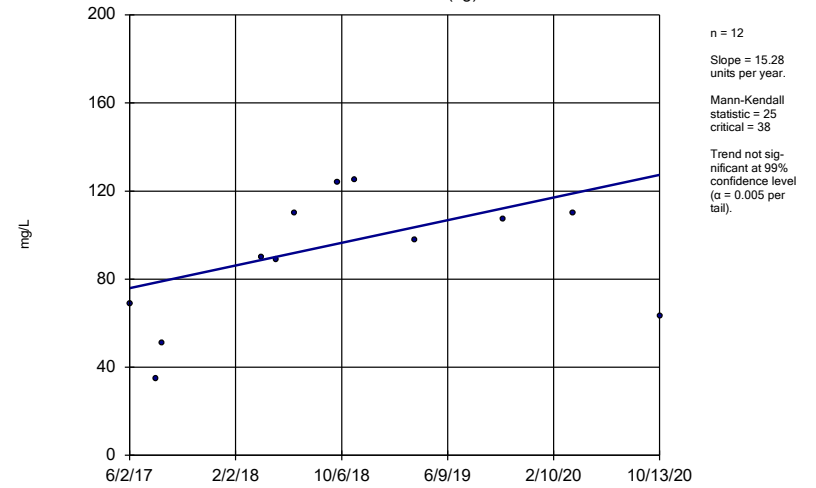
MCM-14



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

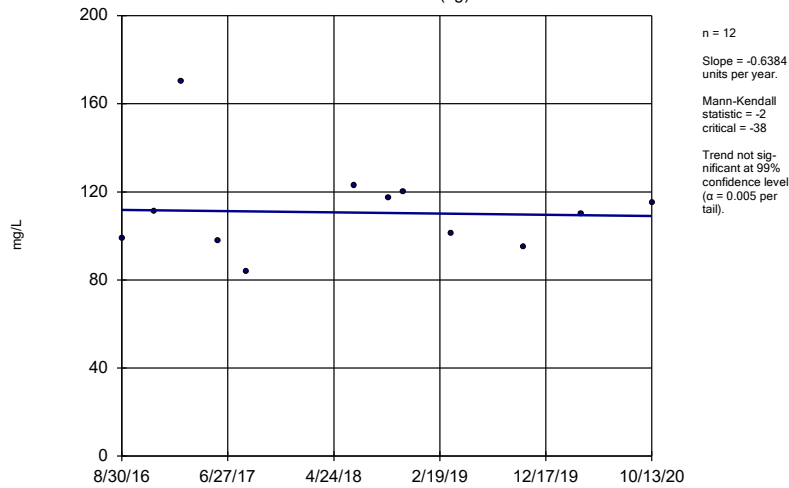
MCM-15 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

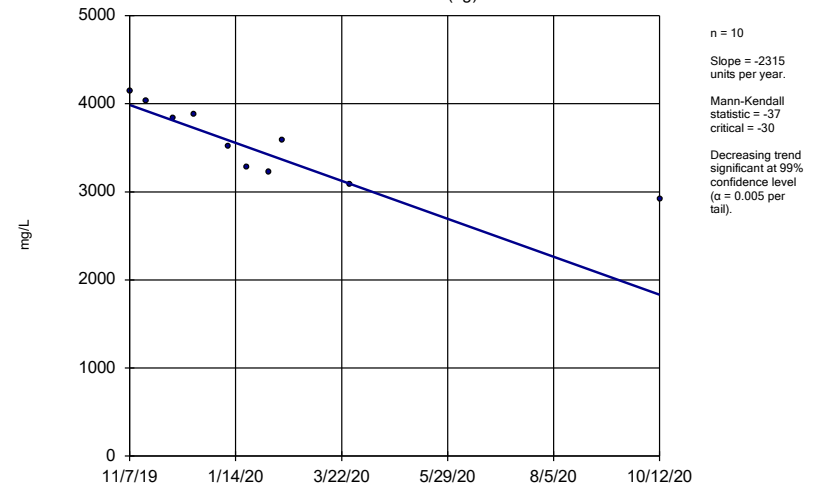
MCM-16 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

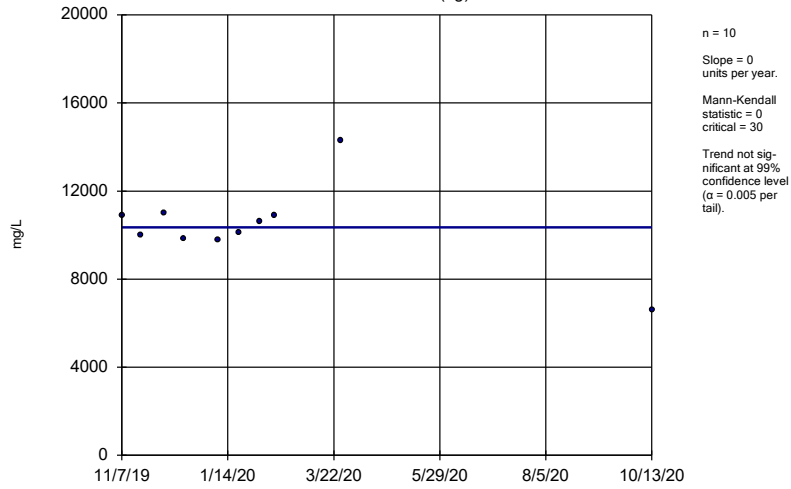
MCM-18 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

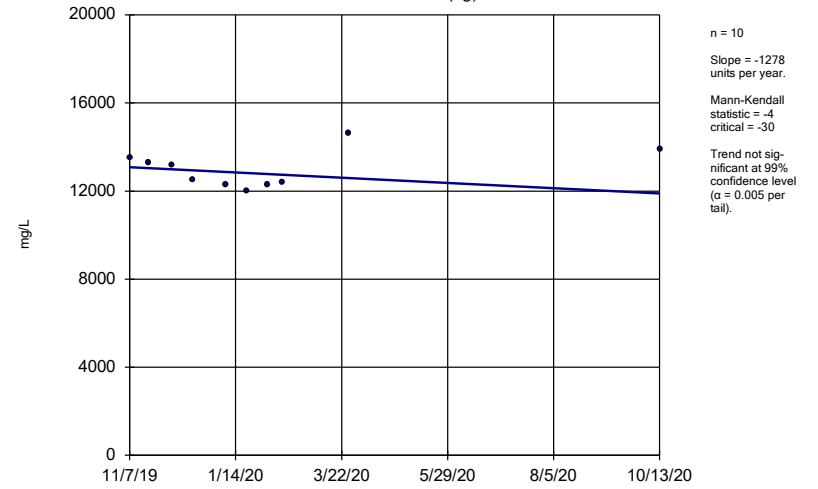
MCM-19 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

Sen's Slope Estimator

MCM-20 (bg)



Constituent: Total Dissolved Solids [TDS] Analysis Run 12/10/2020 3:33 PM View: Appendix III Trend Tes
Plant McManus Client: Southern Company Data: McManus Ash Pond

FIGURE F.

Upper Tolerance Limit Summary Table

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 1:06 PM

<u>Constituent</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Sig.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	0.003	n/a	n/a	83	n/a	n/a	93.98	n/a	n/a	0.01416	NP Inter(NDs)
Arsenic (mg/L)	0.031	n/a	n/a	94	n/a	n/a	14.89	n/a	n/a	0.008054	NP Inter(normality)
Barium (mg/L)	0.22	n/a	n/a	91	n/a	n/a	0	n/a	n/a	0.009394	NP Inter(normality)
Beryllium (mg/L)	0.021	n/a	n/a	90	n/a	n/a	22.22	n/a	n/a	0.009888	NP Inter(normality)
Cadmium (mg/L)	0.0025	n/a	n/a	77	n/a	n/a	92.21	n/a	n/a	0.01926	NP Inter(NDs)
Chromium (mg/L)	0.011	n/a	n/a	83	n/a	n/a	46.99	n/a	n/a	0.01416	NP Inter(normality)
Cobalt (mg/L)	0.036	n/a	n/a	90	n/a	n/a	74.44	n/a	n/a	0.009888	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	55.8	n/a	n/a	89	n/a	n/a	0	n/a	n/a	0.01041	NP Inter(normality)
Fluoride (mg/L)	1.5	n/a	n/a	95	n/a	n/a	40	n/a	n/a	0.007651	NP Inter(normality)
Lead (mg/L)	0.005	n/a	n/a	90	n/a	n/a	78.89	n/a	n/a	0.009888	NP Inter(NDs)
Lithium (mg/L)	0.03	n/a	n/a	87	n/a	n/a	52.87	n/a	n/a	0.01153	NP Inter(NDs)
Mercury (mg/L)	0.0007	n/a	n/a	77	n/a	n/a	93.51	n/a	n/a	0.01926	NP Inter(NDs)
Molybdenum (mg/L)	0.01	n/a	n/a	82	n/a	n/a	93.9	n/a	n/a	0.01491	NP Inter(NDs)
Selenium (mg/L)	0.15	n/a	n/a	91	n/a	n/a	59.34	n/a	n/a	0.009394	NP Inter(NDs)
Thallium (mg/L)	0.001	n/a	n/a	82	n/a	n/a	91.46	n/a	n/a	0.01491	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	0.03	0.04	0.03
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 Printed 12/10/2020, 3:38 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.04	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.

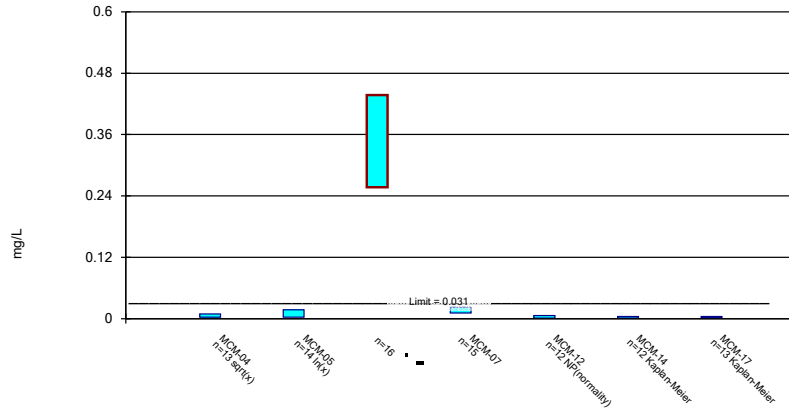
Federal Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:38 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008885	0.00297	0.031	No 13	0.006192	0.004404	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.01701	0.003101	0.031	No 14	0.01329	0.01351	14.29	None	ln(x)	0.01	Param.
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02247	0.01077	0.031	No 15	0.01662	0.008628	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.0057	0.0007	0.031	No 12	0.003133	0.002126	41.67	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.003992	0.000891	0.031	No 12	0.003842	0.002106	41.67	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-17	0.003985	0.001615	0.031	No 13	0.003569	0.001806	30.77	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	MCM-04	0.1122	0.02821	2	No 12	0.0765	0.08077	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No 12	0.05243	0.1256	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0508	2	No 13	0.09681	0.04945	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No 12	0.1585	0.1054	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1313	0.1115	2	No 12	0.1214	0.01265	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1172	0.04197	2	No 12	0.07959	0.04795	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1207	0.05127	2	No 12	0.08599	0.04425	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.0002	0.021	No 12	0.0009842	0.001226	25	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 12	0.002755	0.0008504	91.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.000078	0.021	No 12	0.002273	0.001316	75	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001046	0.0004115	0.021	No 12	0.0008067	0.0007217	8.333	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No 12	0.001796	0.001489	58.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No 12	0.0009367	0.001246	25	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-04	0.0085	0.0048	0.036	No 13	0.005808	0.001585	53.85	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 12	0.004742	0.0008949	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.005	0.0009	0.036	No 13	0.004323	0.001657	84.62	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.005	0.0011	0.036	No 12	0.004675	0.001126	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.005	0.0005	0.036	No 12	0.003147	0.00229	58.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.005	0.0006	0.036	No 12	0.004633	0.00127	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.005	0.00052	0.036	No 12	0.003885	0.002018	75	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.51	3.244	55.8	No 12	4.946	2.295	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.292	1.408	55.8	No 12	1.85	0.5634	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.31	2.299	55.8	No 12	4.977	3.404	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.49	5.019	55.8	No 13	7.255	3.006	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.221	2.079	55.8	No 12	2.65	0.7272	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.357	2.466	55.8	No 13	4.911	3.289	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.245	2.31	55.8	No 13	4.508	2.942	0	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.1852	0.05378	4	No 13	0.1472	0.1369	46.15	Kaplan-Meier	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.569	0.3167	4	No 14	0.4629	0.2203	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3095	0.0941	4	No 13	0.2114	0.156	38.46	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No 14	0.319	0.3039	35.71	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.301	0.9339	4	No 13	1.085	0.3385	7.692	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No 14	0.2503	0.208	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No 14	0.6024	0.5186	28.57	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No 12	0.0046	0.001386	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.015	No 13	0.004625	0.001353	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.015	No 12	0.003782	0.002204	75	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.015	No 12	0.003372	0.002405	66.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.015	No 12	0.00459	0.00142	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.015	No 12	0.003412	0.002345	66.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.04	No 12	0.0074	0.00674	41.67	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.04	No 12	0.07259	0.1568	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.04	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.06471	0.01819	0.04	No 13	0.04518	0.0395	0	None	x^(1/3)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01281	0.01079	0.04	No 12	0.0118	0.001281	8.333	None	No	0.01	Param.
Lithium (mg/L)	MCM-14	0.05107	0.02921	0.04	No 13	0.03529	0.01949	7.692	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02511	0.01348	0.04	No 12	0.01929	0.00741	0	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No 12	0.009375	0.002165	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.002	0.15	No 12	0.007425	0.003809	66.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.0015	0.15	No 13	0.006077	0.003738	38.46	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0021	0.15	No 12	0.005983	0.003667	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0017	0.15	No 12	0.005267	0.004188	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0018	0.15	No 12	0.006358	0.003947	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No 12	0.006342	0.003841	41.67	None	No	0.01	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

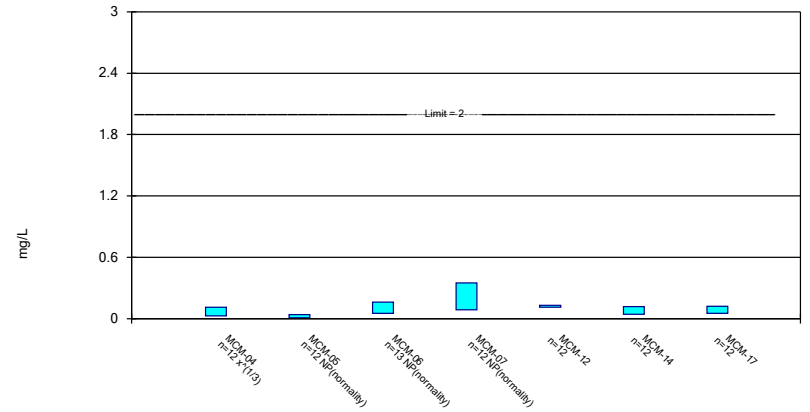
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/10/2020 3:37 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

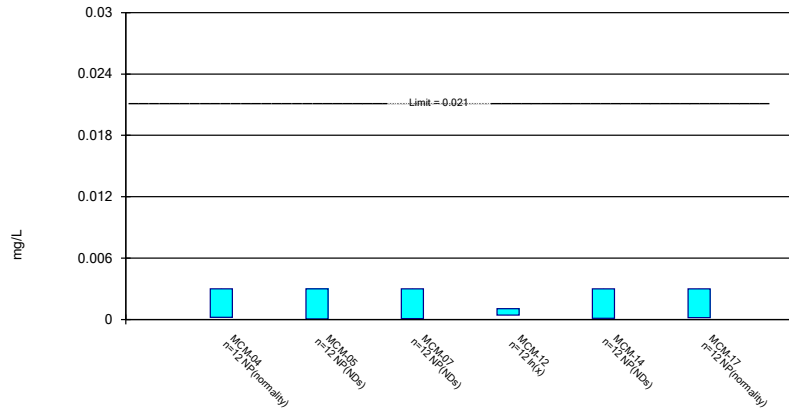
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Constituent: Barium Analysis Run 12/10/2020 3:37 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

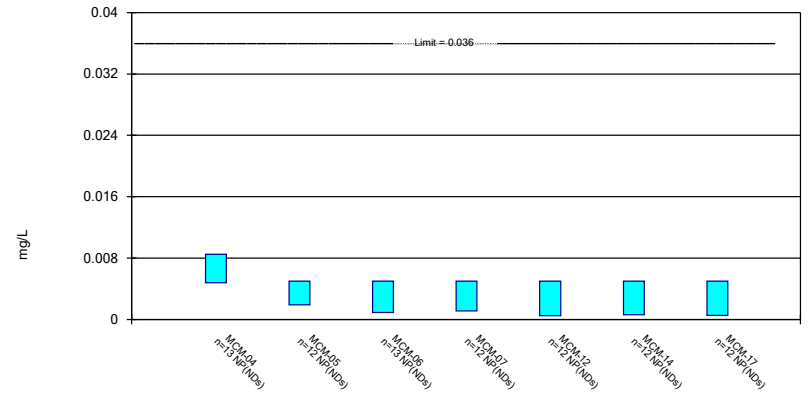
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 12/10/2020 3:37 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

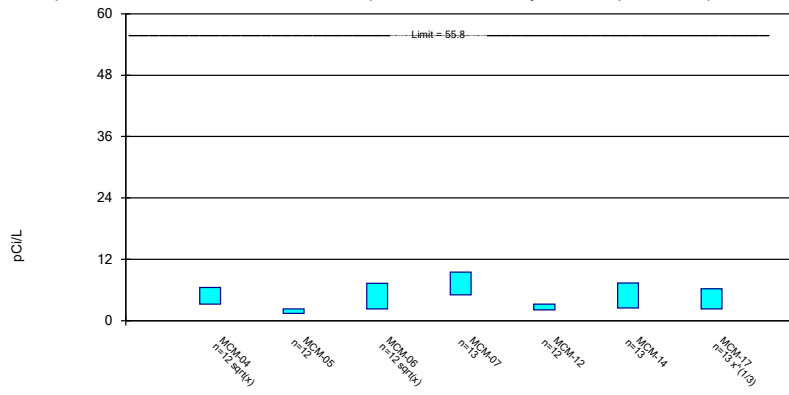
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 12/10/2020 3:37 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric Confidence Interval

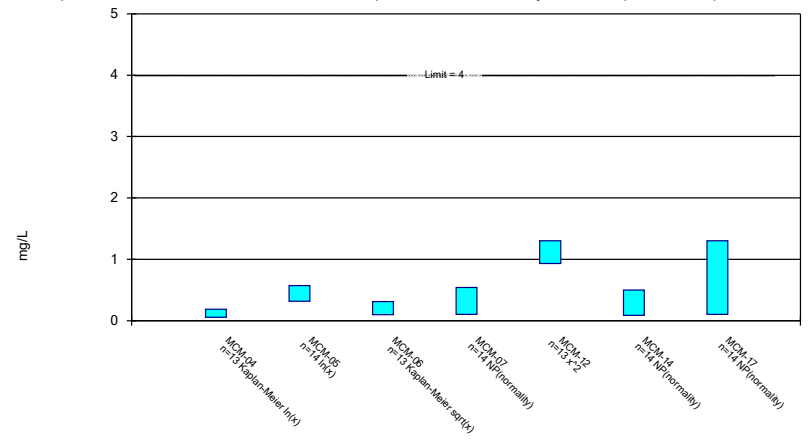
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/10/2020 3:37 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

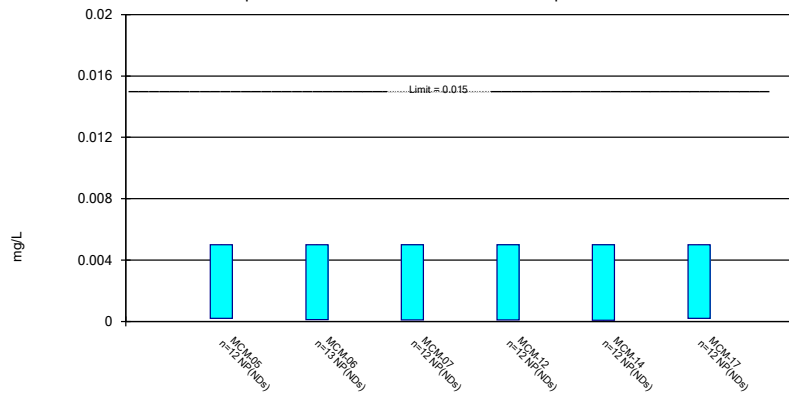
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/10/2020 3:37 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

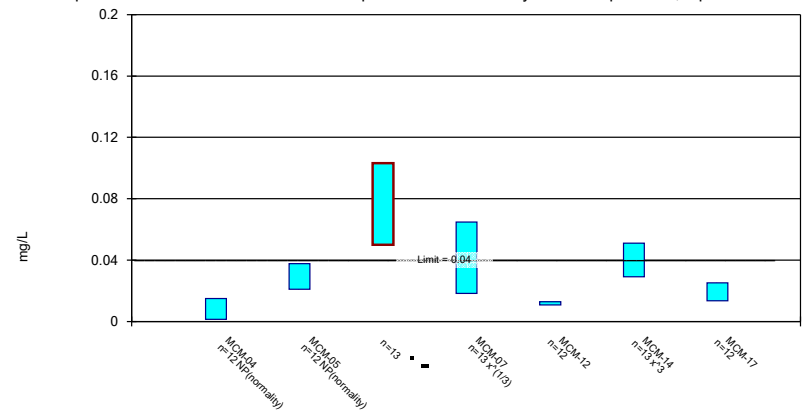
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 12/10/2020 3:37 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

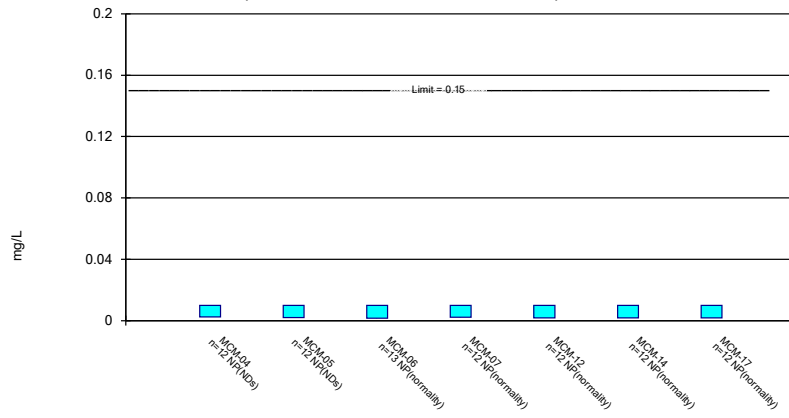
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 12/10/2020 3:37 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 12/10/2020 3:37 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

FIGURE I.

State Confidence Intervals - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:36 PM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig. N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.03	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.

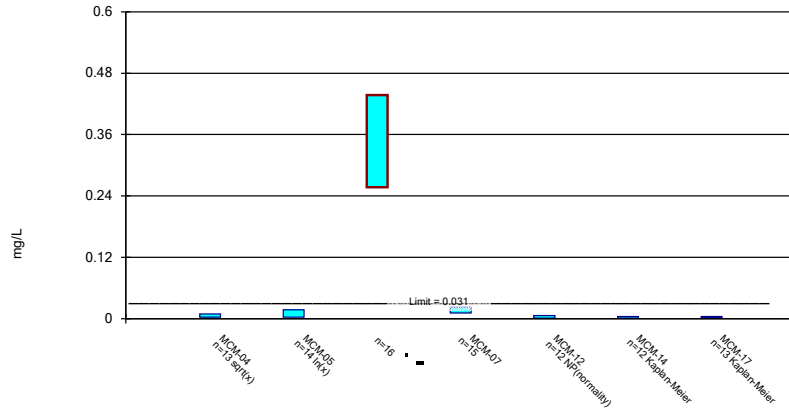
State Confidence Intervals - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 12/10/2020, 3:36 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008885	0.00297	0.031	No 13	0.006192	0.004404	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.01701	0.003101	0.031	No 14	0.01329	0.01351	14.29	None	ln(x)	0.01	Param.
Arsenic (mg/L)	MCM-06	0.4372	0.2568	0.031	Yes 16	0.347	0.1386	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02247	0.01077	0.031	No 15	0.01662	0.008628	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.0057	0.0007	0.031	No 12	0.003133	0.002126	41.67	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.003992	0.000891	0.031	No 12	0.003842	0.002106	41.67	Kaplan-Meier	No	0.01	Param.
Arsenic (mg/L)	MCM-17	0.003985	0.001615	0.031	No 13	0.003569	0.001806	30.77	Kaplan-Meier	No	0.01	Param.
Barium (mg/L)	MCM-04	0.1122	0.02821	2	No 12	0.0765	0.08077	0	None	x^(1/3)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No 12	0.05243	0.1256	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0508	2	No 13	0.09681	0.04945	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No 12	0.1585	0.1054	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1313	0.1115	2	No 12	0.1214	0.01265	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1172	0.04197	2	No 12	0.07959	0.04795	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1207	0.05127	2	No 12	0.08599	0.04425	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.003	0.0002	0.021	No 12	0.0009842	0.001226	25	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 12	0.002755	0.0008504	91.67	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.003	0.000078	0.021	No 12	0.002273	0.001316	75	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.001046	0.0004115	0.021	No 12	0.0008067	0.0007217	8.333	None	ln(x)	0.01	Param.
Beryllium (mg/L)	MCM-14	0.003	0.000097	0.021	No 12	0.001796	0.001489	58.33	None	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-17	0.003	0.00018	0.021	No 12	0.0009367	0.001246	25	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-04	0.0085	0.0048	0.036	No 13	0.005808	0.001585	53.85	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 12	0.004742	0.0008949	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.005	0.0009	0.036	No 13	0.004323	0.001657	84.62	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.005	0.0011	0.036	No 12	0.004675	0.001126	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.005	0.0005	0.036	No 12	0.003147	0.00229	58.33	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-14	0.005	0.0006	0.036	No 12	0.004633	0.00127	91.67	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.005	0.00052	0.036	No 12	0.003885	0.002018	75	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.51	3.244	55.8	No 12	4.946	2.295	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.292	1.408	55.8	No 12	1.85	0.5634	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.31	2.299	55.8	No 12	4.977	3.404	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.49	5.019	55.8	No 13	7.255	3.006	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.221	2.079	55.8	No 12	2.65	0.7272	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.357	2.466	55.8	No 13	4.911	3.289	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.245	2.31	55.8	No 13	4.508	2.942	0	None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.1852	0.05378	4	No 13	0.1472	0.1369	46.15	Kaplan-Meier	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.569	0.3167	4	No 14	0.4629	0.2203	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3095	0.0941	4	No 13	0.2114	0.156	38.46	Kaplan-Meier	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No 14	0.319	0.3039	35.71	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.301	0.9339	4	No 13	1.085	0.3385	7.692	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No 14	0.2503	0.208	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No 14	0.6024	0.5186	28.57	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No 12	0.0046	0.001386	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.005	No 13	0.004625	0.001353	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.005	No 12	0.003782	0.002204	75	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.005	No 12	0.003372	0.002405	66.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-14	0.005	0.00008	0.005	No 12	0.00459	0.00142	91.67	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.005	No 12	0.003412	0.002345	66.67	None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.03	No 12	0.0074	0.00674	41.67	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.03	No 12	0.07259	0.1568	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1033	0.05003	0.03	Yes 13	0.07665	0.03579	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.06471	0.01819	0.03	No 13	0.04518	0.0395	0	None	x^(1/3)	0.01	Param.
Lithium (mg/L)	MCM-12	0.01281	0.01079	0.03	No 12	0.0118	0.001281	8.333	None	No	0.01	Param.
Lithium (mg/L)	MCM-14	0.05107	0.02921	0.03	No 13	0.03529	0.01949	7.692	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02511	0.01348	0.03	No 12	0.01929	0.00741	0	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.01	0.0025	0.15	No 12	0.009375	0.002165	91.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-05	0.01	0.002	0.15	No 12	0.007425	0.003809	66.67	None	No	0.01	NP (NDs)
Selenium (mg/L)	MCM-06	0.01	0.0015	0.15	No 13	0.006077	0.003738	38.46	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.01	0.0021	0.15	No 12	0.005983	0.003667	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.01	0.0017	0.15	No 12	0.005267	0.004188	41.67	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.01	0.0018	0.15	No 12	0.006358	0.003947	50	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.01	0.0018	0.15	No 12	0.006342	0.003841	41.67	None	No	0.01	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

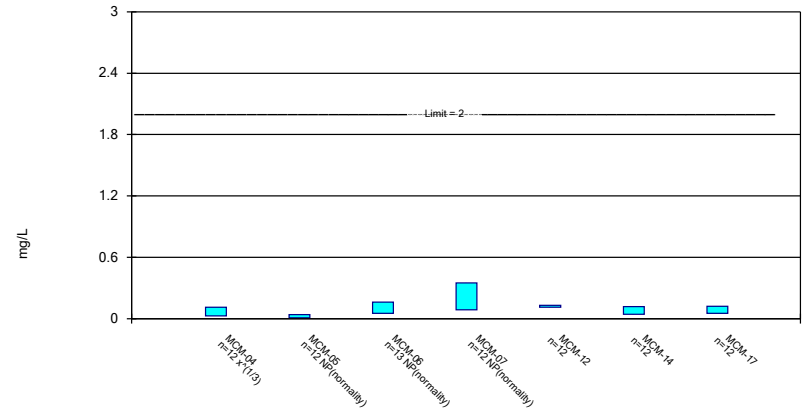
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 12/10/2020 3:35 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

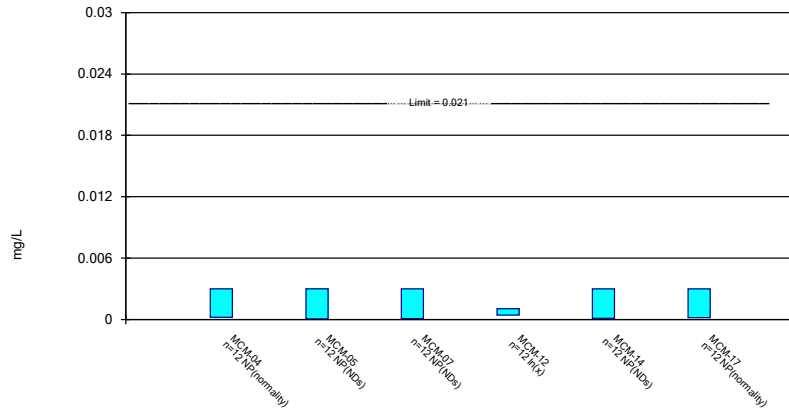
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Constituent: Barium Analysis Run 12/10/2020 3:35 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

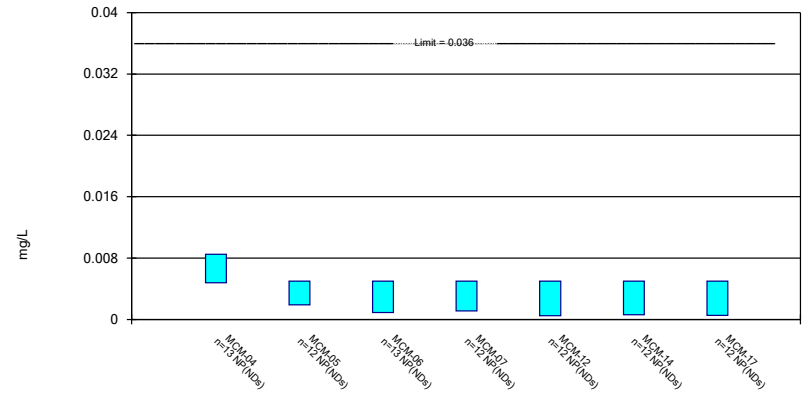
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 12/10/2020 3:35 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

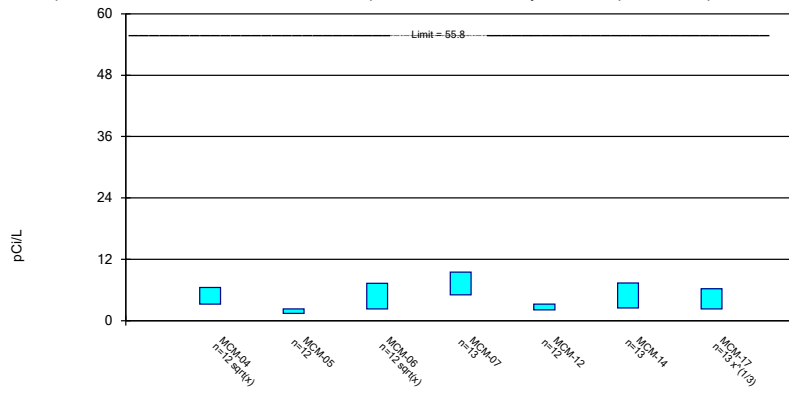
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Constituent: Cobalt Analysis Run 12/10/2020 3:35 PM View: Appendix IV
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric Confidence Interval

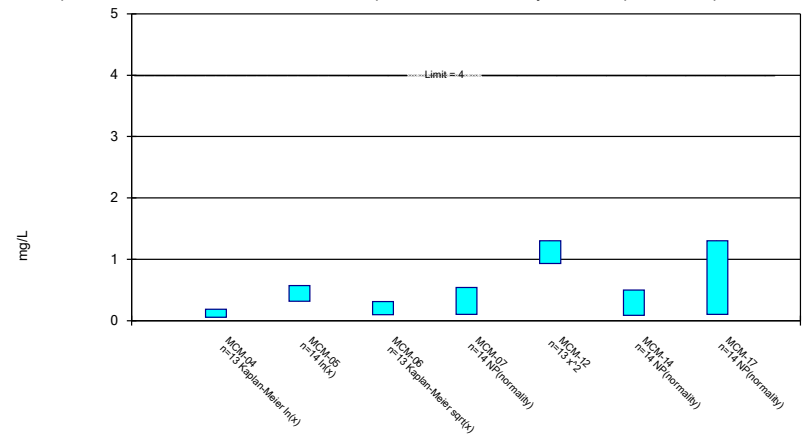
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 12/10/2020 3:35 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

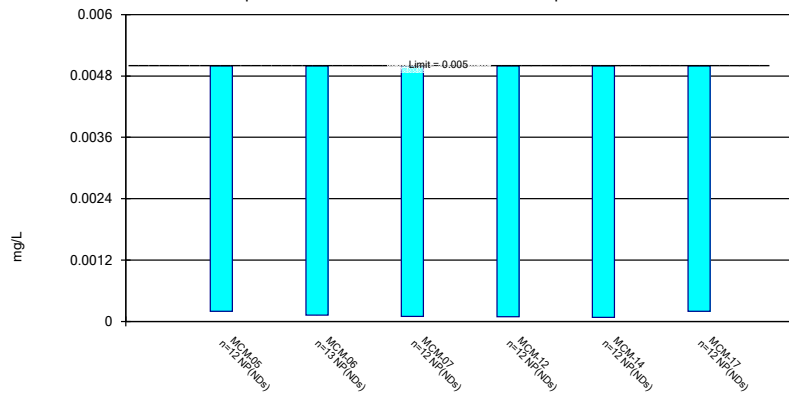
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 12/10/2020 3:35 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

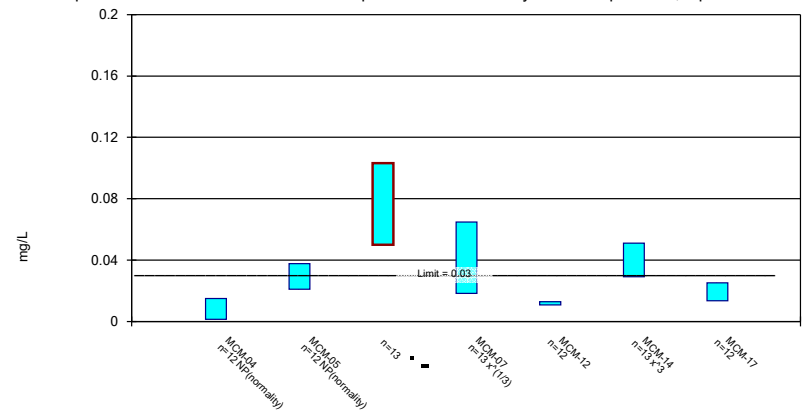
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 12/10/2020 3:35 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric and Non-Parametric (NP) Confidence Interval

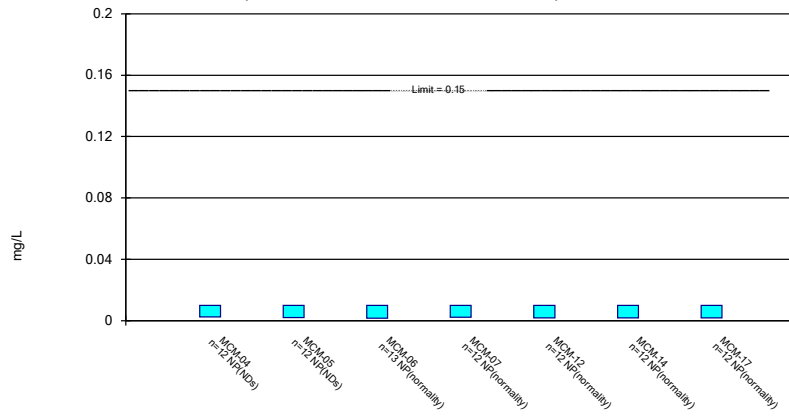
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Constituent: Lithium Analysis Run 12/10/2020 3:35 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

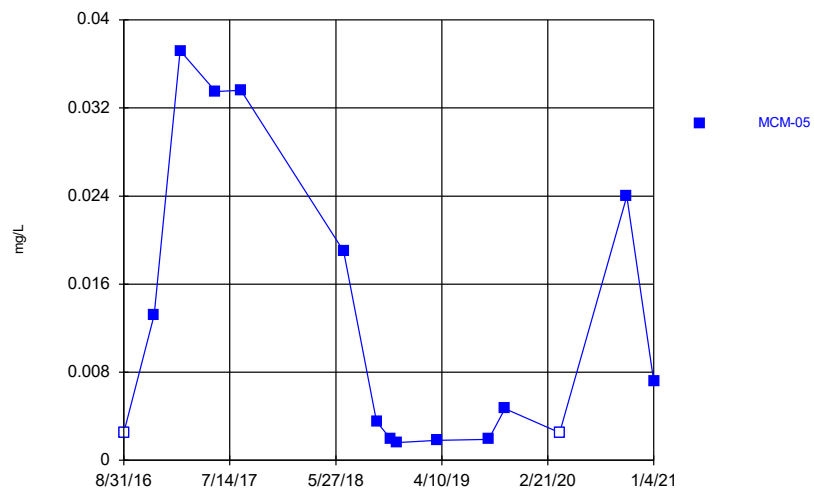
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 12/10/2020 3:35 PM View: Appendix IV
Plant McManus Client: Southern Company Data: McManus Ash Pond

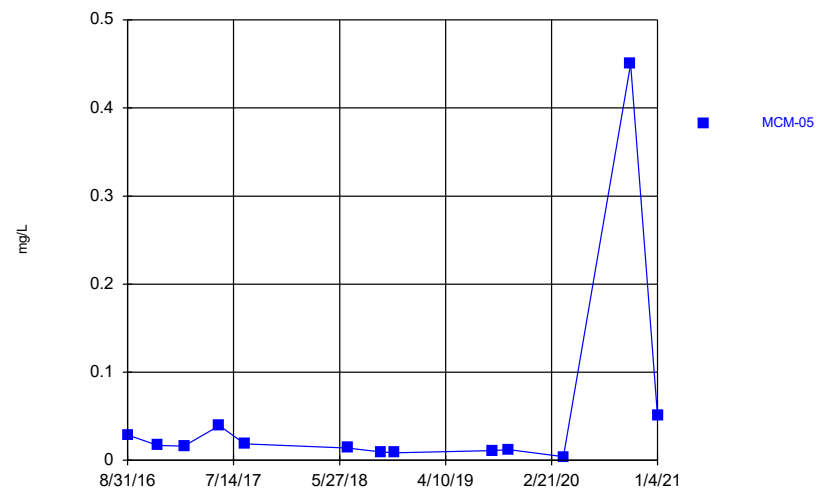
FIGURE J.

Time Series



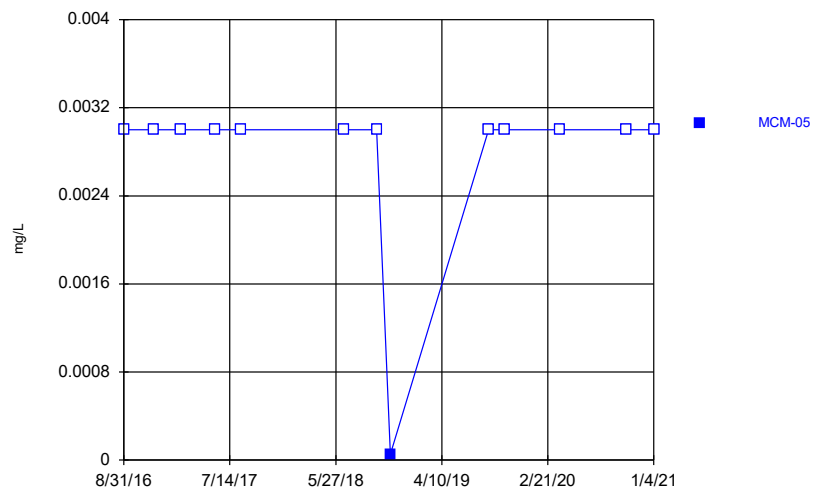
Constituent: Arsenic Analysis Run 2/16/2021 3:26 PM View: Addendum
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



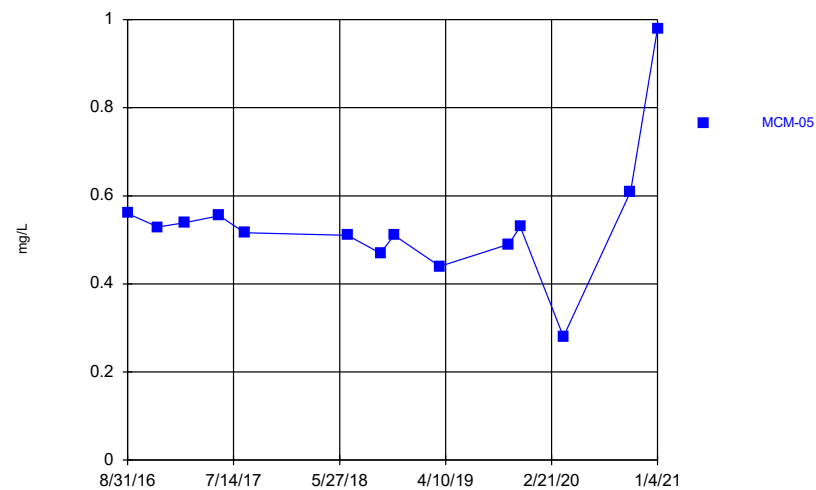
Constituent: Barium Analysis Run 2/16/2021 3:26 PM View: Addendum
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



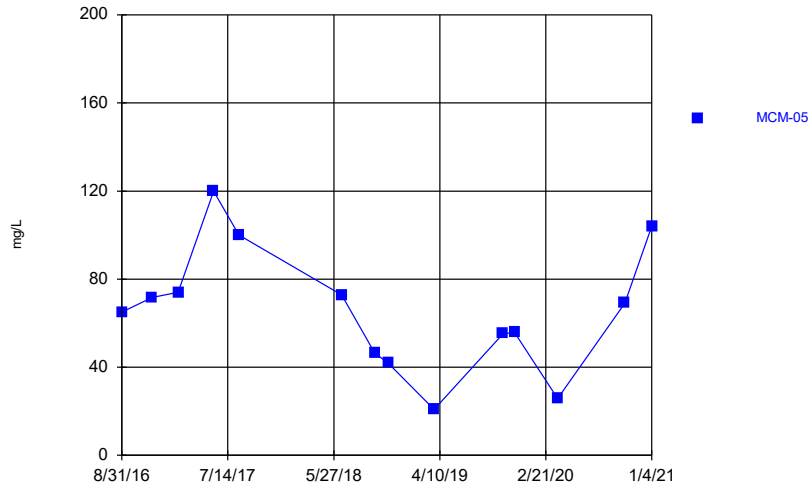
Constituent: Beryllium Analysis Run 2/16/2021 3:26 PM View: Addendum
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



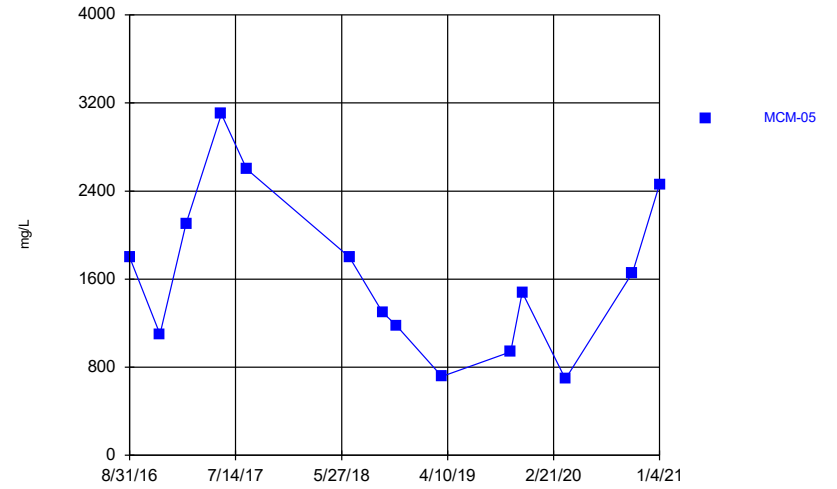
Constituent: Boron Analysis Run 2/16/2021 3:26 PM View: Addendum
 Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



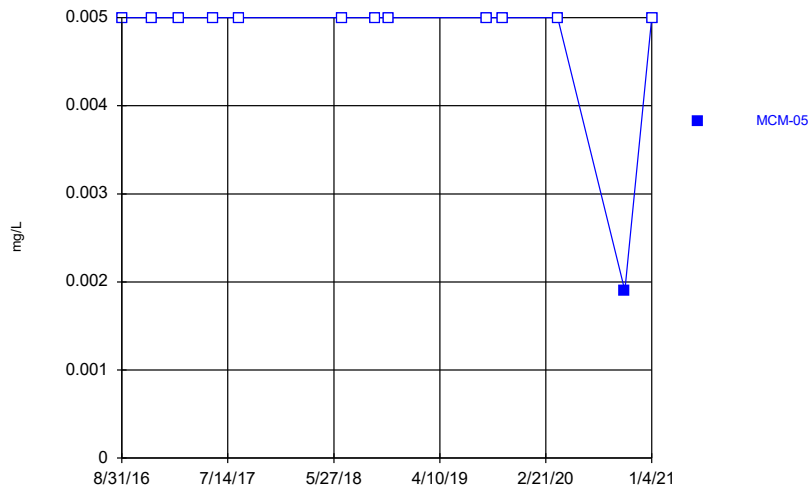
Constituent: Calcium Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



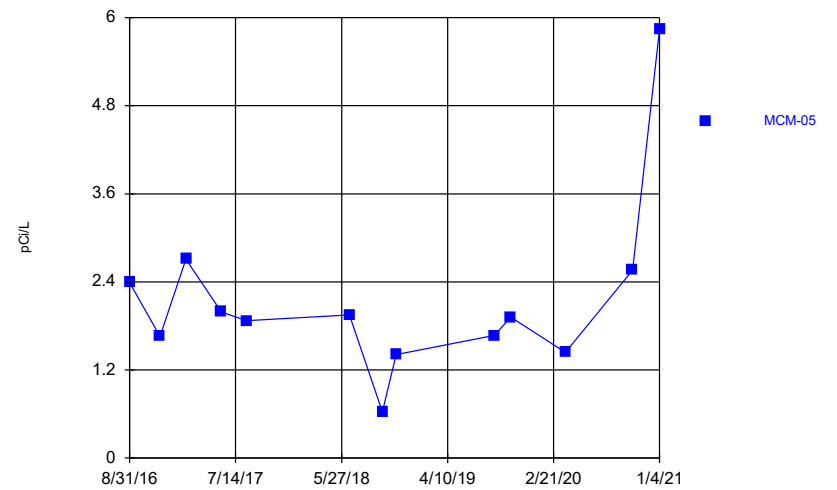
Constituent: Chloride Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



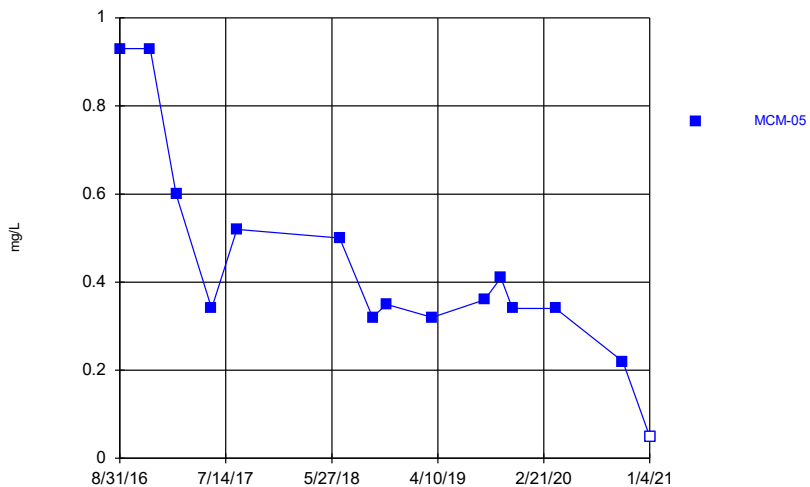
Constituent: Cobalt Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



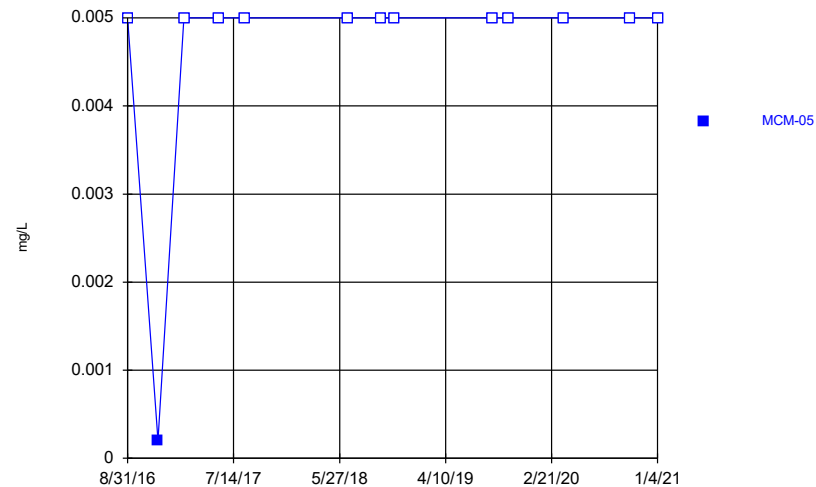
Constituent: Combined Radium 226 + 228 Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



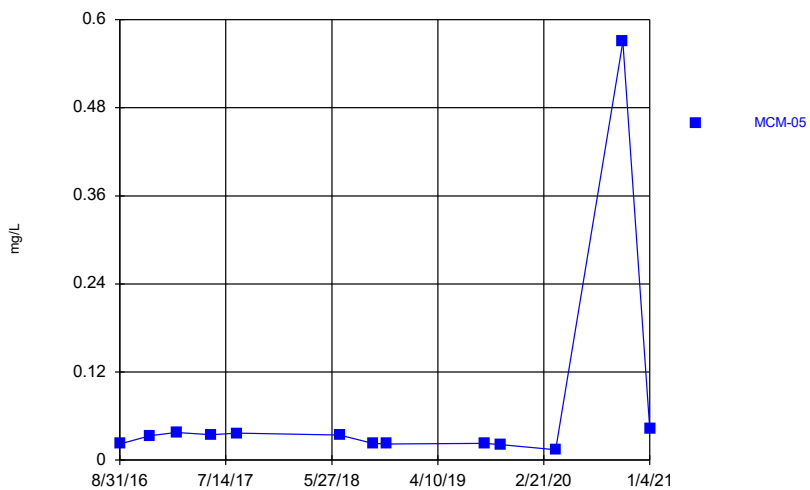
Constituent: Fluoride Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



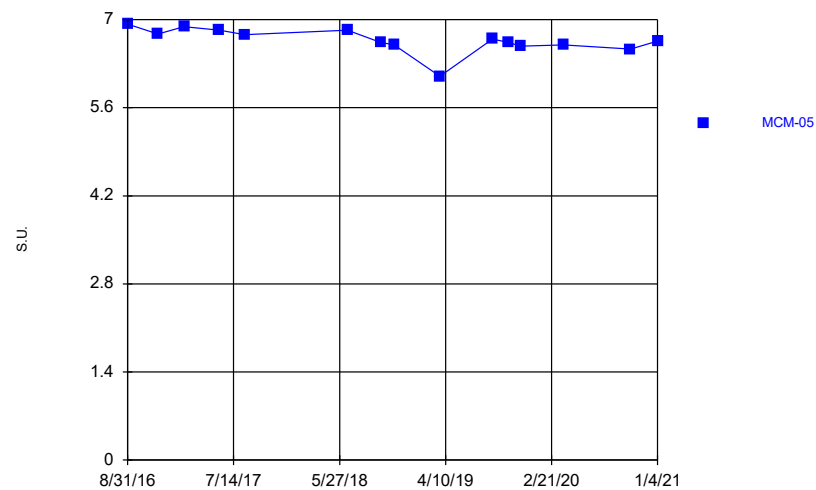
Constituent: Lead Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



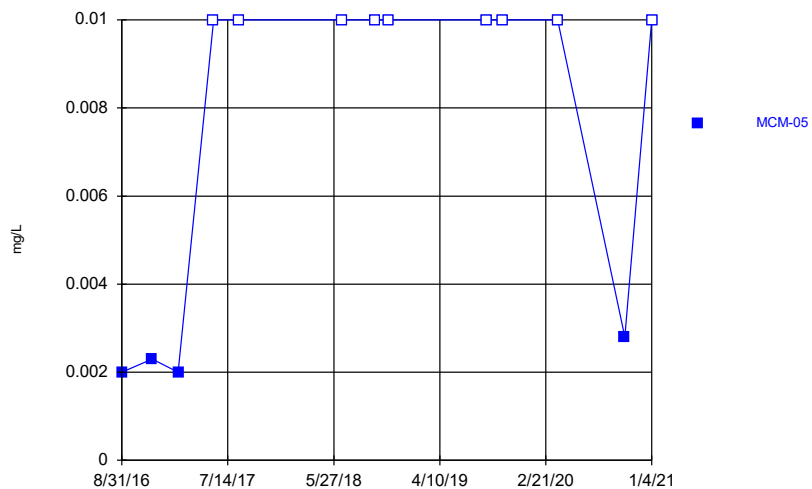
Constituent: Lithium Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



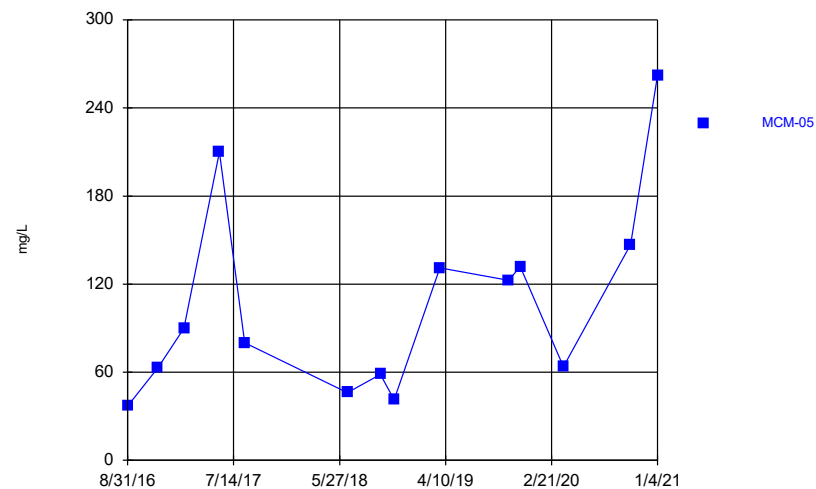
Constituent: pH Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



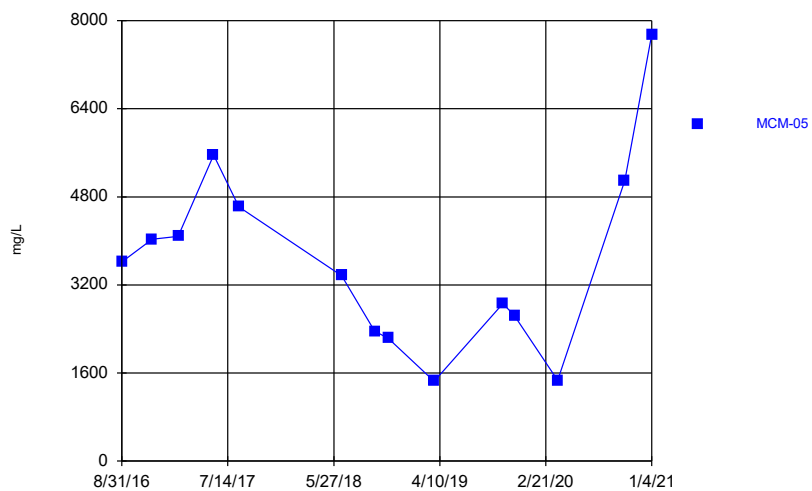
Constituent: Selenium Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



Constituent: Sulfate Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series



Constituent: Total Dissolved Solids [TDS] Analysis Run 2/16/2021 3:26 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Time Series

Constituent: Arsenic (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	0.0132
2/16/2017	0.0372
6/2/2017	0.0335
8/17/2017	0.0336
6/20/2018	0.019
9/27/2018	0.0035 (J)
11/7/2018	0.002 (J)
11/27/2018	0.0016 (J)
3/26/2019	0.0018 (J)
8/28/2019	0.0019 (J)
10/16/2019	0.0047 (J)
3/28/2020	<0.005
10/15/2020	0.024
1/4/2021	0.0072

Time Series

Constituent: Barium (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.0289
11/30/2016	0.0168
2/16/2017	0.016
6/2/2017	0.0393 (J)
8/17/2017	0.0188
6/20/2018	0.014
9/27/2018	0.0097 (J)
11/7/2018	0.0085 (J)
8/28/2019	0.011
10/16/2019	0.012
3/28/2020	0.0041 (J)
10/15/2020	0.45
1/4/2021	0.051

Time Series

Constituent: Beryllium (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.003
11/30/2016	<0.003
2/16/2017	<0.003
6/2/2017	<0.003
8/17/2017	<0.003
6/20/2018	<0.003
9/27/2018	<0.003
11/7/2018	5.4E-05 (J)
8/28/2019	<0.003
10/16/2019	<0.003
3/28/2020	<0.003
10/15/2020	<0.003
1/4/2021	<0.003

Time Series

Constituent: Boron (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.56
11/30/2016	0.529
2/16/2017	0.539
6/2/2017	0.555
8/17/2017	0.516
6/20/2018	0.51
9/27/2018	0.47
11/7/2018	0.51
3/24/2019	0.44
10/16/2019	0.49
11/20/2019	0.53
3/28/2020	0.28 (J)
10/15/2020	0.61
1/4/2021	0.98

Time Series

Constituent: Calcium (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	65
11/30/2016	71.7
2/16/2017	74
6/2/2017	120
8/17/2017	100
6/20/2018	72.8
9/27/2018	46.6
11/7/2018	41.8
3/24/2019	20.9 (J)
10/16/2019	55.2
11/20/2019	55.8
3/28/2020	25.8
10/15/2020	69.1
1/4/2021	104

Time Series

Constituent: Chloride (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	1800
11/30/2016	1100
2/16/2017	2100
6/2/2017	3100
8/17/2017	2600
6/20/2018	1800
9/27/2018	1300
11/7/2018	1180
3/24/2019	717
10/16/2019	941 (D)
11/20/2019	1480
3/28/2020	693
10/15/2020	1660
1/4/2021	2460

Time Series

Constituent: Cobalt (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	<0.005
2/16/2017	<0.005
6/2/2017	<0.005
8/17/2017	<0.005
6/20/2018	<0.005
9/27/2018	<0.005
11/7/2018	<0.005
8/28/2019	<0.005
10/16/2019	<0.005
3/28/2020	<0.005
10/15/2020	0.0019 (J)
1/4/2021	<0.005

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	2.39 (D)
11/30/2016	1.66
2/16/2017	2.71
6/2/2017	1.99
8/17/2017	1.87
6/20/2018	1.95
9/27/2018	0.629 (U)
11/7/2018	1.41 (U)
8/28/2019	1.67
10/16/2019	1.92
3/28/2020	1.44 (U)
10/15/2020	2.56
1/4/2021	5.84

Time Series

Constituent: Fluoride (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.93
11/30/2016	0.93
2/16/2017	0.6
6/2/2017	0.34
8/17/2017	0.52
6/20/2018	0.5
9/27/2018	0.32
11/7/2018	0.35
3/24/2019	0.32
8/28/2019	0.36
10/16/2019	0.41
11/20/2019	0.34
3/28/2020	0.34
10/15/2020	0.22
1/4/2021	<0.1

Time Series

Constituent: Lead (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	0.0002 (J)
2/16/2017	<0.005
6/2/2017	<0.005
8/17/2017	<0.005
6/20/2018	<0.005
9/27/2018	<0.005
11/7/2018	<0.005
8/28/2019	<0.005
10/16/2019	<0.005
3/28/2020	<0.005
10/15/2020	<0.005
1/4/2021	<0.005

Time Series

Constituent: Lithium (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.0219 (J)
11/30/2016	0.0333 (J)
2/16/2017	0.0376 (J)
6/2/2017	0.0346 (J)
8/17/2017	0.0367 (J)
6/20/2018	0.034 (J)
9/27/2018	0.023 (J)
11/7/2018	0.022 (J)
8/28/2019	0.023 (J)
10/16/2019	0.021 (J)
3/28/2020	0.014 (J)
10/15/2020	0.57
1/4/2021	0.043 (J)

Time Series

Constituent: pH (S.U.) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	6.93
11/30/2016	6.77
2/16/2017	6.89
6/2/2017	6.83
8/17/2017	6.76
6/20/2018	6.83
9/27/2018	6.64
11/7/2018	6.6
3/24/2019	6.1
8/28/2019	6.69
10/16/2019	6.64
11/20/2019	6.58
3/28/2020	6.6
10/15/2020	6.53
1/4/2021	6.66

Time Series

Constituent: Selenium (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.002 (J)
11/30/2016	0.0023 (J)
2/16/2017	0.002 (J)
6/2/2017	<0.01
8/17/2017	<0.01
6/20/2018	<0.01
9/27/2018	<0.01
11/7/2018	<0.01
8/28/2019	<0.01
10/16/2019	<0.01
3/28/2020	<0.01
10/15/2020	0.0028 (J)
1/4/2021	<0.01

Time Series

Constituent: Sulfate (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	37
11/30/2016	63
2/16/2017	90
6/2/2017	210
8/17/2017	80
6/20/2018	46 (J)
9/27/2018	58.5 (J)
11/7/2018	41.3 (J)
3/24/2019	131
10/16/2019	122.5 (D)
11/20/2019	132
3/28/2020	63.8
10/15/2020	147
1/4/2021	262

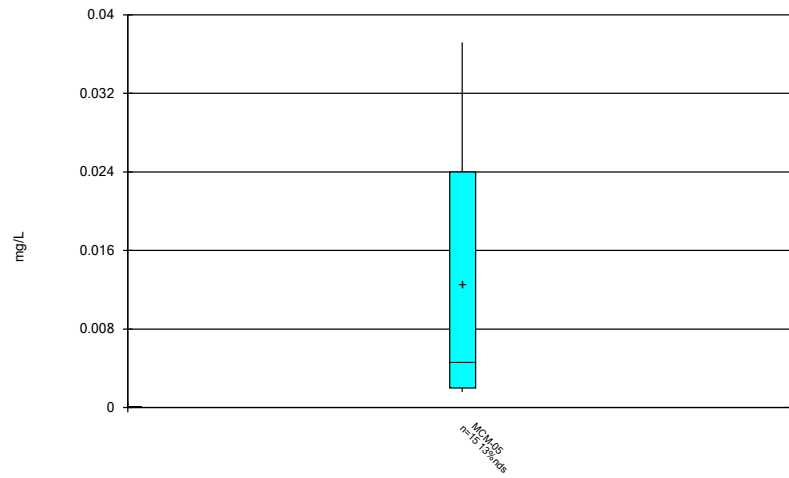
Time Series

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 2/16/2021 3:27 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	3620
11/30/2016	4030
2/16/2017	4080
6/2/2017	5560
8/17/2017	4620
6/20/2018	3370
9/27/2018	2360
11/7/2018	2230
3/24/2019	1450
10/16/2019	2860
11/20/2019	2640
3/28/2020	1470
10/15/2020	5100
1/4/2021	7750

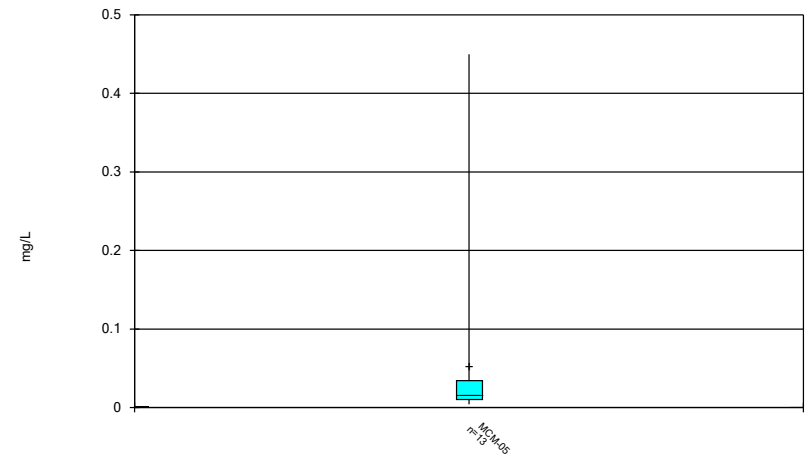
FIGURE K.

Box & Whiskers Plot



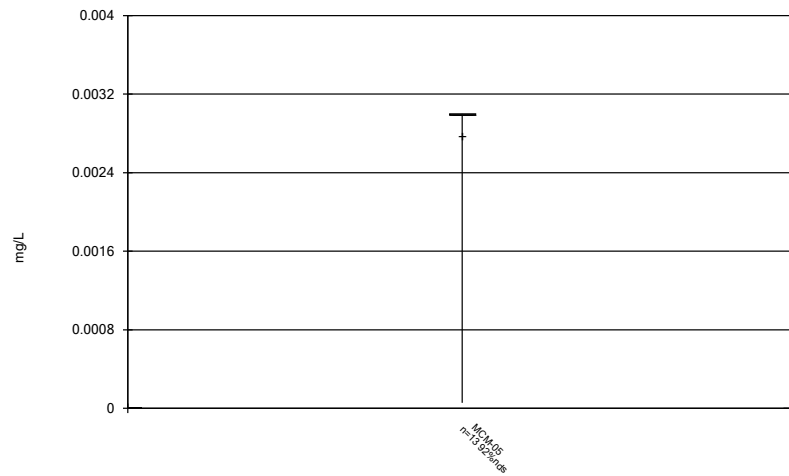
Constituent: Arsenic Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



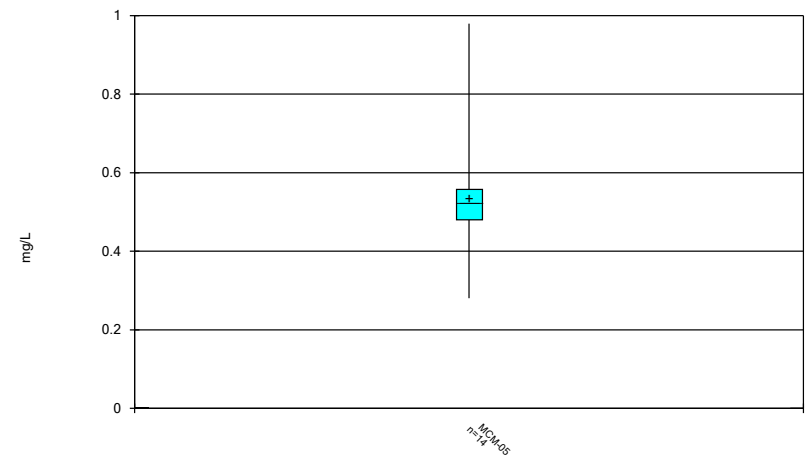
Constituent: Barium Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



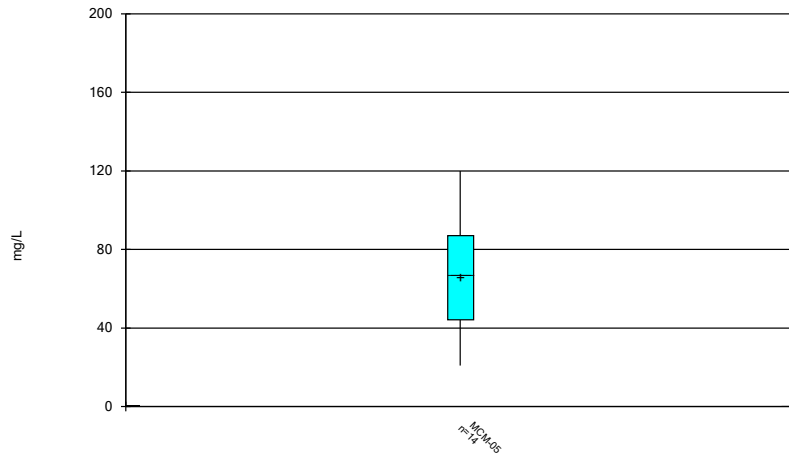
Constituent: Beryllium Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



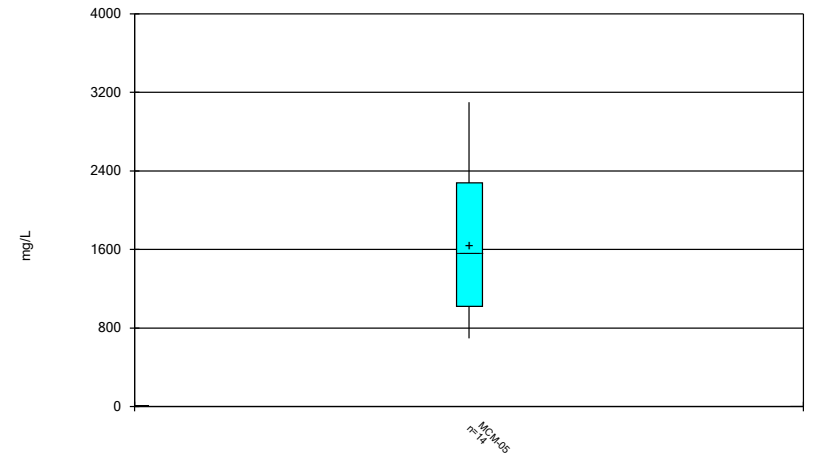
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Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



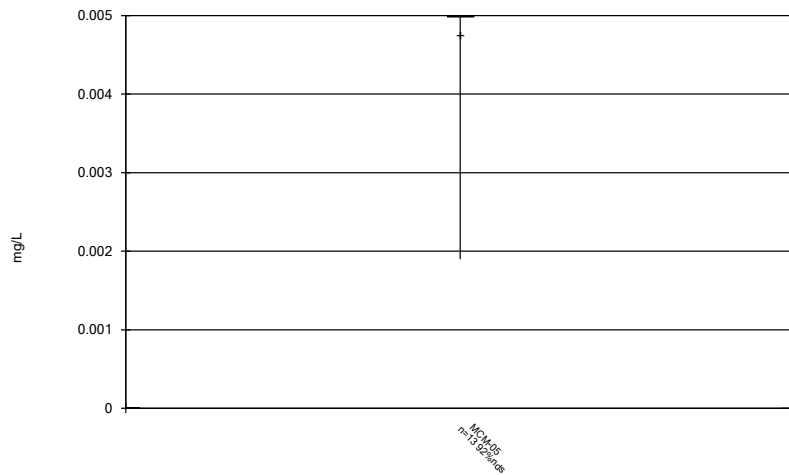
Constituent: Calcium Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



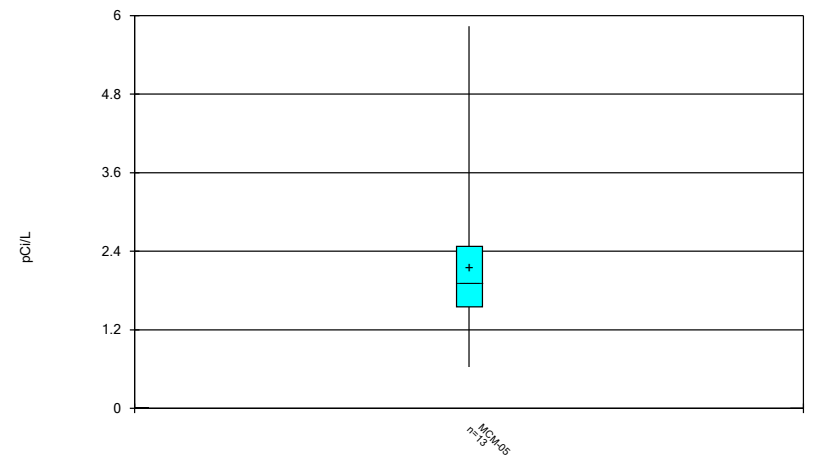
Constituent: Chloride Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



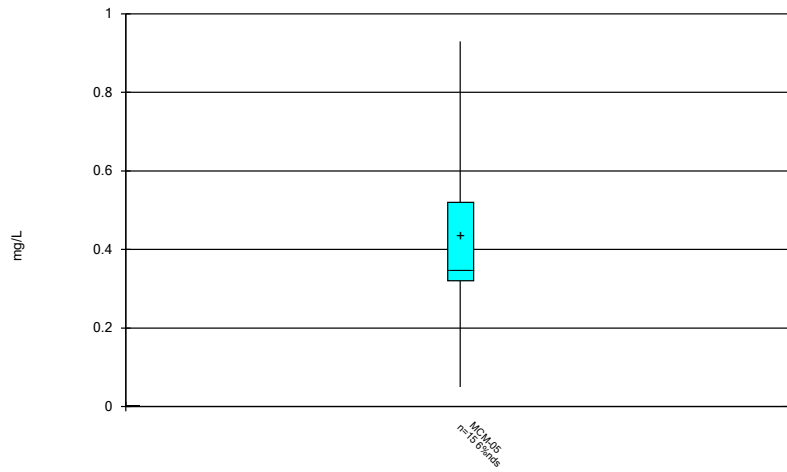
Constituent: Cobalt Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



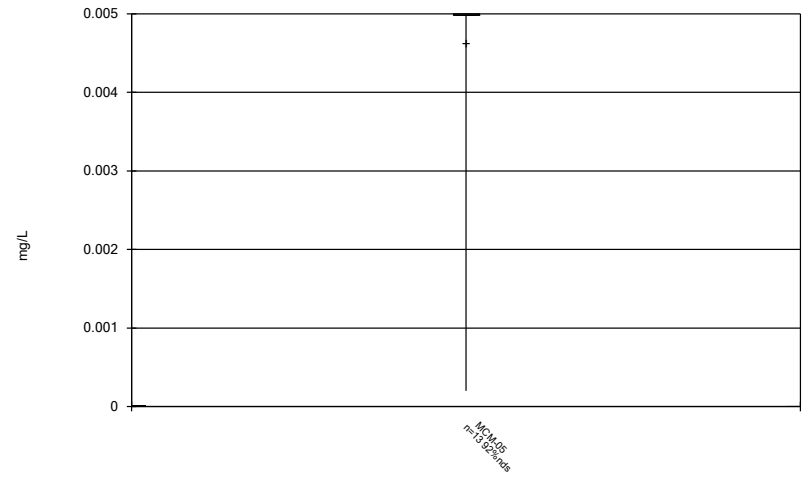
Constituent: Combined Radium 226 + 228 Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



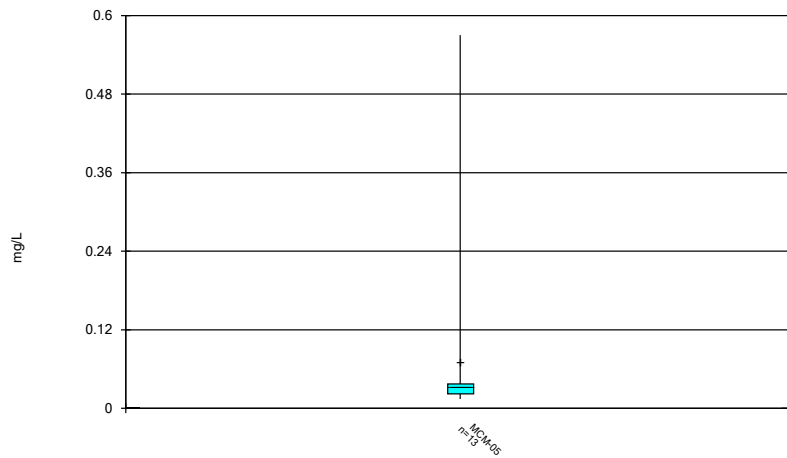
Constituent: Fluoride Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



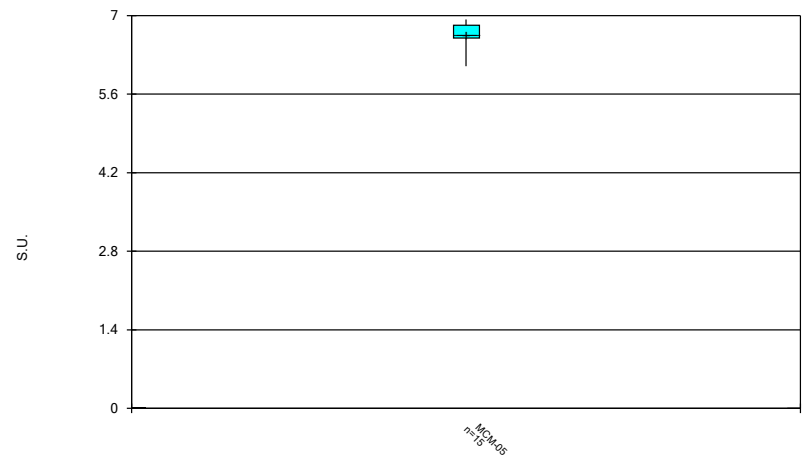
Constituent: Lead Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



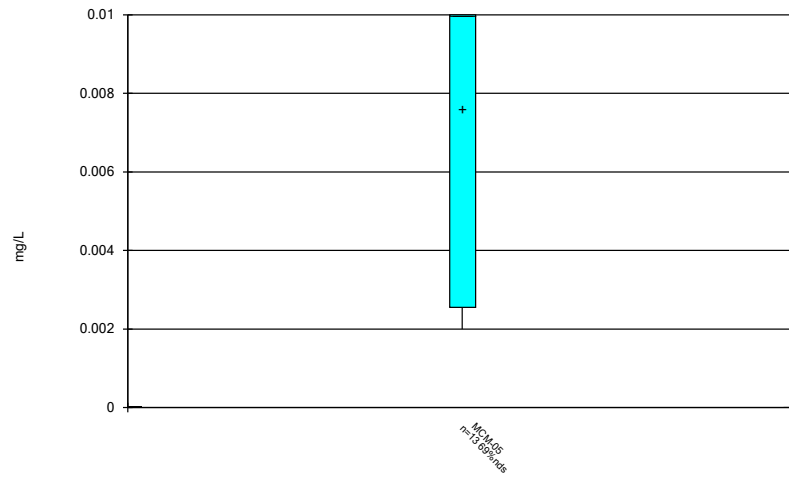
Constituent: Lithium Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



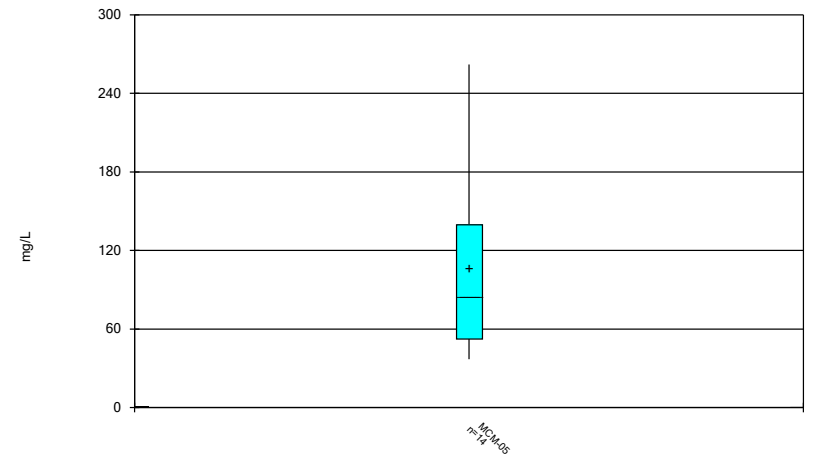
Constituent: pH Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



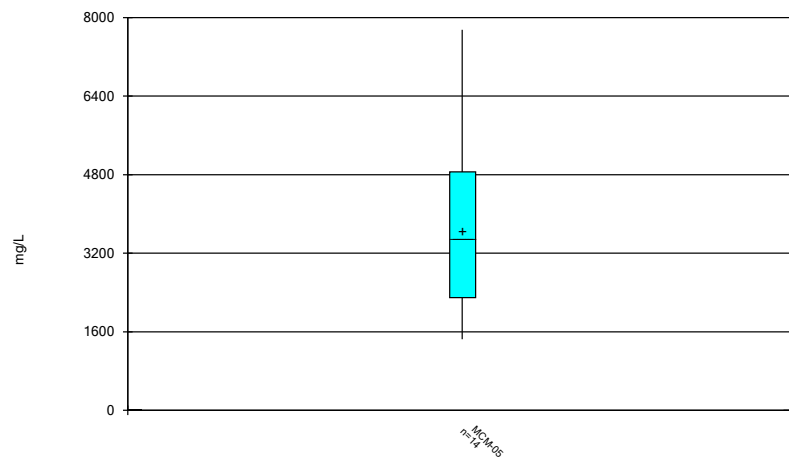
Constituent: Selenium Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



Constituent: Sulfate Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Box & Whiskers Plot



Constituent: Total Dissolved Solids [TDS] Analysis Run 2/16/2021 3:28 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

FIGURE L.

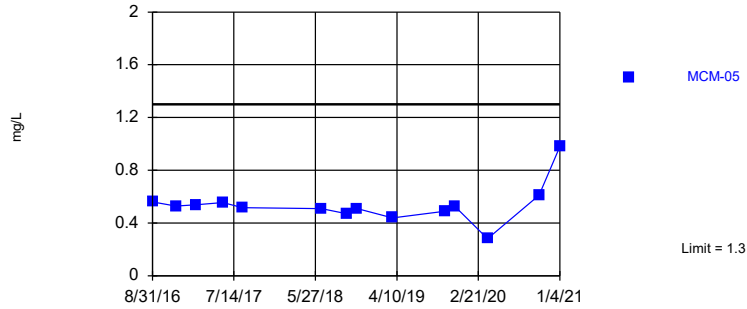
Intrawell Prediction Limits - MCM-05 Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 3:41 PM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg.N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-05	1.3	n/a	1/4/2021	0.98	No	90	n/a	n/a	5.556	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	1/4/2021	104	No	91	n/a	n/a	1.099	n/a	n/a	0.0002327	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	1/4/2021	2460	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	1/4/2021	0.1ND	No	95	n/a	n/a	40	n/a	n/a	0.000215	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.77	3.72	1/4/2021	6.66	Yes	94	n/a	n/a	0	n/a	n/a	0.0004389	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	1/4/2021	262	No	89	n/a	n/a	0	n/a	n/a	0.0002432	NP Inter (normality) 1 of 2
Total Dissolved Solids [TDS] (mg/L)	MCM-05	14600	n/a	1/4/2021	7750	No	90	n/a	n/a	0	n/a	n/a	0.0002371	NP Inter (normality) 1 of 2

Within Limit

Prediction Limit
Interwell Non-parametric

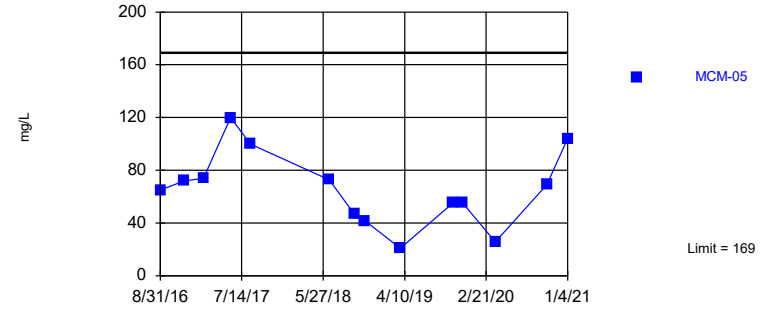


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. 5.556% NDs. Annual per-constituent alpha = 0.003314. Individual comparison alpha = 0.0002371 (1 of 2). Assumes 6 future values.

Constituent: Boron Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric

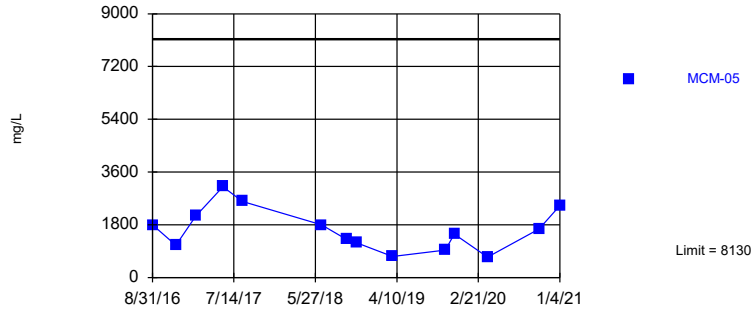


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 91 background values. 1.099% NDs. Annual per-constituent alpha = 0.003253. Individual comparison alpha = 0.0002327 (1 of 2). Assumes 6 future values.

Constituent: Calcium Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric

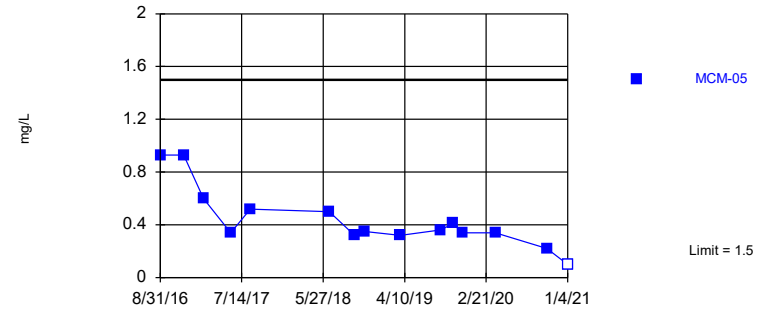


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. Annual per-constituent alpha = 0.003314. Individual comparison alpha = 0.0002371 (1 of 2). Assumes 6 future values.

Constituent: Chloride Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric

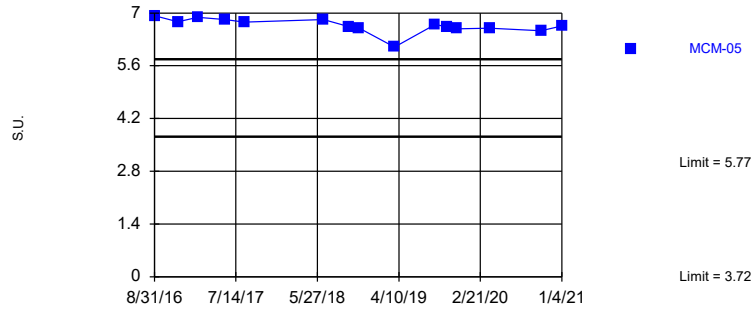


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 95 background values. 40% NDs. Annual per-constituent alpha = 0.003006. Individual comparison alpha = 0.000215 (1 of 2). Assumes 6 future values.

Constituent: Fluoride Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Exceeds Limits: MCM-05

Prediction Limit
Interwell Non-parametric

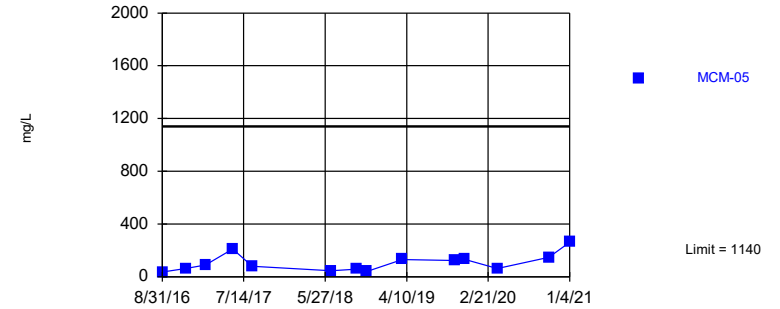


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 94 background values. Annual per-constituent alpha = 0.006135. Individual comparison alpha = 0.0004389 (1 of 2). Assumes 6 future values.

Constituent: pH Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric

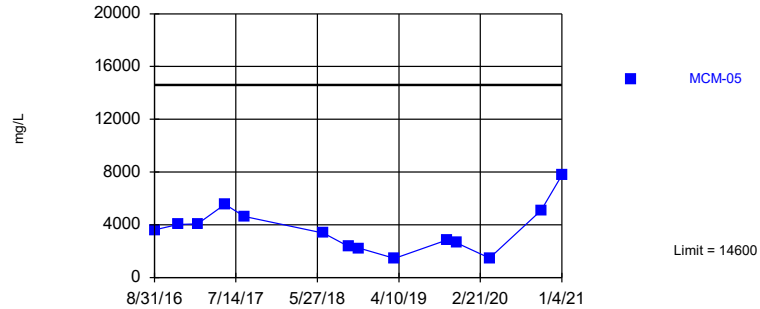


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 89 background values. Annual per-constituent alpha = 0.0034. Individual comparison alpha = 0.0002432 (1 of 2). Assumes 6 future values.

Constituent: Sulfate Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Within Limit

Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 90 background values. Annual per-constituent alpha = 0.003314. Individual comparison alpha = 0.0002371 (1 of 2). Assumes 6 future values.

Constituent: Total Dissolved Solids [TDS] Analysis Run 2/16/2021 3:40 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016	0.0325 (J)	0.0972 (J)							
8/31/2016			0.56						
11/30/2016	0.0334 (J)	0.0964	0.529						
2/15/2017	0.254	0.398							
2/16/2017			0.539						
5/31/2017				0.0521	0.161				
6/1/2017	0.0564	0.0776							
6/2/2017			0.555			0.0495			
8/2/2017				0.0392 (J)	0.158	0.0333 (J)			
8/15/2017				0.0448					
8/16/2017	0.0435				0.148				
8/17/2017		0.0853	0.516			0.0593			
4/4/2018				0.046		0.065			
4/5/2018					0.13				
5/8/2018				0.048		0.062			
5/9/2018					0.12				
6/19/2018	0.04 (J)			0.04	0.13	0.064			
6/20/2018		0.079	0.51						
9/25/2018				0.043					
9/26/2018	0.038 (J)	0.072			0.1	0.06			
9/27/2018			0.47						
11/6/2018				0.046					
11/7/2018	0.037 (J)	0.074	0.51		0.1	0.062 (J)			
3/24/2019			0.44						
3/25/2019	0.038 (J)	0.067		0.03 (J)	0.091	0.057			
10/15/2019						0.046			
10/16/2019	0.036 (J)	0.051	0.49	0.032 (J)	0.085				
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			0.53						
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	0.064 (J)								
3/27/2020		0.088 (J)		0.058 (J)	0.17 (J)	0.076 (J)	0.94	0.96	0.24 (J)
3/28/2020			0.28 (J)						
10/12/2020				<0.5					0.24 (J)
10/13/2020	<0.5	<0.5			<0.5	<0.5	1.1	0.73	
10/15/2020			0.61						
1/4/2021			0.98						

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	7.3	4.02							
8/31/2016			65						
11/30/2016	10.8	4.87	71.7						
2/15/2017	14.3	6.61							
2/16/2017			74						
5/31/2017				18.6	5.9				
6/1/2017	12.7 (J)	6.42							
6/2/2017			120			2.77			
8/2/2017				18.5	4.69	1.27			
8/15/2017				4.09					
8/16/2017	8.7				5.25				
8/17/2017		5.62	100			5.53			
4/4/2018				<25		6.5			
4/5/2018					5				
5/8/2018				18.4 (J)		6.7			
5/9/2018					4.7				
6/19/2018	11.6 (J)			4.3	4.8	7.4			
6/20/2018		5.7	72.8						
6/28/2018	13								
9/25/2018				6.2 (D)					
9/26/2018	12.8 (J)	5.3			4.6	8.5 (J)			
9/27/2018			46.6						
11/6/2018				1.8					
11/7/2018	11.9	5.3	41.8		4.6	9.8			
3/24/2019			20.9 (J)						
3/25/2019	12.6 (J)	5.7		2.5 (D)	4.7	7.8			
10/15/2019						6.7			
10/16/2019	13.6	4.8	55.2	2.2	4.9				
11/7/2019							46.2	158	163
11/18/2019							41.8		
11/19/2019								152	169
11/20/2019			55.8						
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	10.1								
3/27/2020		5.4		3.3	4.9	5.9	23.2	122	113
3/28/2020			25.8						
10/12/2020				2.8			19.1		
10/13/2020	9.8	5.7			3.8	0.83		125	128
10/15/2020			69.1						
1/4/2021			104						

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016	9.7	26							
8/31/2016			1800						
11/30/2016	19	27	1100						
2/15/2017	21	30							
2/16/2017			2100						
5/31/2017				98	39				
6/1/2017	12	27							
6/2/2017			3100			11			
8/2/2017				57	42	3.2			
8/15/2017				15					
8/16/2017	14				41				
8/17/2017		32	2600			12			
4/4/2018				69		13.4			
4/5/2018					40.2				
5/8/2018				72.3		13.2			
5/9/2018					40.6				
6/19/2018	24.4			17.3	37.7	13.7			
6/20/2018		30	1800						
9/25/2018				31.3					
9/26/2018	23.4	28.4			33.4	18.5			
9/27/2018			1300						
11/6/2018				9.8					
11/7/2018	21.8	25.1	1180		30.7	20.2			
3/24/2019			717						
3/25/2019	19.4	21.8		12.9	33.5	19.7			
10/15/2019						17.1			
10/16/2019	21.4	20	941 (D)	12.2	33.1				
11/7/2019							7880	6170	2360
11/18/2019									6970
11/19/2019							8130	5650	
11/20/2019			1480						
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	23								
3/27/2020		23.6		14.5	32.9	14.1	7110	6870	1450
3/28/2020			693						
10/12/2020				13.9					1340
10/13/2020	13.5	23.3			25.7	3.8	5980	5260	
10/15/2020			1660						
1/4/2021			2460						

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-19 (bg)	MCM-20 (bg)	MCM-18 (bg)
8/30/2016	0.03 (J)	0.04 (J)							
8/31/2016			0.93						
11/30/2016	0.04 (J)	0.18 (J)	0.93						
2/15/2017	0.007 (J)	0.02 (J)							
2/16/2017			0.6						
5/31/2017				0.85	0.01 (J)				
6/1/2017	<0.1	0.005 (J)							
6/2/2017			0.34				<0.1		
8/2/2017				0.69	0.14 (J)	0.05 (J)			
8/15/2017				0.29 (J)					
8/16/2017	0.03 (J)				0.13 (J)				
8/17/2017		0.04 (J)	0.52				<0.1		
4/4/2018				0.32			<0.1		
4/5/2018					<0.1				
5/8/2018				0.63			<0.1		
5/9/2018					<0.1				
6/19/2018	<0.1			0.17 (J)	0.065 (J)	0.057 (J)			
6/20/2018		0.038 (J)	0.5						
9/25/2018				0.15 (J)					
9/26/2018	0.12 (J)	0.029			0.029	0.029			
9/27/2018			0.32						
11/6/2018				<0.1					
11/7/2018	<0.1	<0.1	0.35		<0.1	<0.1			
3/24/2019			0.32						
3/25/2019	0.038 (J)	0.041 (J)		0.12 (J)	0.039 (J)	0.036 (J)			
8/27/2019	<0.1	<0.1				<0.1			
8/28/2019			0.36	0.068 (J)	<0.1				
10/15/2019						0.14 (J)			
10/16/2019	0.046 (JD)	0.044 (J)	0.41	0.1 (J)	0.044 (JD)				
11/7/2019							<0.1	1.4	0.49
11/18/2019									0.52
11/19/2019							0.033 (J)	1.2	
11/20/2019			0.34						
12/4/2019							0.22 (J)	1.4	
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							0.11 (J)	0.53	0.13 (J)
2/4/2020							<0.1	<0.1	0.18 (J)
2/13/2020							<0.1	<0.1	0.077 (J)
3/26/2020	<0.1								
3/27/2020		<0.1		0.066 (J)	<0.1	<0.1	<0.1	<0.1	0.06 (J)
3/28/2020			0.34						
10/12/2020				<0.1					0.34
10/13/2020	<0.1	<0.1			<0.1	<0.1	<0.1	<0.1	
10/15/2020			0.22						
1/4/2021			<0.1						

Prediction Limit

Constituent: pH (S.U.) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016	5.66	5.18							
8/31/2016			6.93						
11/30/2016	5.36	4.96	6.77						
2/15/2017	5.25	5.13							
2/16/2017			6.89						
5/31/2017				5.29	5.06				
6/1/2017	5.59	4.99							
6/2/2017			6.83			5.31			
8/2/2017				5.19	5	5.05			
8/15/2017				5.19					
8/16/2017	5.58				4.98				
8/17/2017		4.68	6.76			5.52			
4/4/2018				5.19		5.45			
4/5/2018					5.02				
5/8/2018				5.3		5.54			
5/9/2018					4.96				
6/19/2018	5.51			5.15	5.02	5.6			
6/20/2018		4.77	6.83						
9/25/2018				5.13					
9/26/2018	5.32	4.65			5.06	5.17			
9/27/2018			6.64						
11/6/2018				5.08					
11/7/2018	5.72	4.99	6.6		5.03	5.47			
3/24/2019			6.1			5.4			
3/25/2019	5.75	5.13		5.05	5.08				
8/27/2019	5.58	4.88				5.35			
8/28/2019			6.69	4.87	4.99				
10/15/2019						5.32			
10/16/2019	5.72	4.89	6.64	5.05	4.98				
11/7/2019							4.25	5.21	3.79
11/18/2019							4.12		
11/19/2019					5.11			5.15	3.78
11/20/2019	5.77		6.58						
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
3/26/2020	5.45								
3/27/2020		5.12		5.09	5.12	5.3	4.34	5.14	3.81
3/28/2020			6.6						
10/12/2020				5			4.29		
10/13/2020	5.69	5.17			5.03	5.02		5.04	3.72
10/15/2020			6.53						
1/4/2021			6.66						

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016	17	24							
8/31/2016			37						
11/30/2016	33	26	63						
2/15/2017	83	30							
2/16/2017			90						
5/31/2017				40	46				
6/1/2017	51	24							
6/2/2017			210			13			
8/2/2017				34	43	14			
8/15/2017				24					
8/16/2017	36				41				
8/17/2017		26	80			14			
4/4/2018				33.9		13.4			
4/5/2018					33.4				
5/8/2018				35.7		14.8			
5/9/2018					36				
6/19/2018	50.3			23.7	35.5	15.5			
6/20/2018		31.2	46 (J)						
9/25/2018				25.6					
9/26/2018	54.1	36.8			39.6	23			
9/27/2018			58.5 (J)						
11/6/2018				25.2					
11/7/2018	45.6	35	41.3 (J)		35.8	22.2			
3/24/2019			131						
3/25/2019	43	40.1		24.9	34.2	22.4			
10/15/2019						17.9			
10/16/2019	31.9	28.5	122.5 (D)	17.4	24.4				
11/7/2019							1010	832	379
11/18/2019									737
11/19/2019							1140	795	
11/20/2019			132						
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	611	254
2/4/2020							1120	599	432
2/13/2020							833	761	300
3/26/2020	36.2								
3/27/2020		31.2		23.4	28.6	14.6	700	836	219
3/28/2020			63.8						
10/12/2020				19.3					191
10/13/2020	32.3	26.8			27.6	7.6	638	609	
10/15/2020			147						
1/4/2021			262						

Prediction Limit

Constituent: Total Dissolved Solids [TDS] (mg/L) Analysis Run 2/16/2021 3:41 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-01 (bg)	MCM-16 (bg)	MCM-05	MCM-11 (bg)	MCM-02 (bg)	MCM-15 (bg)	MCM-20 (bg)	MCM-19 (bg)	MCM-18 (bg)
8/30/2016	86	99							
8/31/2016			3620						
11/30/2016	131	111	4030						
2/15/2017	212	170							
2/16/2017			4080						
5/31/2017				257	123				
6/1/2017	103	98							
6/2/2017			5560			69			
8/2/2017				183	136	35			
8/15/2017				90					
8/16/2017	65				124				
8/17/2017		84	4620			51			
4/4/2018				197		90			
4/5/2018					128				
5/8/2018				225		89			
5/9/2018					127				
6/19/2018	142			112	143	110			
6/20/2018		123	3370						
9/25/2018				137					
9/26/2018	133	117			132	124			
9/27/2018			2360						
11/6/2018				89					
11/7/2018	121	120	2230		134	125			
3/24/2019			1450						
3/25/2019	116	101		74	111	98			
10/15/2019						107			
10/16/2019	104	95	2860	82	96				
11/7/2019							13500	10900	4140
11/18/2019									4030
11/19/2019							13300	10000	
11/20/2019			2640						
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	114								
3/27/2020		110		87	119	110	14600	14300	3090
3/28/2020			1470						
10/12/2020				94					2920
10/13/2020	113	115			118	63	13900	6600	
10/15/2020			5100						
1/4/2021			7750						

FIGURE M.

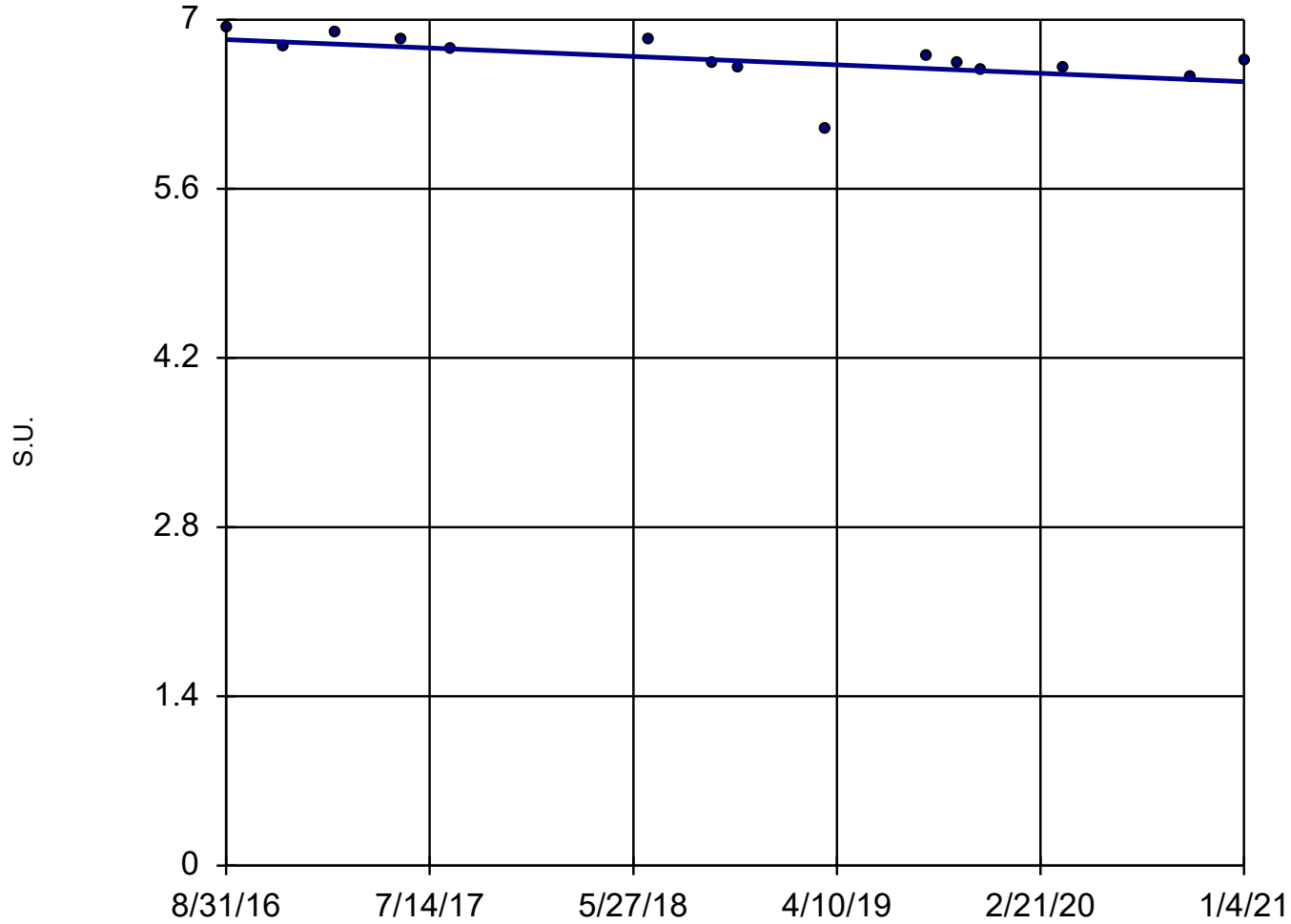
Appendix III Trend Tests - Addendum Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 3:59 PM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
pH (S.U.)	MCM-05	-0.08008	-62	-53	Yes	15	0	n/a	n/a	0.01	NP

Sen's Slope Estimator

MCM-05



n = 15

Slope = -0.08008
units per year.

Mann-Kendall
statistic = -62
critical = -53

Decreasing trend
significant at 99%
confidence level
($\alpha = 0.005$ per
tail).

Constituent: pH Analysis Run 2/16/2021 3:58 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

FIGURE N.

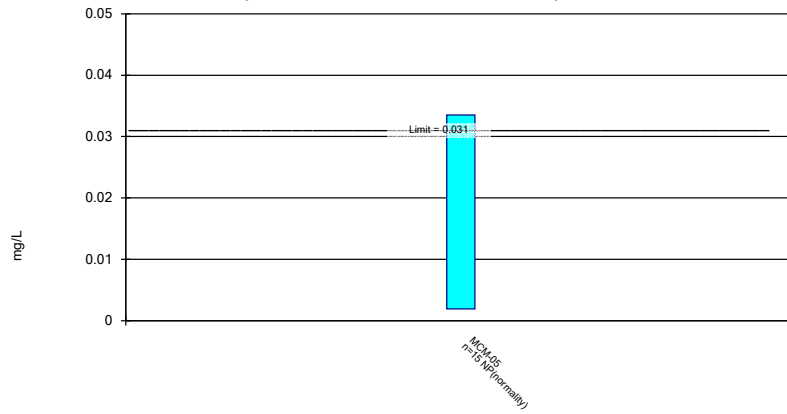
Confidence Intervals - Addendum Federal Results (No Significant)

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 4:06 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDsND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No 15	0.01255	0.01336	13.33 None	No	0.01	NP (normality)
Barium (mg/L)	MCM-05	0.051	0.0085	2	No 13	0.05232	0.1202	0 None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 13	0.002773	0.0008171	92.31 None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 13	0.004762	0.0008598	92.31 None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.84	1.334	55.8	No 13	2.157	1.231	0 None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.5768	0.2622	4	No 15	0.4353	0.2376	6.667 None	sqrt(x)	0.01	Param.
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No 13	0.004631	0.001331	92.31 None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-05	0.043	0.021	0.04	No 13	0.07032	0.1504	0 None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No 13	0.007623	0.003716	69.23 None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

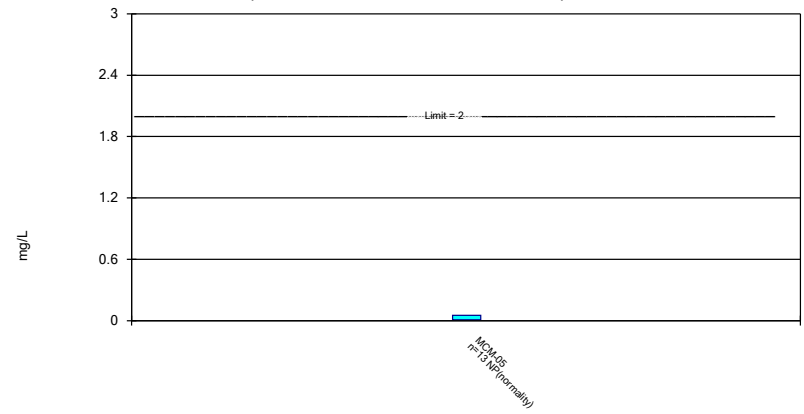
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Arsenic Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

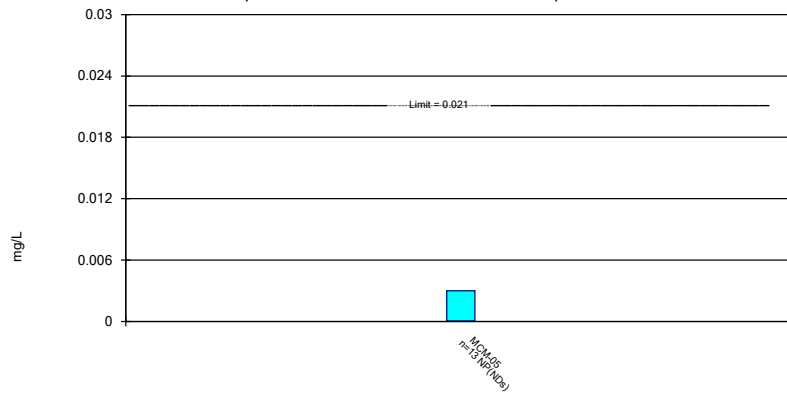
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Barium Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

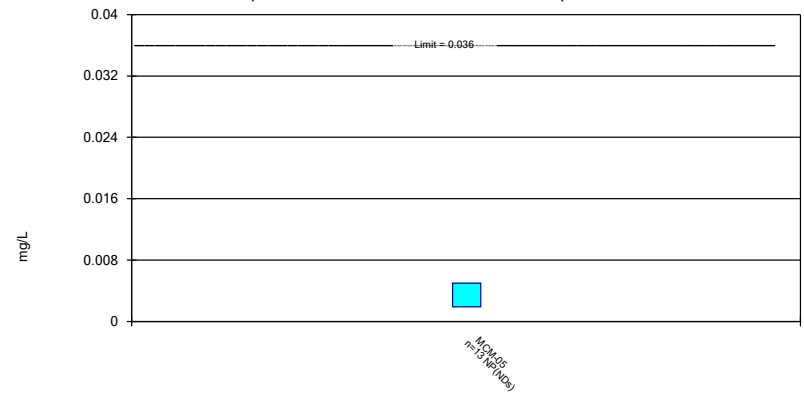
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric Confidence Interval

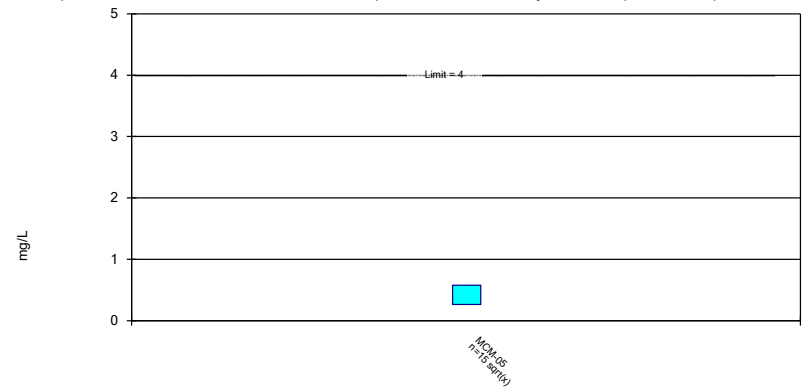
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric Confidence Interval

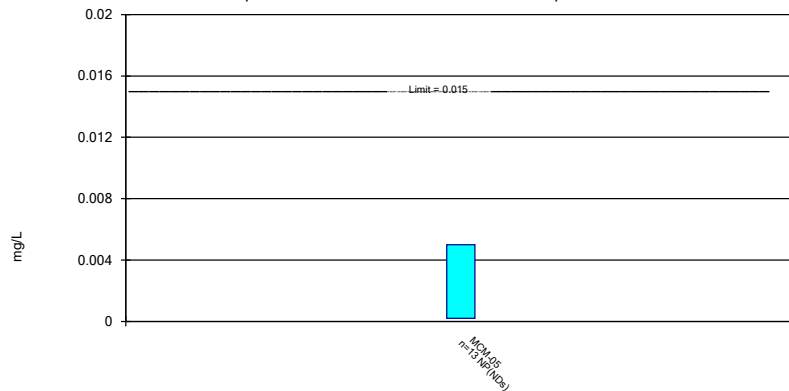
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

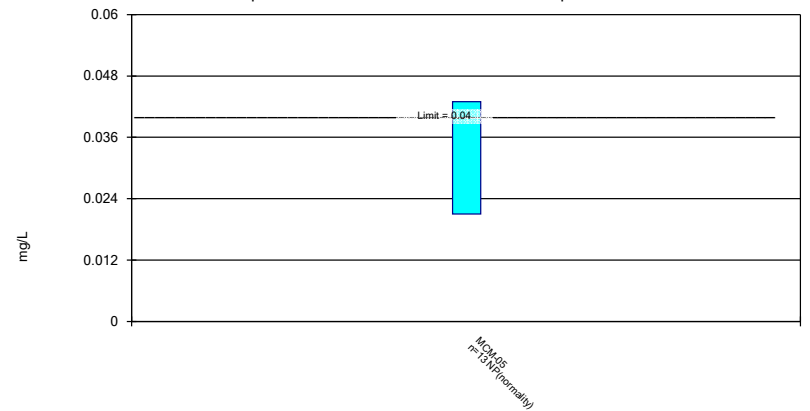
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

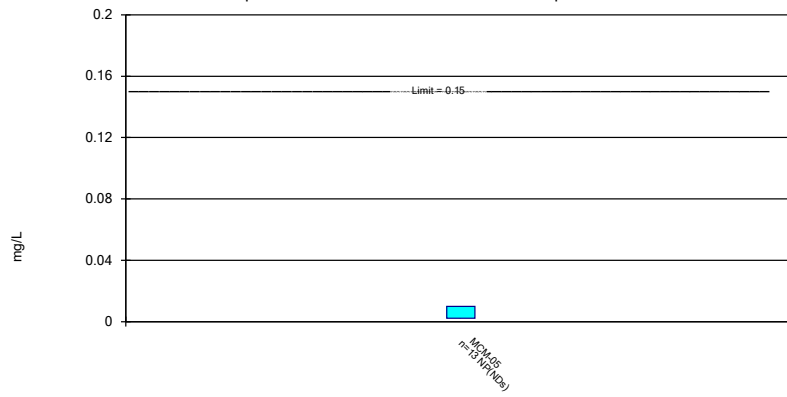
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lithium Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 2/16/2021 4:03 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	0.0132
2/16/2017	0.0372
6/2/2017	0.0335
8/17/2017	0.0336
6/20/2018	0.019
9/27/2018	0.0035 (J)
11/7/2018	0.002 (J)
11/27/2018	0.0016 (J)
3/26/2019	0.0018 (J)
8/28/2019	0.0019 (J)
10/16/2019	0.0047 (J)
3/28/2020	<0.005
10/15/2020	0.024
1/4/2021	0.0072
Mean	0.01255
Std. Dev.	0.01336
...	0.0335
Lower Lim.	0.0019

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.0289
11/30/2016	0.0168
2/16/2017	0.016
6/2/2017	0.0393 (J)
8/17/2017	0.0188
6/20/2018	0.014
9/27/2018	0.0097 (J)
11/7/2018	0.0085 (J)
8/28/2019	0.011
10/16/2019	0.012
3/28/2020	0.0041 (J)
10/15/2020	0.45
1/4/2021	0.051
Mean	0.05232
Std. Dev.	0.1202
---|---	0.051
Lower Lim.	0.0085

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.003
11/30/2016	<0.003
2/16/2017	<0.003
6/2/2017	<0.003
8/17/2017	<0.003
6/20/2018	<0.003
9/27/2018	<0.003
11/7/2018	5.4E-05 (J)
8/28/2019	<0.003
10/16/2019	<0.003
3/28/2020	<0.003
10/15/2020	<0.003
1/4/2021	<0.003
Mean	0.002773
Std. Dev.	0.0008171
---|---	0.003
Lower Lim.	5.4E-05

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	<0.005
2/16/2017	<0.005
6/2/2017	<0.005
8/17/2017	<0.005
6/20/2018	<0.005
9/27/2018	<0.005
11/7/2018	<0.005
8/28/2019	<0.005
10/16/2019	<0.005
3/28/2020	<0.005
10/15/2020	0.0019 (J)
1/4/2021	<0.005
Mean	0.004762
Std. Dev.	0.0008598
•••••	0.005
Lower Lim.	0.0019

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/16/2021 4:06 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	2.39 (D)
11/30/2016	1.66
2/16/2017	2.71
6/2/2017	1.99
8/17/2017	1.87
6/20/2018	1.95
9/27/2018	0.629 (U)
11/7/2018	1.41 (U)
8/28/2019	1.67
10/16/2019	1.92
3/28/2020	1.44 (U)
10/15/2020	2.56
1/4/2021	5.84
Mean	2.157
Std. Dev.	1.231
Max	2.84
Lower Lim.	1.334

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.93
11/30/2016	0.93
2/16/2017	0.6
6/2/2017	0.34
8/17/2017	0.52
6/20/2018	0.5
9/27/2018	0.32
11/7/2018	0.35
3/24/2019	0.32
8/28/2019	0.36
10/16/2019	0.41
11/20/2019	0.34
3/28/2020	0.34
10/15/2020	0.22
1/4/2021	<0.1
Mean	0.4353
Std. Dev.	0.2376
Max	0.5768
Lower Lim.	0.2622

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	0.0002 (J)
2/16/2017	<0.005
6/2/2017	<0.005
8/17/2017	<0.005
6/20/2018	<0.005
9/27/2018	<0.005
11/7/2018	<0.005
8/28/2019	<0.005
10/16/2019	<0.005
3/28/2020	<0.005
10/15/2020	<0.005
1/4/2021	<0.005
Mean	0.004631
Std. Dev.	0.001331
•••••	0.005
Lower Lim.	0.0002

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.0219 (J)
11/30/2016	0.0333 (J)
2/16/2017	0.0376 (J)
6/2/2017	0.0346 (J)
8/17/2017	0.0367 (J)
6/20/2018	0.034 (J)
9/27/2018	0.023 (J)
11/7/2018	0.022 (J)
8/28/2019	0.023 (J)
10/16/2019	0.021 (J)
3/28/2020	0.014 (J)
10/15/2020	0.57
1/4/2021	0.043 (J)
Mean	0.07032
Std. Dev.	0.1504
---■---	0.043
Lower Lim.	0.021

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 2/16/2021 4:06 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.002 (J)
11/30/2016	0.0023 (J)
2/16/2017	0.002 (J)
6/2/2017	<0.01
8/17/2017	<0.01
6/20/2018	<0.01
9/27/2018	<0.01
11/7/2018	<0.01
8/28/2019	<0.01
10/16/2019	<0.01
3/28/2020	<0.01
10/15/2020	0.0028 (J)
1/4/2021	<0.01
Mean	0.007623
Std. Dev.	0.003716
---|---	0.01
Lower Lim.	0.0023

FIGURE O.

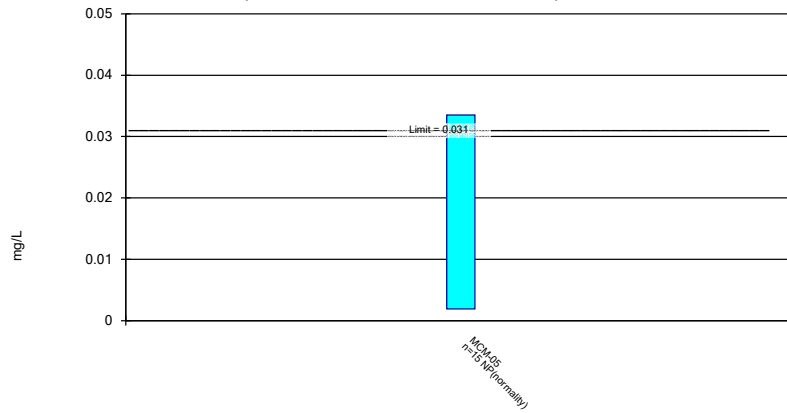
Confidence Intervals - Addendum State Results (No Significant)

Plant McManus Client: Southern Company Data: McManus Ash Pond Printed 2/16/2021, 4:14 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig. N	Mean	Std. Dev.	%NDsND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No 15	0.01255	0.01336	13.33 None	No	0.01	NP (normality)
Barium (mg/L)	MCM-05	0.051	0.0085	2	No 13	0.05232	0.1202	0 None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-05	0.003	0.000054	0.021	No 13	0.002773	0.0008171	92.31 None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-05	0.005	0.0019	0.036	No 13	0.004762	0.0008598	92.31 None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.84	1.334	55.8	No 13	2.157	1.231	0 None	x^(1/3)	0.01	Param.
Fluoride (mg/L)	MCM-05	0.5768	0.2622	4	No 15	0.4353	0.2376	6.667 None	sqrt(x)	0.01	Param.
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No 13	0.004631	0.001331	92.31 None	No	0.01	NP (NDs)
Lithium (mg/L)	MCM-05	0.043	0.021	0.03	No 13	0.07032	0.1504	0 None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-05	0.01	0.0023	0.15	No 13	0.007623	0.003716	69.23 None	No	0.01	NP (NDs)

Non-Parametric Confidence Interval

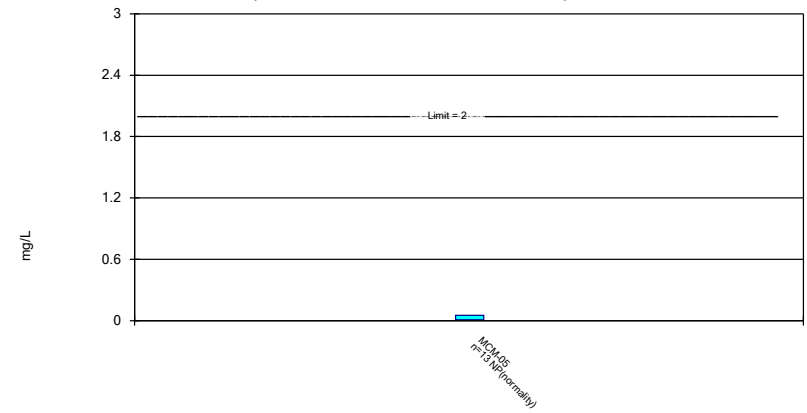
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Arsenic Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

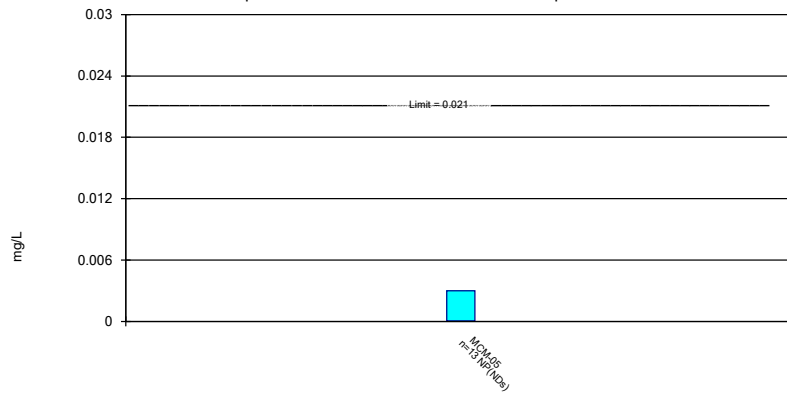
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Barium Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

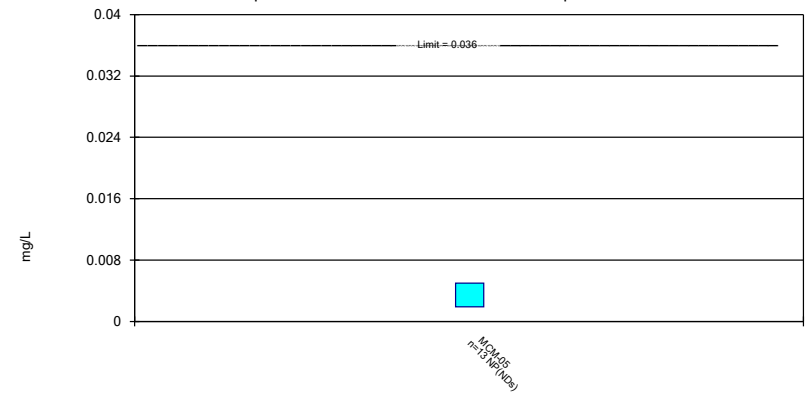
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Beryllium Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric Confidence Interval

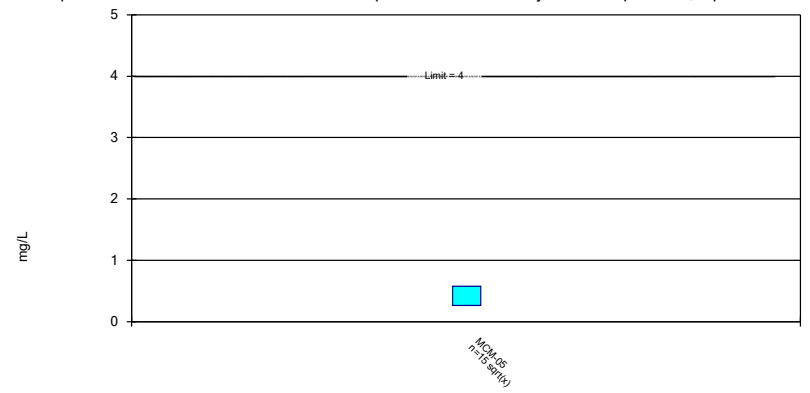
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Parametric Confidence Interval

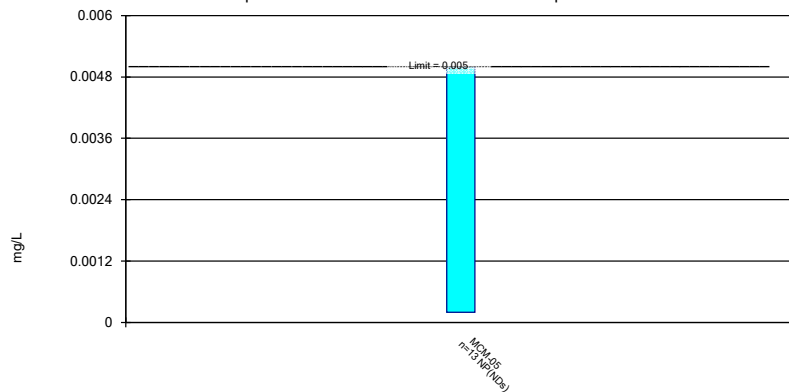
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Fluoride Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

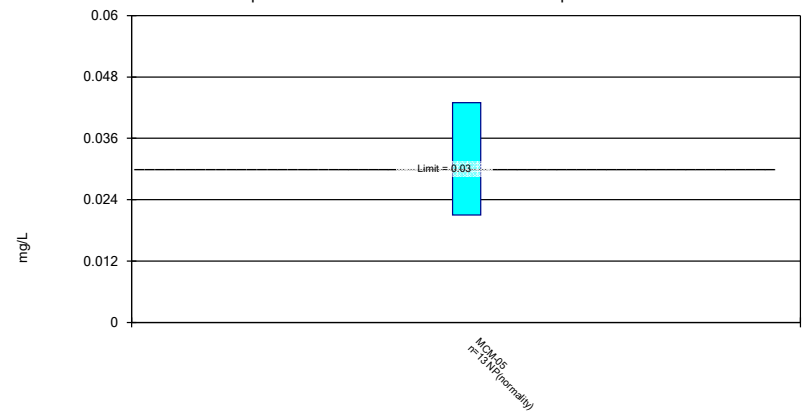
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

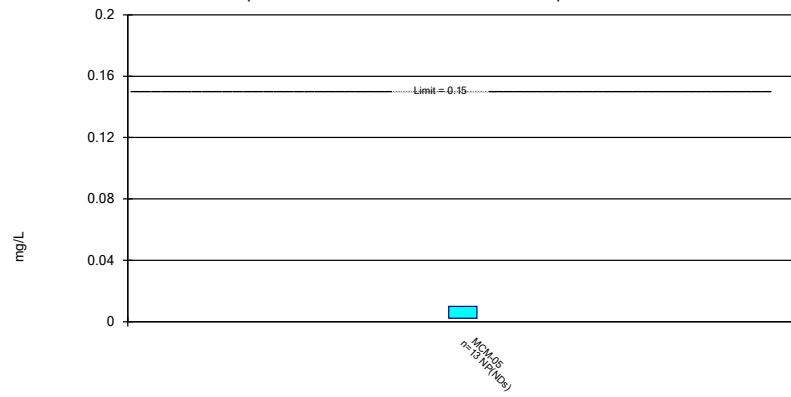
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lithium Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Selenium Analysis Run 2/16/2021 4:13 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

Confidence Interval

Constituent: Arsenic (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	0.0132
2/16/2017	0.0372
6/2/2017	0.0335
8/17/2017	0.0336
6/20/2018	0.019
9/27/2018	0.0035 (J)
11/7/2018	0.002 (J)
11/27/2018	0.0016 (J)
3/26/2019	0.0018 (J)
8/28/2019	0.0019 (J)
10/16/2019	0.0047 (J)
3/28/2020	<0.005
10/15/2020	0.024
1/4/2021	0.0072
Mean	0.01255
Std. Dev.	0.01336
...	0.0335
Lower Lim.	0.0019

Confidence Interval

Constituent: Barium (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.0289
11/30/2016	0.0168
2/16/2017	0.016
6/2/2017	0.0393 (J)
8/17/2017	0.0188
6/20/2018	0.014
9/27/2018	0.0097 (J)
11/7/2018	0.0085 (J)
8/28/2019	0.011
10/16/2019	0.012
3/28/2020	0.0041 (J)
10/15/2020	0.45
1/4/2021	0.051
Mean	0.05232
Std. Dev.	0.1202
---|---	0.051
Lower Lim.	0.0085

Confidence Interval

Constituent: Beryllium (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.003
11/30/2016	<0.003
2/16/2017	<0.003
6/2/2017	<0.003
8/17/2017	<0.003
6/20/2018	<0.003
9/27/2018	<0.003
11/7/2018	5.4E-05 (J)
8/28/2019	<0.003
10/16/2019	<0.003
3/28/2020	<0.003
10/15/2020	<0.003
1/4/2021	<0.003
Mean	0.002773
Std. Dev.	0.0008171
---|---	0.003
Lower Lim.	5.4E-05

Confidence Interval

Constituent: Cobalt (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	<0.005
2/16/2017	<0.005
6/2/2017	<0.005
8/17/2017	<0.005
6/20/2018	<0.005
9/27/2018	<0.005
11/7/2018	<0.005
8/28/2019	<0.005
10/16/2019	<0.005
3/28/2020	<0.005
10/15/2020	0.0019 (J)
1/4/2021	<0.005
Mean	0.004762
Std. Dev.	0.0008598
•••••	0.005
Lower Lim.	0.0019

Confidence Interval

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 2/16/2021 4:14 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	2.39 (D)
11/30/2016	1.66
2/16/2017	2.71
6/2/2017	1.99
8/17/2017	1.87
6/20/2018	1.95
9/27/2018	0.629 (U)
11/7/2018	1.41 (U)
8/28/2019	1.67
10/16/2019	1.92
3/28/2020	1.44 (U)
10/15/2020	2.56
1/4/2021	5.84
Mean	2.157
Std. Dev.	1.231
Max	2.84
Lower Lim.	1.334

Confidence Interval

Constituent: Fluoride (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.93
11/30/2016	0.93
2/16/2017	0.6
6/2/2017	0.34
8/17/2017	0.52
6/20/2018	0.5
9/27/2018	0.32
11/7/2018	0.35
3/24/2019	0.32
8/28/2019	0.36
10/16/2019	0.41
11/20/2019	0.34
3/28/2020	0.34
10/15/2020	0.22
1/4/2021	<0.1
Mean	0.4353
Std. Dev.	0.2376
Upper Lim.	0.5768
Lower Lim.	0.2622

Confidence Interval

Constituent: Lead (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum
Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	<0.005
11/30/2016	0.0002 (J)
2/16/2017	<0.005
6/2/2017	<0.005
8/17/2017	<0.005
6/20/2018	<0.005
9/27/2018	<0.005
11/7/2018	<0.005
8/28/2019	<0.005
10/16/2019	<0.005
3/28/2020	<0.005
10/15/2020	<0.005
1/4/2021	<0.005
Mean	0.004631
Std. Dev.	0.001331
•••••	0.005
Lower Lim.	0.0002

Confidence Interval

Constituent: Lithium (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.0219 (J)
11/30/2016	0.0333 (J)
2/16/2017	0.0376 (J)
6/2/2017	0.0346 (J)
8/17/2017	0.0367 (J)
6/20/2018	0.034 (J)
9/27/2018	0.023 (J)
11/7/2018	0.022 (J)
8/28/2019	0.023 (J)
10/16/2019	0.021 (J)
3/28/2020	0.014 (J)
10/15/2020	0.57
1/4/2021	0.043 (J)
Mean	0.07032
Std. Dev.	0.1504
---■---	0.043
Lower Lim.	0.021

Confidence Interval

Constituent: Selenium (mg/L) Analysis Run 2/16/2021 4:14 PM View: Addendum

Plant McManus Client: Southern Company Data: McManus Ash Pond

	MCM-05
8/31/2016	0.002 (J)
11/30/2016	0.0023 (J)
2/16/2017	0.002 (J)
6/2/2017	<0.01
8/17/2017	<0.01
6/20/2018	<0.01
9/27/2018	<0.01
11/7/2018	<0.01
8/28/2019	<0.01
10/16/2019	<0.01
3/28/2020	<0.01
10/15/2020	0.0028 (J)
1/4/2021	<0.01
Mean	0.007623
Std. Dev.	0.003716
---|---	0.01
Lower Lim.	0.0023

GROUNDWATER STATS CONSULTING



July 27, 2021

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 - March 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 March 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 from Electric Utilities (CCR Rule, 2015), the Georgia Environmental Protection Division Rules for Solid Waste Management Chapter 391-3-4-.10 and follows the United States Environmental Protection Agency (USEPA) Unified Guidance (2009).

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

Note that upgradient wells MCM-18, MCM-19, and MCM-20 were installed late in 2019. 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 Andrew Collins, Project Manager 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 well/constituent pairs with 100% non-detects follow this letter. Additionally, when Appendix IV constituents are not detected during a scheduled Scan event, statistical analyses may not be required during the following semi-annual sample event. During the annual Scan event for 2020, antimony, cadmium, chromium, mercury, molybdenum, and thallium were not detected; therefore, these constituents were not required to be sampled during this event. These constituents were included on time series and box plots but were not included in statistical analyses.

For all constituents, a substitution of the most recent reporting limit is used for non-detect data. However, in the case of lead the most recent reporting limit increased to 0.05 mg/L compared to the historical reporting limit of 0.005 mg/L. Therefore, the lower historical reporting limit was substituted for non-detects 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. 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.

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. These steps result in construction of background limits that are conservative from a regulatory perspective.

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 – March 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 March 2021 (Figure D). Interwell prediction limits pool upgradient well data to establish a background limit for an individual constituent. The most recent sample from each downgradient well is compared to the background limit to determine whether there are statistically significant increases (SSIs).

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-06, MCM-07, MCM-12, MCM-14, and MCM-17
- Calcium: MCM-06, MCM-07, and MCM-14
- pH: MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, and MCM-17
- TDS: MCM-07

The reporting limit for boron increased from 0.5 mg/L to 2.5 mg/L during the previous sample event and remains at 2.5 mg/L during this analysis. Each of the wells listed above with exceedances for boron contained measurements reported by the laboratory that were accompanied with a "J" flag to indicate these values were estimated between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL). While all estimated values at these wells exceeded the prediction limit of 1.3 mg/L, the Sanitas software does not identify estimated values as exceedances due to the assumption that regulatory decisions are typically made based on reported measurements above the PQL.

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-06, MCM-07, and MCM-14
- Calcium: MCM-07
- TDS: MCM-07

Decreasing:

- Calcium: MCM-11, MCM-18, and MCM-20 (all upgradient)
- pH: MCM-11 (upgradient), MCM-05, MCM-06, MCM-07, and MCM-14
- TDS: MCM-11 and MCM-18 (both upgradient)

Statistical Analysis of Appendix IV Parameters – March 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 well/constituent pairs that have 100% non-detects do not require analysis. Data from all 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).

First, interwell tolerance limits were used to calculate site-specific background limits from all available pooled upgradient well data through March 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. 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 March 2021 sample event (Figure G).

To complete the statistical comparison of downgradient well data to GWPS, confidence intervals were constructed for the Appendix IV constituents in each downgradient well. 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 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: MCM-06

State:

- Arsenic: MCM-06
- Lithium: MCM-06 and MCM-14

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 T. Collins
Project Manager



Kristina L. Rayner
Groundwater Statistician

100% Non-Detects

Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Beryllium (mg/L)
MCM-06

Lead (mg/L)
MCM-04

Interwell Prediction Limits - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 8:46 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	MCM-06	169	n/a	3/4/2021	233	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	3/4/2021	244	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	3/4/2021	205	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.81	3.36	3/4/2021	6.52	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.81	3.36	3/4/2021	6.94	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.81	3.36	3/4/2021	6.33	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.81	3.36	3/2/2021	6.34	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.81	3.36	3/2/2021	6.55	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.81	3.36	3/3/2021	6.58	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-07	14600	n/a	3/4/2021	17100	Yes	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2

Interwell Prediction Limits - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 8:46 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-04	1.3	n/a	3/4/2021	0.11J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-05	1.3	n/a	3/4/2021	0.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-06	1.3	n/a	3/4/2021	1.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-07	1.3	n/a	3/4/2021	1.6J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-12	1.3	n/a	3/2/2021	1.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-14	1.3	n/a	3/2/2021	1.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-17	1.3	n/a	3/3/2021	1.7J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-04	169	n/a	3/4/2021	15.1	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	3/4/2021	23.4	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-06	169	n/a	3/4/2021	233	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	3/4/2021	244	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-12	169	n/a	3/4/2021	6.5	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	3/4/2021	205	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-17	169	n/a	3/4/2021	143	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-04	8130	n/a	3/4/2021	69.6	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	3/4/2021	652	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-06	8130	n/a	3/4/2021	6310	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-07	8130	n/a	3/4/2021	7540	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-12	8130	n/a	3/2/2021	459	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-14	8130	n/a	3/2/2021	0.5ND	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-17	8130	n/a	3/3/2021	0.5ND	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-04	1.5	n/a	3/4/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	3/4/2021	0.45	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-06	1.5	n/a	3/4/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-07	1.5	n/a	3/4/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-12	1.5	n/a	3/2/2021	1	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-14	1.5	n/a	3/2/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-17	1.5	n/a	3/3/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-04	5.81	3.36	3/4/2021	5.31	No	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.81	3.36	3/4/2021	6.52	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.81	3.36	3/4/2021	6.94	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.81	3.36	3/4/2021	6.33	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.81	3.36	3/2/2021	6.34	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.81	3.36	3/2/2021	6.55	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.81	3.36	3/3/2021	6.58	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-04	1140	n/a	3/4/2021	99.1	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	3/4/2021	82.2	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-06	1140	n/a	3/4/2021	596	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-07	1140	n/a	3/4/2021	982	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-12	1140	n/a	3/2/2021	1.2	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-14	1140	n/a	3/2/2021	97.5	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-17	1140	n/a	3/3/2021	420	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-04	14600	n/a	3/4/2021	285	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-05	14600	n/a	3/4/2021	1700	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-06	14600	n/a	3/4/2021	14200	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-07	14600	n/a	3/4/2021	17100	Yes	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-12	14600	n/a	3/2/2021	1430	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-14	14600	n/a	3/2/2021	12000	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-17	14600	n/a	3/3/2021	8830	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2

Trend Test Summary - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 10:16 AM

<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MCM-06	0.1827	58	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-07	0.1656	54	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-14	0.1706	64	48	Yes	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	45.07	66	48	Yes	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-11 (bg)	-3.673	-48	-43	Yes	13	7.692	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-25.18	-41	-34	Yes	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-20 (bg)	-45.49	-35	-34	Yes	11	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.08015	-75	-58	Yes	16	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.1063	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-07	-0.08184	-54	-53	Yes	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.07081	-59	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1266	-86	-53	Yes	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-07	3348	77	48	Yes	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-11 (bg)	-39.73	-46	-43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-18 (bg)	-1825	-47	-34	Yes	11	0	n/a	n/a	0.01	NP

Trend Test Summary - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 10:16 AM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-01 (bg)	0.003133	22	43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-02 (bg)	-0.01667	-9	-43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-06	0.1827	58	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-07	0.1656	54	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-11 (bg)	0.004718	16	43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-12	0.02041	11	43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-14	0.1706	64	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-15 (bg)	0.01038	32	43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-16 (bg)	-0.006667	-13	-43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-17	-0.09481	-25	-48	No	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-18 (bg)	-0.0269	-14	-34	No	11	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-19 (bg)	0.03587	3	34	No	11	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-20 (bg)	0	1	34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-01 (bg)	0.4611	15	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-02 (bg)	-0.3024	-33	-43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-06	45.25	43	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	45.07	66	48	Yes	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-11 (bg)	-3.673	-48	-43	Yes	13	7.692	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-14	59.7	43	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-15 (bg)	0.3325	7	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-16 (bg)	0.1273	14	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-25.18	-41	-34	Yes	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-19 (bg)	-28.78	-26	-34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-20 (bg)	-45.49	-35	-34	Yes	11	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-01 (bg)	0.06432	39	53	No	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-02 (bg)	0.02023	31	53	No	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.08015	-75	-58	Yes	16	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.1063	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-07	-0.08184	-54	-53	Yes	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.07081	-59	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-12	-0.05177	-45	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1266	-86	-53	Yes	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-15 (bg)	-0.08568	-29	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-16 (bg)	0.05425	15	48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-17	-0.1219	-46	-53	No	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-18 (bg)	0.1568	29	30	No	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-19 (bg)	-0.0833	-18	-30	No	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-20 (bg)	-0.1921	-24	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-01 (bg)	-5.09	-16	-43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-02 (bg)	-7.464	-30	-43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-07	3348	77	48	Yes	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-11 (bg)	-39.73	-46	-43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-15 (bg)	10.17	15	43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-16 (bg)	1.344	6	43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-18 (bg)	-1825	-47	-34	Yes	11	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-19 (bg)	371.5	7	34	No	11	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-20 (bg)	-1278	-14	-34	No	11	0	n/a	n/a	0.01	NP

Tolerance Limits Summary

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:21 AM

<u>Constituent</u>	<u>Upper Lim.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	0.003	83	n/a	n/a	93.98	n/a	n/a	0.01416	NP Inter(NDs)
Arsenic (mg/L)	0.031	102	n/a	n/a	14.71	n/a	n/a	0.005343	NP Inter(normality)
Barium (mg/L)	0.22	99	n/a	n/a	0	n/a	n/a	0.006232	NP Inter(normality)
Beryllium (mg/L)	0.021	98	n/a	n/a	25.51	n/a	n/a	0.00656	NP Inter(normality)
Cadmium (mg/L)	0.0025	77	n/a	n/a	92.21	n/a	n/a	0.01926	NP Inter(NDs)
Chromium (mg/L)	0.011	83	n/a	n/a	46.99	n/a	n/a	0.01416	NP Inter(normality)
Cobalt (mg/L)	0.036	98	n/a	n/a	75.51	n/a	n/a	0.00656	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	55.8	97	n/a	n/a	0	n/a	n/a	0.006905	NP Inter(normality)
Fluoride (mg/L)	1.5	103	n/a	n/a	42.72	n/a	n/a	0.005076	NP Inter(normality)
Lead (mg/L)	0.005	98	n/a	n/a	80.61	n/a	n/a	0.00656	NP Inter(NDs)
Lithium (mg/L)	0.03	95	n/a	n/a	54.74	n/a	n/a	0.007651	NP Inter(normality)
Mercury (mg/L)	0.0007	77	n/a	n/a	93.51	n/a	n/a	0.01926	NP Inter(NDs)
Molybdenum (mg/L)	0.01	82	n/a	n/a	93.9	n/a	n/a	0.01491	NP Inter(NDs)
Selenium (mg/L)	0.15	99	n/a	n/a	59.6	n/a	n/a	0.006232	NP Inter(normality)
Thallium (mg/L)	0.001	82	n/a	n/a	91.46	n/a	n/a	0.01491	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	0.03	0.04	0.03
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 Interval Summary Table - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:39 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.04	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.

Federal Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008331	0.0028	0.031	No	14	0.005879	0.004391	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No	16	0.0152	0.01251	18.75	None	No	0.01	NP (Cohens/xfrm)
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02195	0.01109	0.031	No	16	0.01652	0.008345	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.02	0.0007	0.031	No	13	0.0102	0.009531	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.02	0.0008	0.031	No	13	0.01085	0.008988	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.02	0.0017	0.031	No	14	0.009029	0.008609	35.71	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09676	0.03202	2	No	13	0.07538	0.07744	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No	14	0.04916	0.1161	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	14	0.09989	0.0489	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No	13	0.1617	0.1016	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1298	0.1097	2	No	13	0.1198	0.01349	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1237	0.04782	2	No	13	0.08578	0.05104	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1284	0.0565	2	No	13	0.09245	0.04835	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.0005952	0.0002445	0.021	No	13	0.00037	0.0001781	30.77	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-05	0.0005	0.000054	0.021	No	14	0.0004681	0.0001192	92.86	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.0005	0.000078	0.021	No	13	0.0004055	0.0001798	76.92	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.0007366	0.0003954	0.021	No	13	0.0005908	0.0002044	15.38	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-14	0.0005	0.000097	0.021	No	13	0.0003498	0.0002003	61.54	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-17	0.0004965	0.0002216	0.021	No	13	0.0003262	0.0001374	30.77	Cohen's	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.02	0.006	0.036	No	14	0.01332	0.007045	50	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.02	0.0019	0.036	No	14	0.01871	0.004837	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.02	0.0009	0.036	No	14	0.01723	0.007046	85.71	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.02	0.0011	0.036	No	13	0.01855	0.005242	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.02	0.00053	0.036	No	13	0.01252	0.009847	61.54	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-14	0.02	0.0006	0.036	No	13	0.01851	0.005381	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.02	0.00052	0.036	No	13	0.01551	0.008534	76.92	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.218	3.179	55.8	No	13	4.783	2.274	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.717	1.341	55.8	No	14	2.105	1.199	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.299	2.539	55.8	No	13	5.201	3.358	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.522	5.33	55.8	No	14	7.426	2.959	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.141	2.089	55.8	No	13	2.615	0.7073	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.336	2.788	55.8	No	14	5.062	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.209	2.459	55.8	No	14	4.743	2.96	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.18	0.095	4	No	14	0.1438	0.1321	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5623	0.2891	4	No	16	0.4394	0.2242	6.25	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	14	0.2034	0.1528	42.86	None	No	0.01	NP (Cohens/xfrm)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	15	0.3044	0.2982	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.281	0.9397	4	No	14	1.079	0.326	7.143	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	15	0.2403	0.2041	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No	15	0.5689	0.5163	33.33	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No	14	0.004657	0.001283	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.015	No	14	0.004651	0.001304	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.015	No	13	0.003875	0.002137	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.015	No	13	0.003497	0.002346	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-14	0.005	0.00008	0.015	No	13	0.004622	0.001365	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.015	No	13	0.003535	0.002288	69.23	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.04	No	13	0.007985	0.006789	46.15	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.04	No	14	0.06651	0.1452	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.04	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.05737	0.01927	0.04	No	14	0.04446	0.03805	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.013	0.0106	0.04	No	13	0.01205	0.001514	15.38	None	No	0.01	NP (Cohens/xfrm)
Lithium (mg/L)	MCM-14	0.05066	0.03131	0.04	No	14	0.03606	0.01894	7.143	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02431	0.01361	0.04	No	13	0.01896	0.007193	7.692	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.04	0.0025	0.15	No	13	0.03407	0.01449	84.62	None	No	0.01	NP (NDs)

Federal Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Selenium (mg/L)	MCM-05	0.04	0.0023	0.15	No	14	0.02922	0.01769	71.43	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-06	0.04	0.002	0.15	No	14	0.01921	0.01877	42.86	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.04	0.0021	0.15	No	13	0.02014	0.01916	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.04	0.0017	0.15	No	13	0.01948	0.01978	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.04	0.0018	0.15	No	13	0.02279	0.01937	53.85	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.04	0.0018	0.15	No	13	0.02047	0.01893	46.15	None	No	0.01	NP (normality)

State Confidence Interval Summary Table - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:35 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.03	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-14	0.05066	0.03131	0.03	Yes	14	0.03606	0.01894	7.143	None	x^3	0.01	Param.

State Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:35 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008331	0.0028	0.031	No	14	0.005879	0.004391	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No	16	0.0152	0.01251	18.75	None	No	0.01	NP (Cohens/xfrm)
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02195	0.01109	0.031	No	16	0.01652	0.008345	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.02	0.0007	0.031	No	13	0.0102	0.009531	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.02	0.0008	0.031	No	13	0.01085	0.008988	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.02	0.0017	0.031	No	14	0.009029	0.008609	35.71	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09676	0.03202	2	No	13	0.07538	0.07744	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No	14	0.04916	0.1161	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	14	0.09989	0.0489	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No	13	0.1617	0.1016	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1298	0.1097	2	No	13	0.1198	0.01349	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1237	0.04782	2	No	13	0.08578	0.05104	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1284	0.0565	2	No	13	0.09245	0.04835	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.0005952	0.0002445	0.021	No	13	0.00037	0.0001781	30.77	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-05	0.0005	0.000054	0.021	No	14	0.0004681	0.0001192	92.86	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.0005	0.000078	0.021	No	13	0.0004055	0.0001798	76.92	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.0007366	0.0003954	0.021	No	13	0.0005908	0.0002044	15.38	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-14	0.0005	0.000097	0.021	No	13	0.0003498	0.0002003	61.54	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-17	0.0004965	0.0002216	0.021	No	13	0.0003262	0.0001374	30.77	Cohen's	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.02	0.006	0.036	No	14	0.01332	0.007045	50	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.02	0.0019	0.036	No	14	0.01871	0.004837	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.02	0.0009	0.036	No	14	0.01723	0.007046	85.71	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.02	0.0011	0.036	No	13	0.01855	0.005242	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.02	0.00053	0.036	No	13	0.01252	0.009847	61.54	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-14	0.02	0.0006	0.036	No	13	0.01851	0.005381	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.02	0.00052	0.036	No	13	0.01551	0.008534	76.92	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.218	3.179	55.8	No	13	4.783	2.274	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.717	1.341	55.8	No	14	2.105	1.199	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.299	2.539	55.8	No	13	5.201	3.358	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.522	5.33	55.8	No	14	7.426	2.959	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.141	2.089	55.8	No	13	2.615	0.7073	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.336	2.788	55.8	No	14	5.062	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.209	2.459	55.8	No	14	4.743	2.96	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.18	0.095	4	No	14	0.1438	0.1321	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5623	0.2891	4	No	16	0.4394	0.2242	6.25	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	14	0.2034	0.1528	42.86	None	No	0.01	NP (Cohens/xfrm)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	15	0.3044	0.2982	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.281	0.9397	4	No	14	1.079	0.326	7.143	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	15	0.2403	0.2041	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No	15	0.5689	0.5163	33.33	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No	14	0.004657	0.001283	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.005	No	14	0.004651	0.001304	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.005	No	13	0.003875	0.002137	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.005	No	13	0.003497	0.002346	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-14	0.005	0.00008	0.005	No	13	0.004622	0.001365	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.005	No	13	0.003535	0.002288	69.23	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.03	No	13	0.007985	0.006789	46.15	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.03	No	14	0.06651	0.1452	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.03	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.05737	0.01927	0.03	No	14	0.04446	0.03805	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.013	0.0106	0.03	No	13	0.01205	0.001514	15.38	None	No	0.01	NP (Cohens/xfrm)
Lithium (mg/L)	MCM-14	0.05066	0.03131	0.03	Yes	14	0.03606	0.01894	7.143	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02431	0.01361	0.03	No	13	0.01896	0.007193	7.692	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.04	0.0025	0.15	No	13	0.03407	0.01449	84.62	None	No	0.01	NP (NDs)

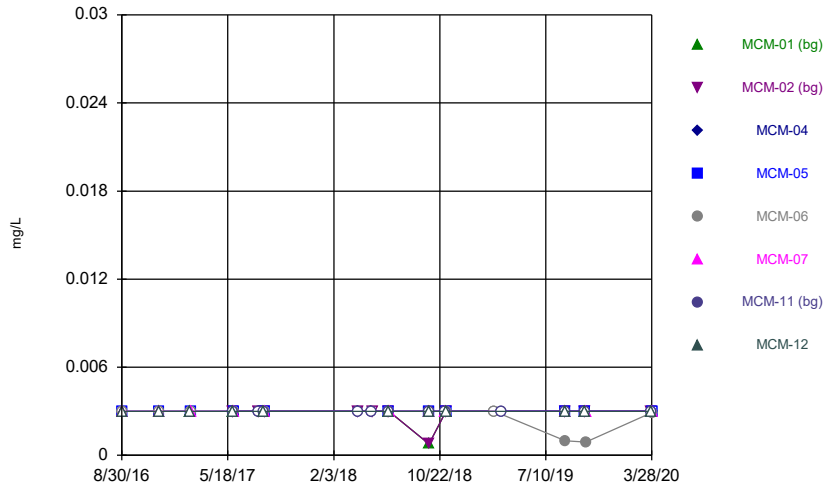
State Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:35 AM

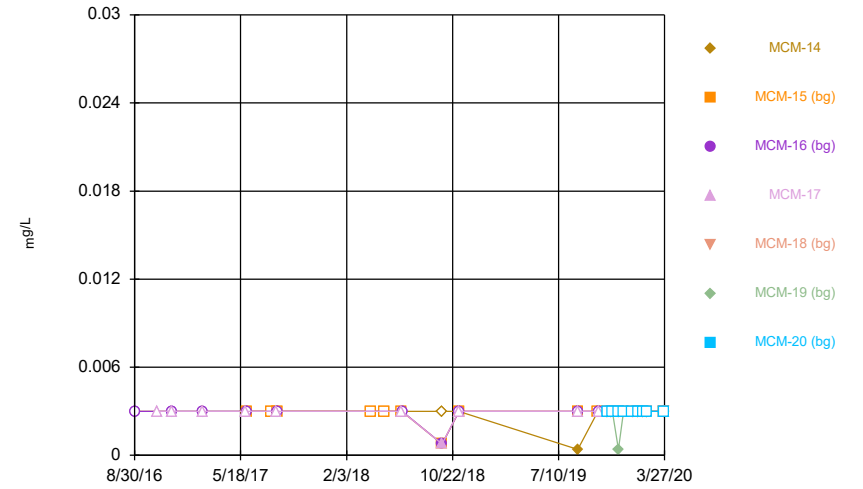
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Selenium (mg/L)	MCM-05	0.04	0.0023	0.15	No	14	0.02922	0.01769	71.43	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-06	0.04	0.002	0.15	No	14	0.01921	0.01877	42.86	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.04	0.0021	0.15	No	13	0.02014	0.01916	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.04	0.0017	0.15	No	13	0.01948	0.01978	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.04	0.0018	0.15	No	13	0.02279	0.01937	53.85	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.04	0.0018	0.15	No	13	0.02047	0.01893	46.15	None	No	0.01	NP (normality)

FIGURE A.

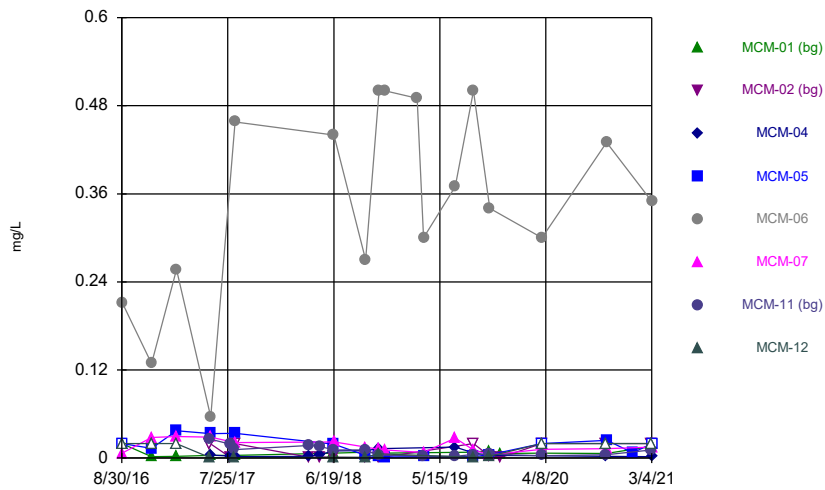
Time Series



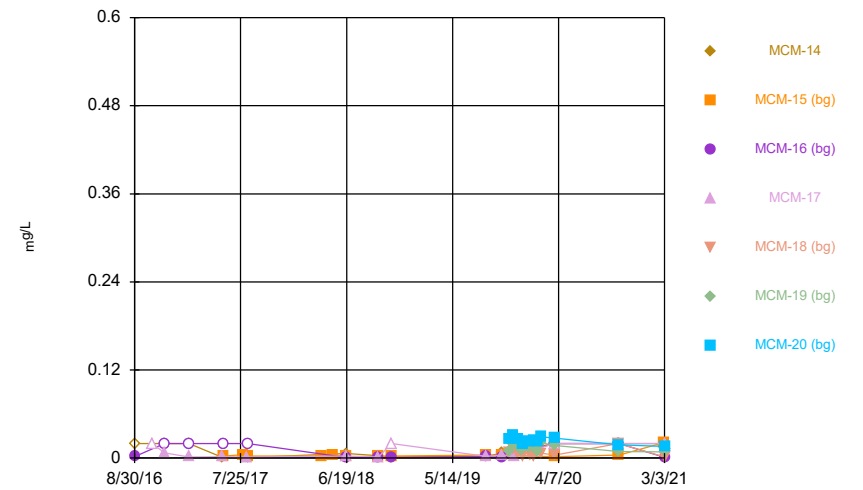
Time Series



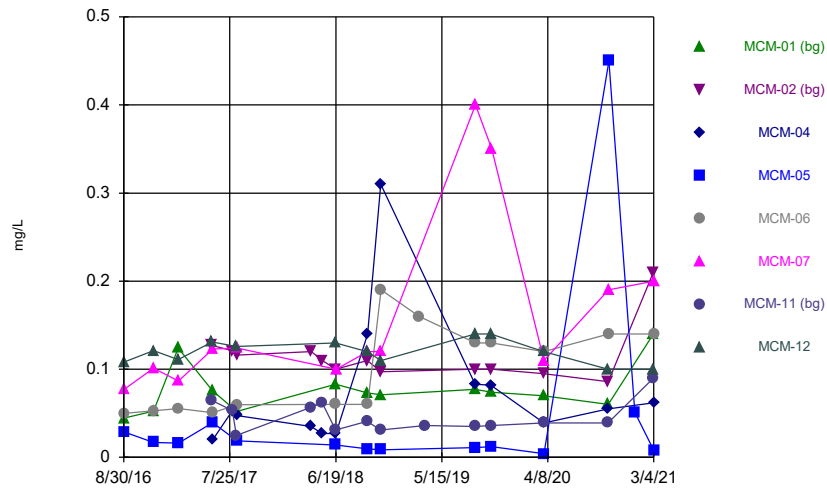
Time Series



Time Series

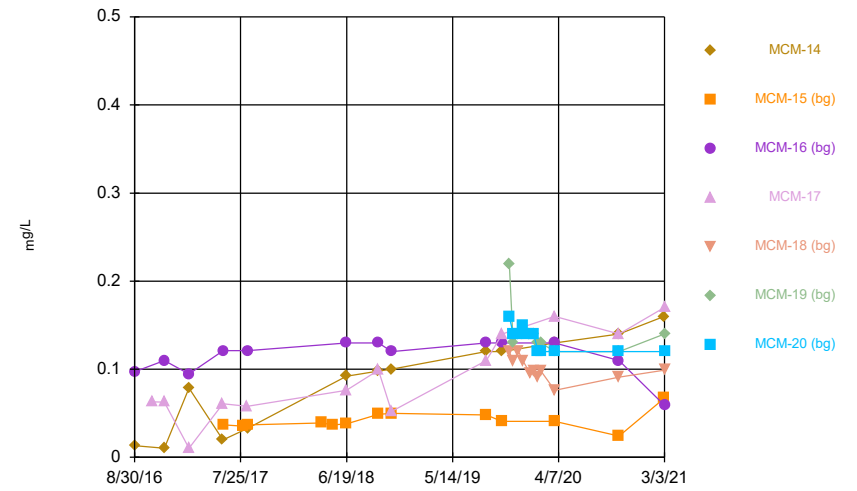


Time Series



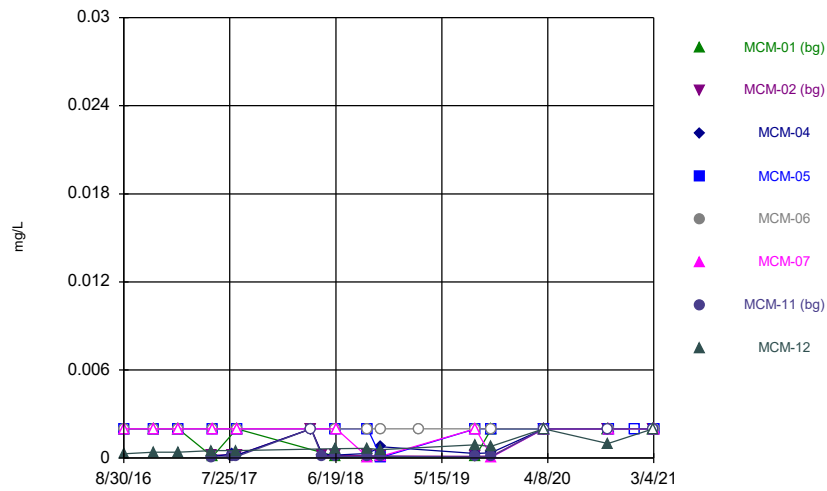
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



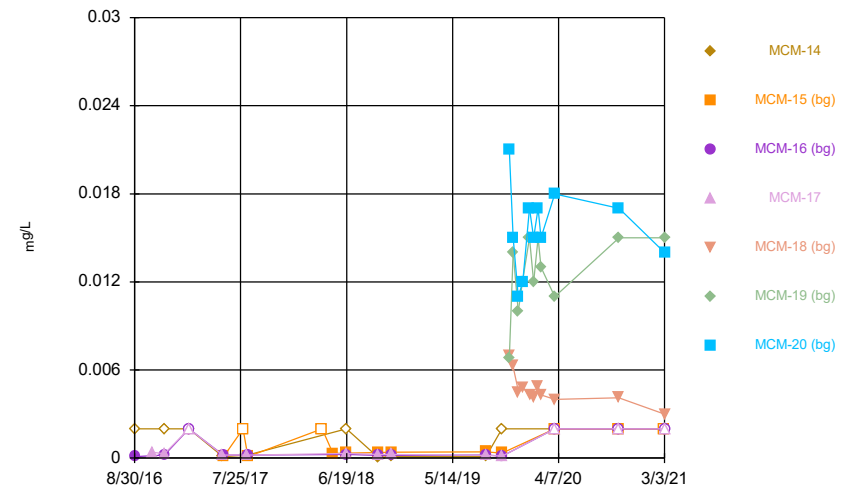
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



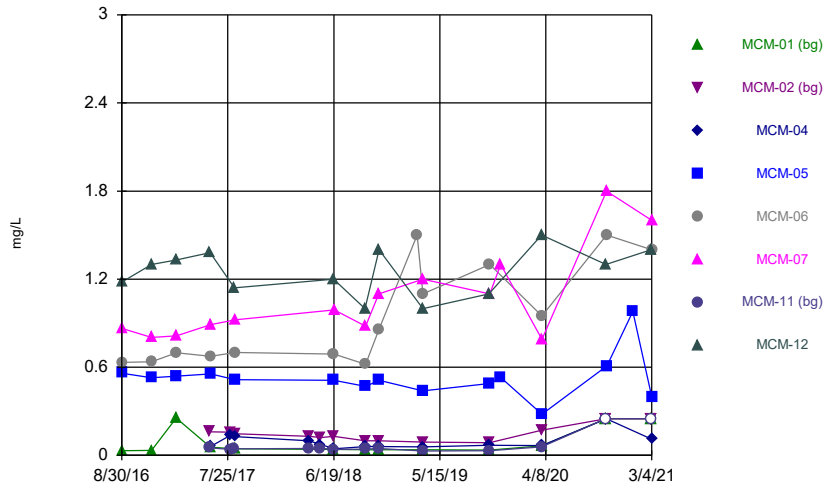
Constituent: Beryllium Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



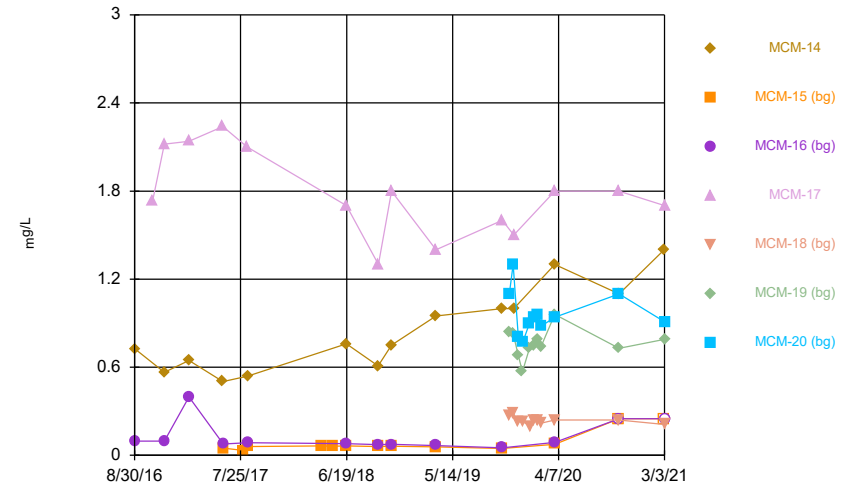
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



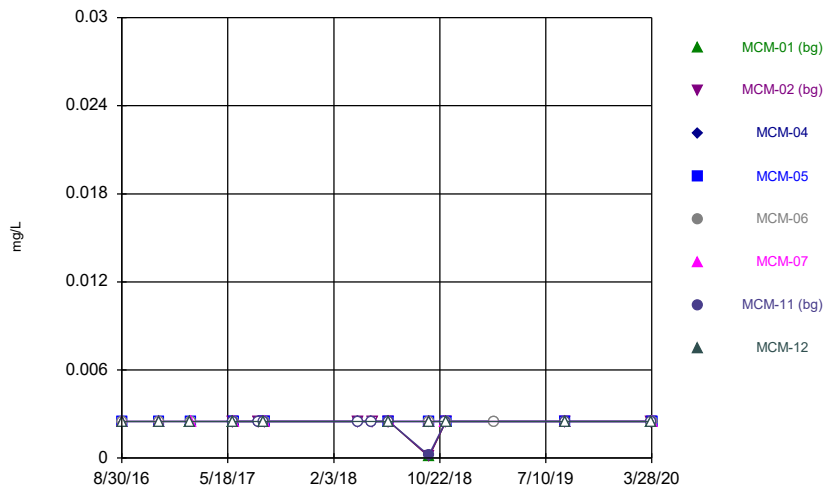
Constituent: Boron Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



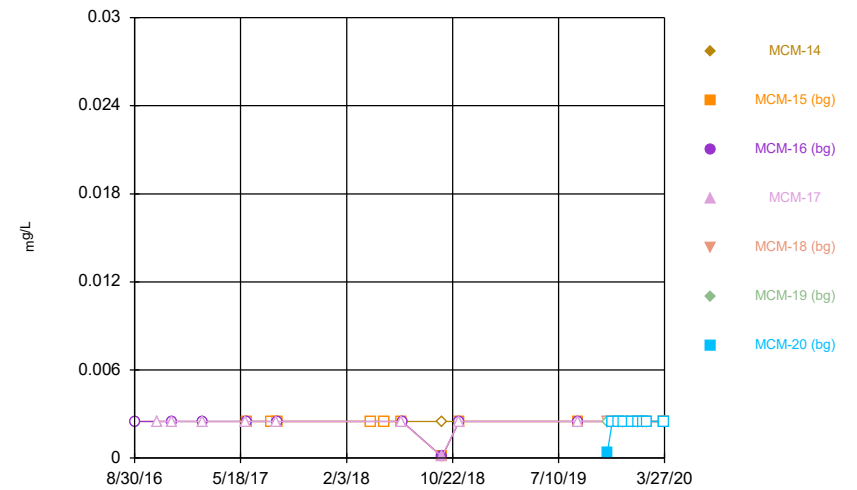
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



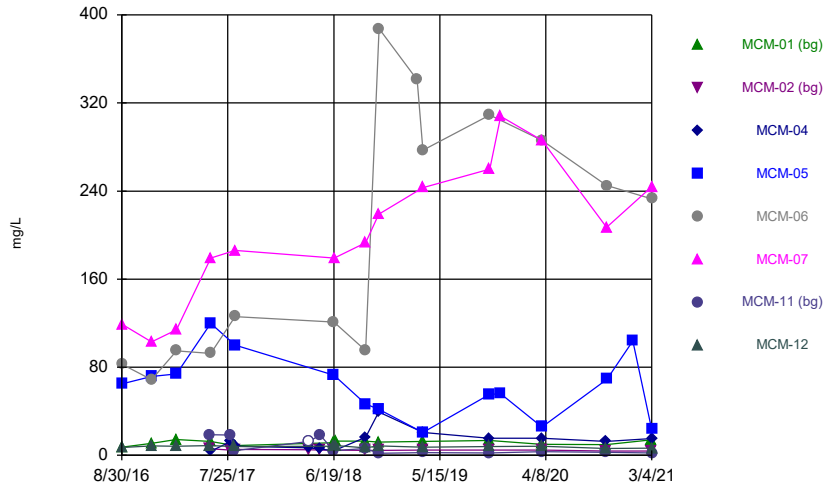
Constituent: Cadmium Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



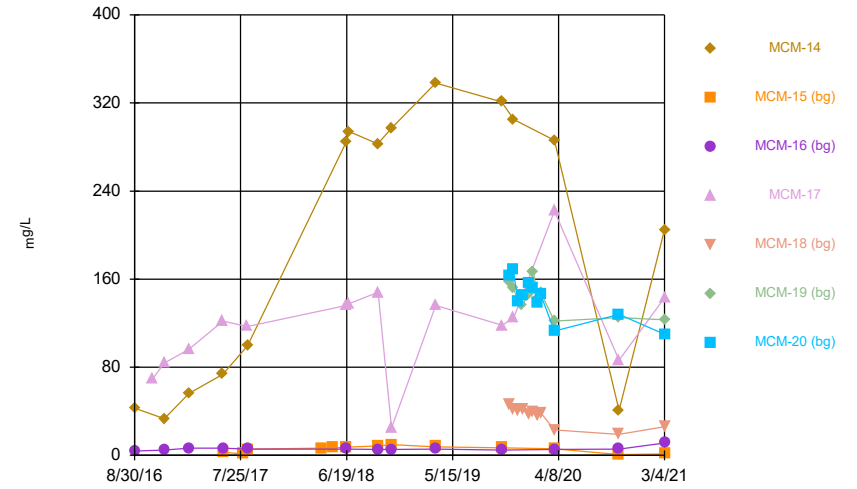
Constituent: Cadmium Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



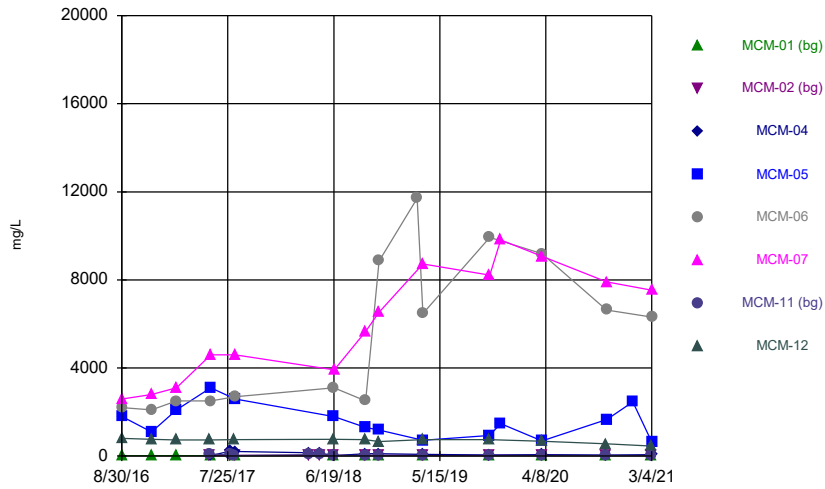
Constituent: Calcium Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



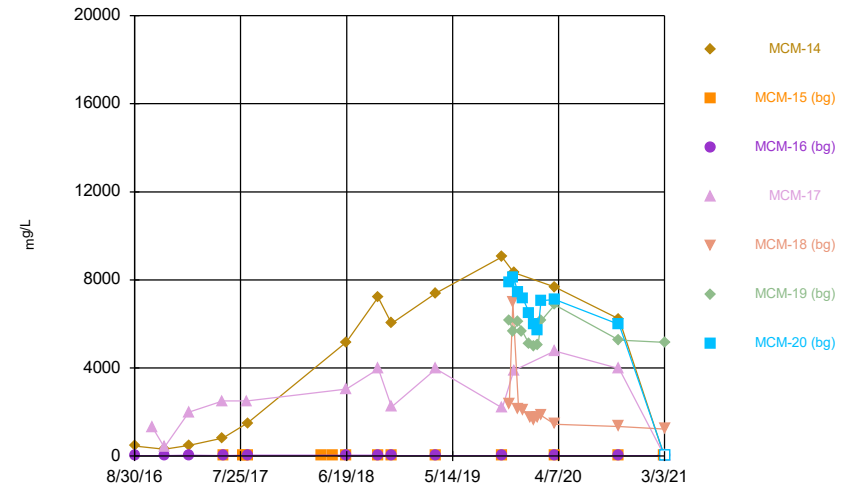
Constituent: Calcium Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



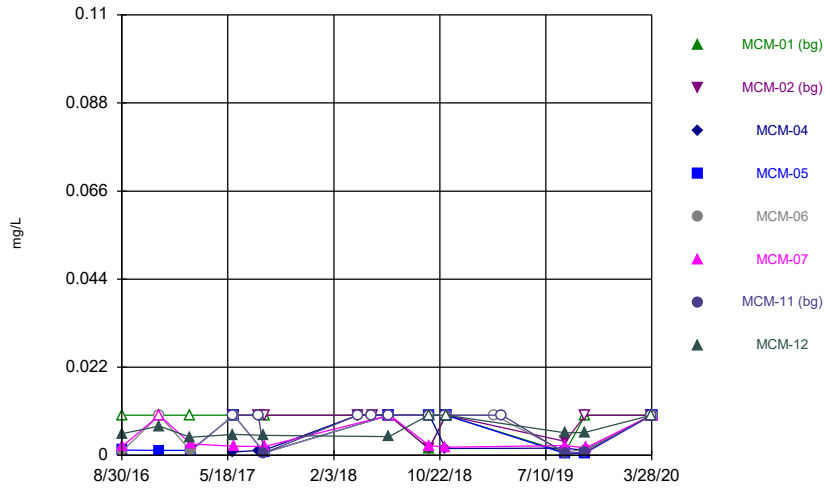
Constituent: Chloride Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



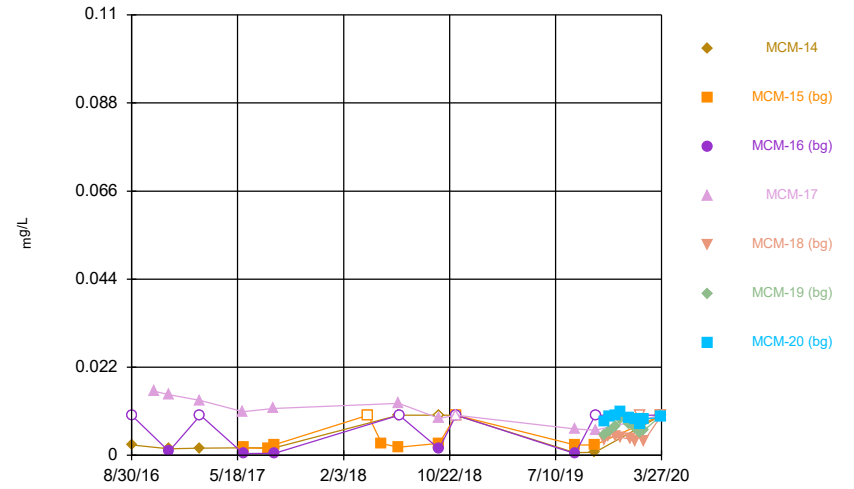
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



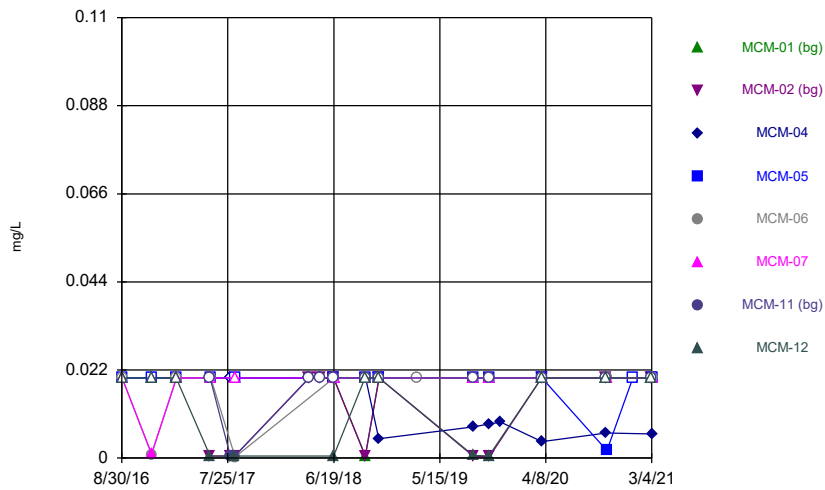
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



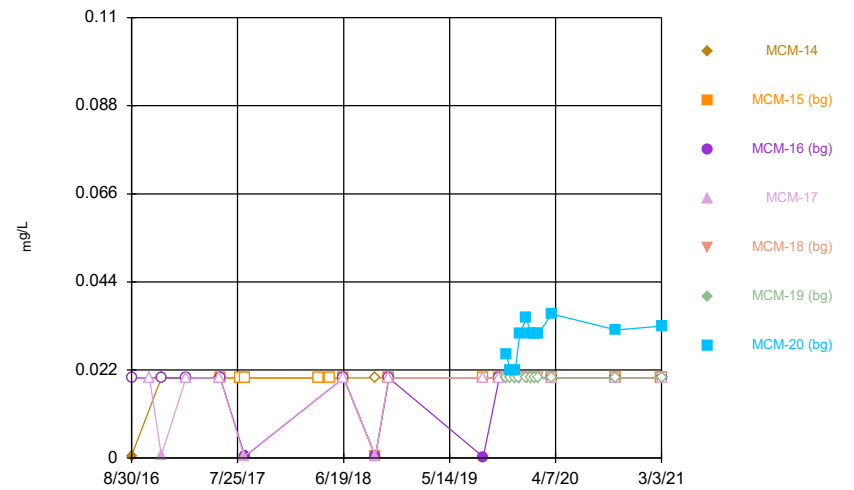
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



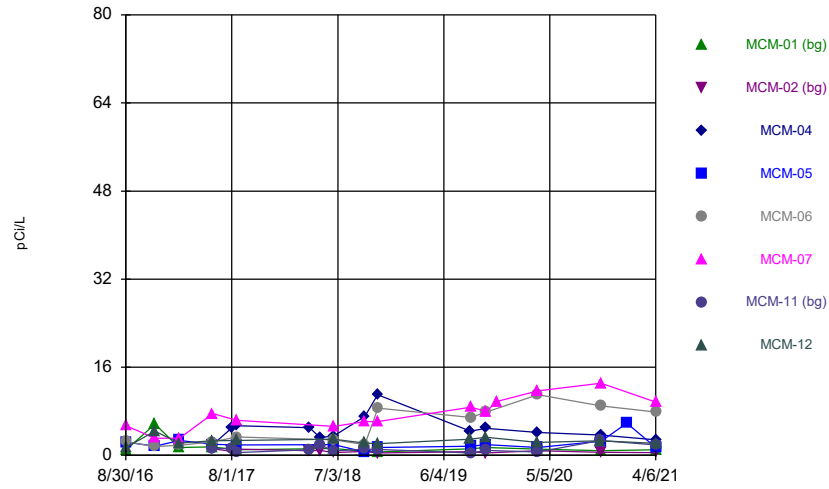
Constituent: Cobalt Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



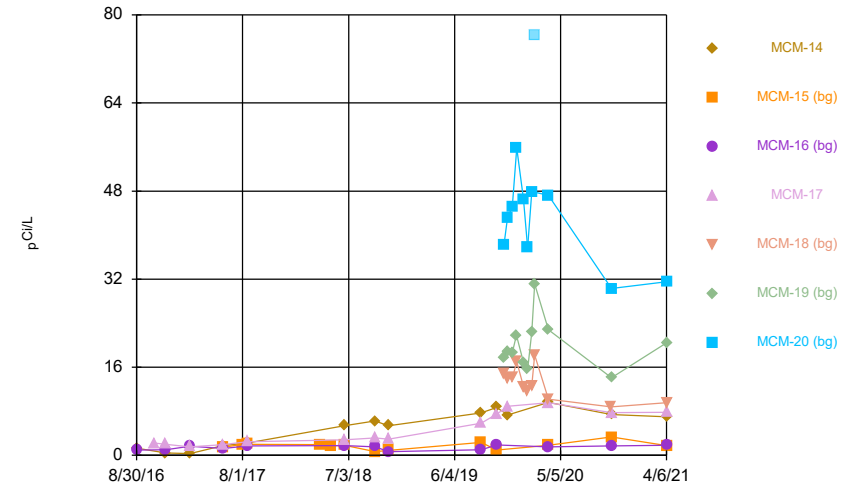
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



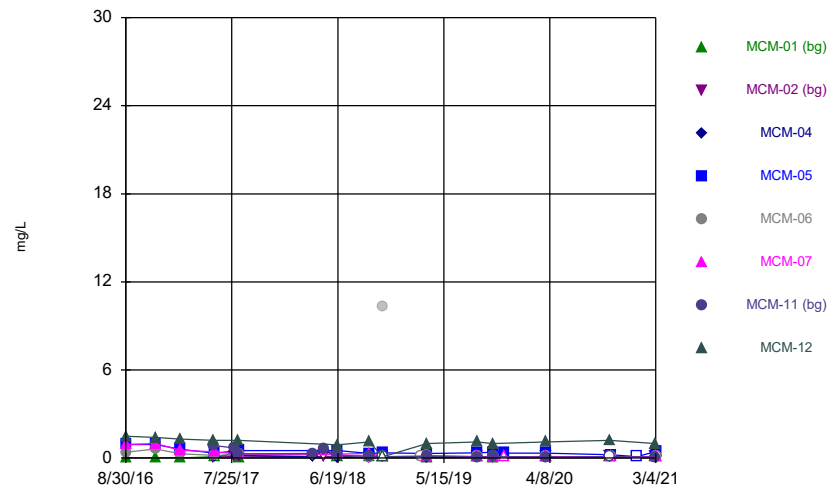
Constituent: Combined Radium 226 + 228 Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



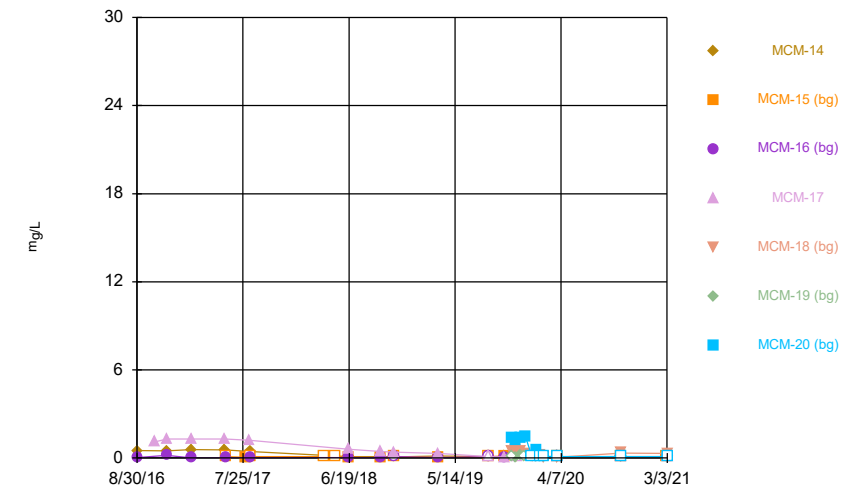
Constituent: Combined Radium 226 + 228 Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



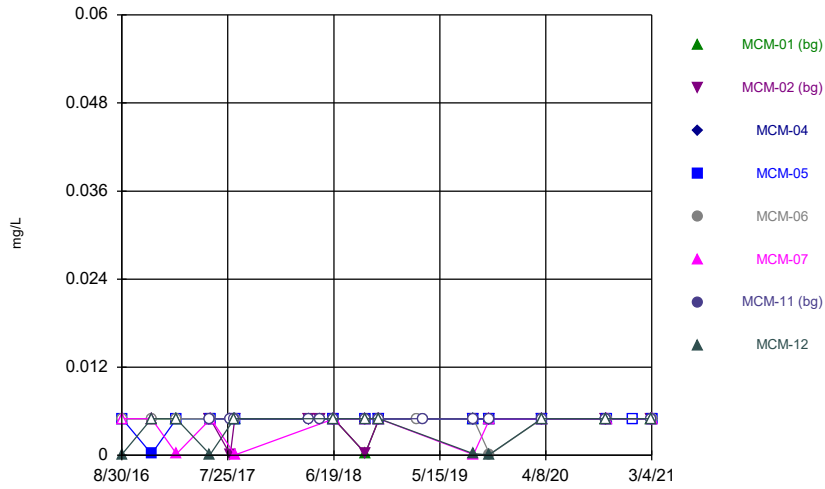
Constituent: Fluoride Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



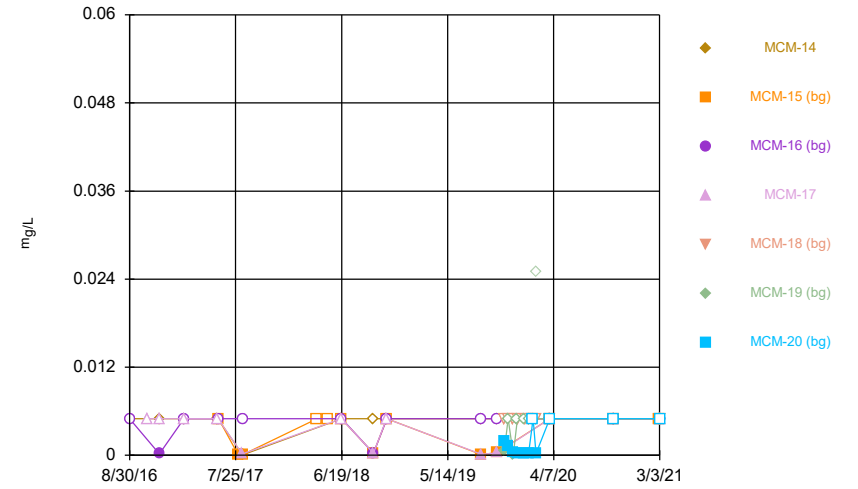
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Time Series



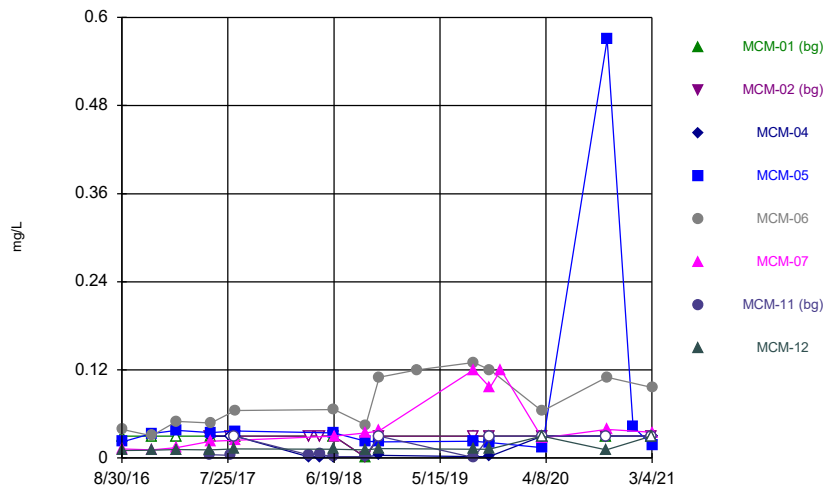
Constituent: Lead Analysis Run 6/3/2021 2:35 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



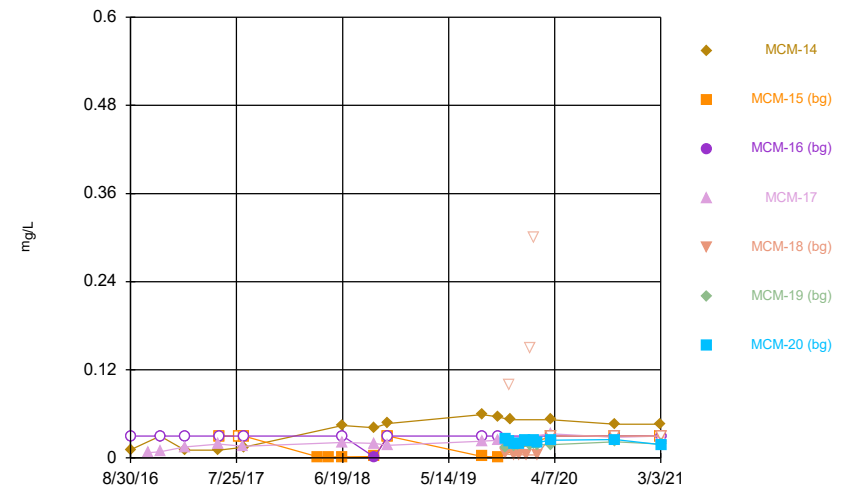
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



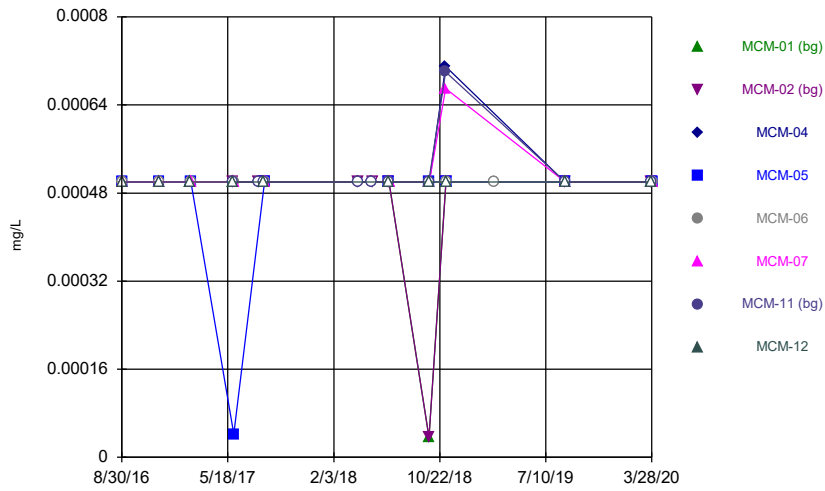
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



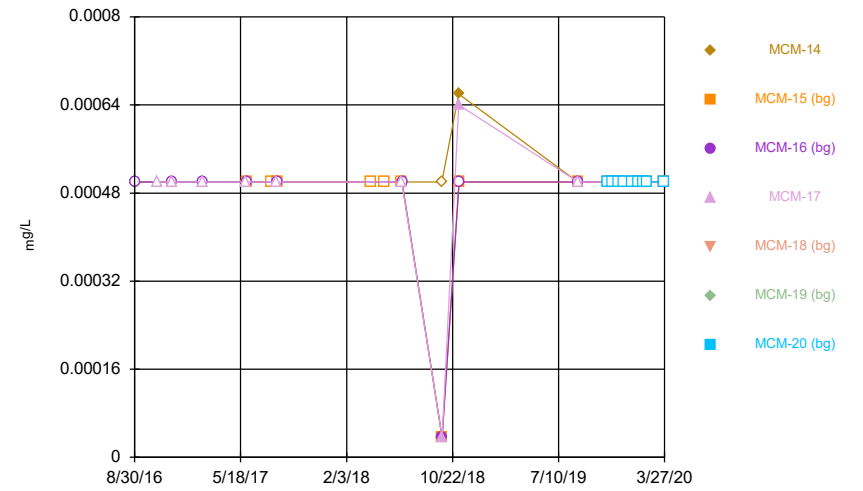
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 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



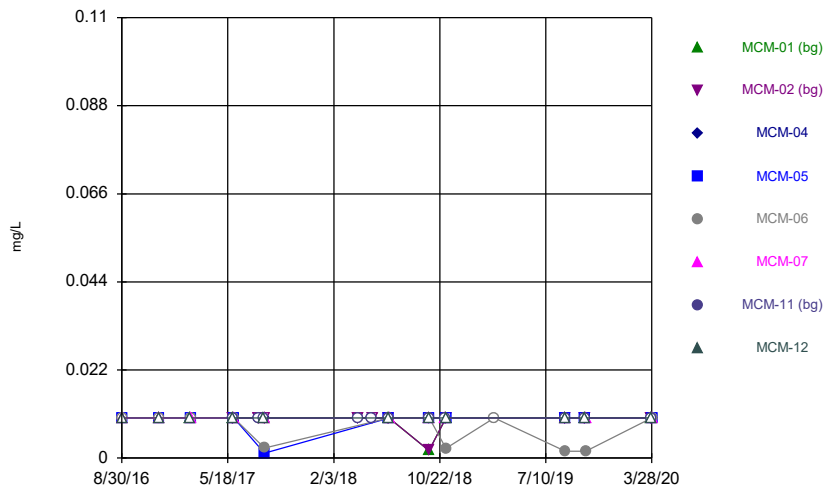
Constituent: Mercury Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



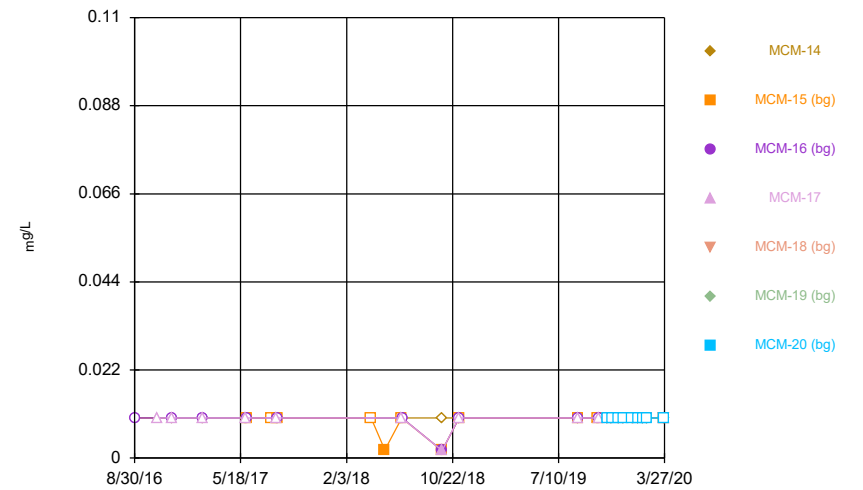
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



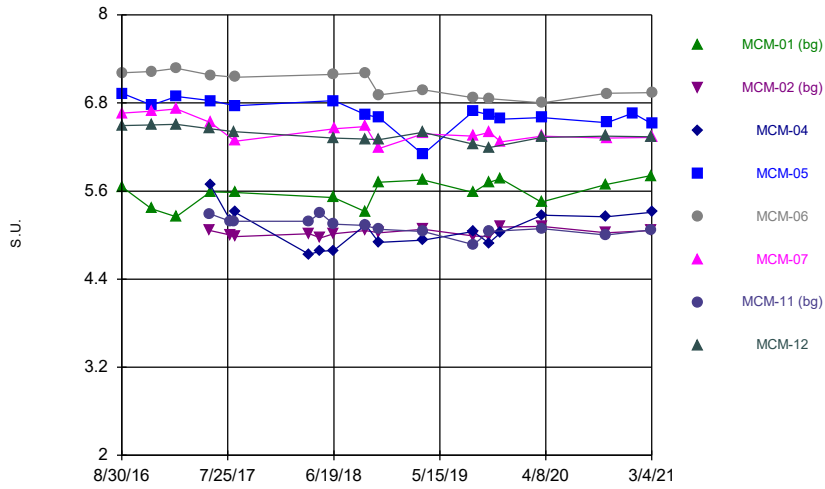
Constituent: Molybdenum Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



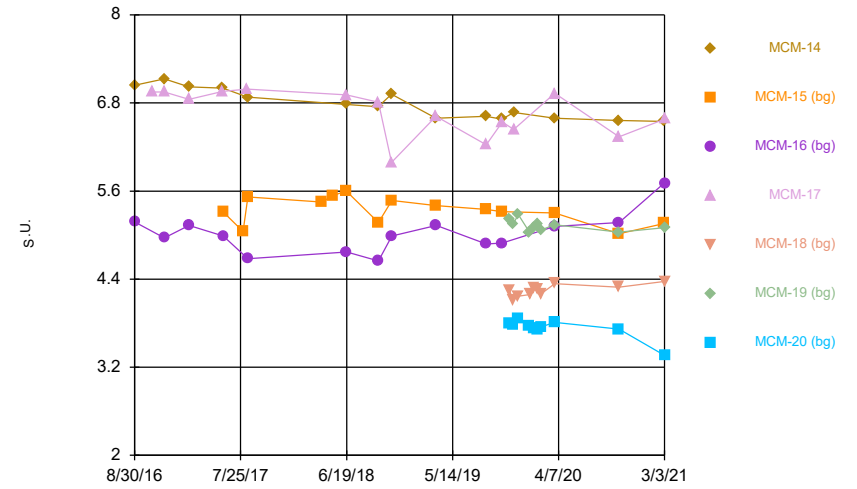
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



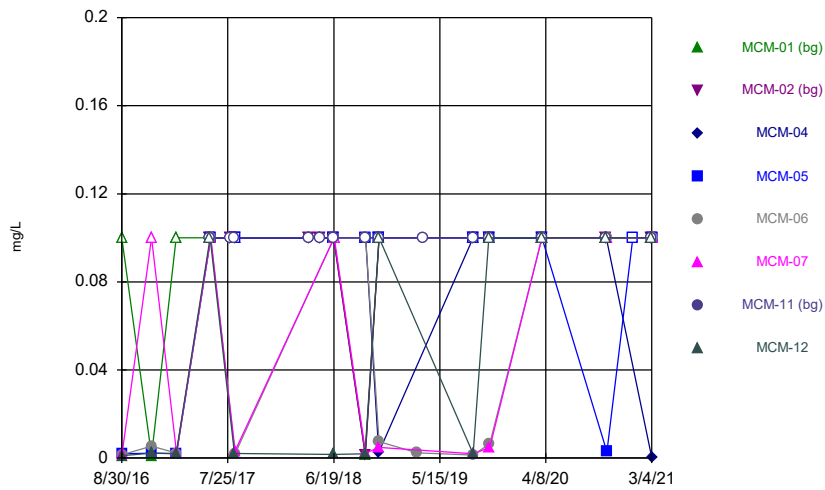
Constituent: pH Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



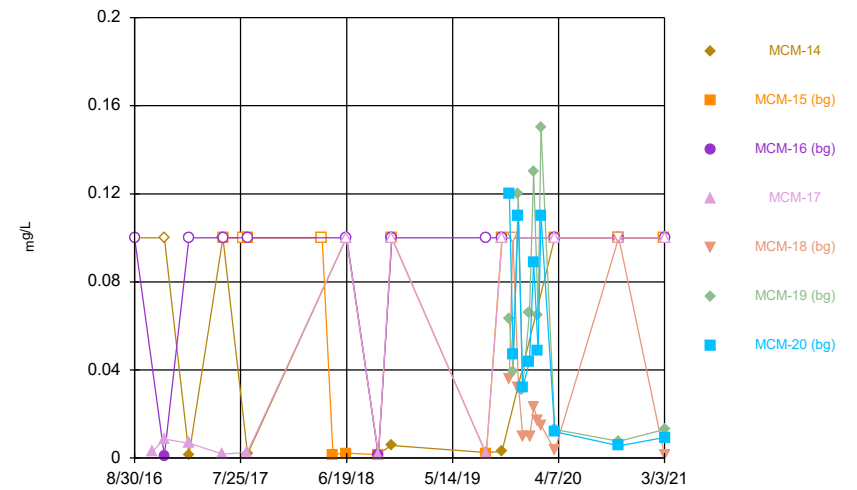
Constituent: pH Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



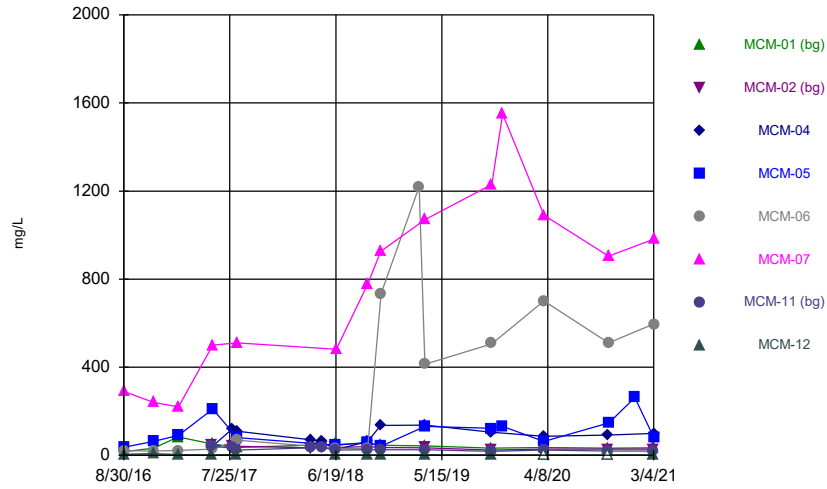
Constituent: Selenium Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



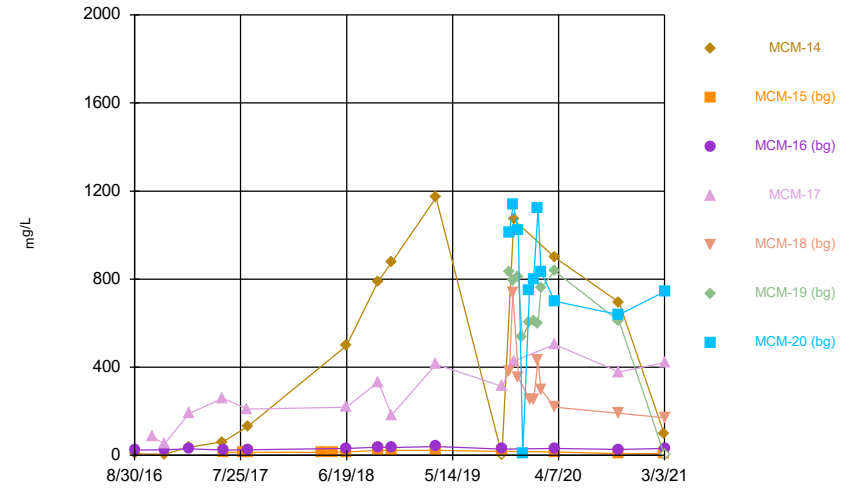
Constituent: Selenium Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



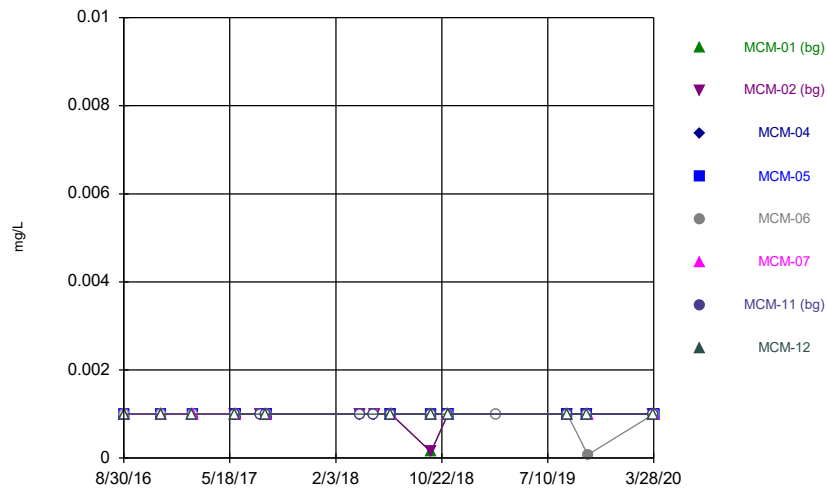
Constituent: Sulfate Analysis Run 6/3/2021 2:35 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



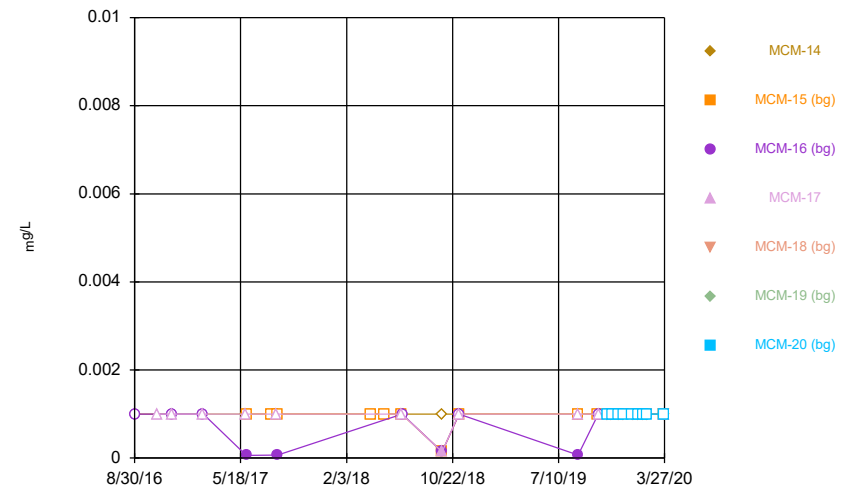
Constituent: Sulfate Analysis Run 6/3/2021 2:36 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



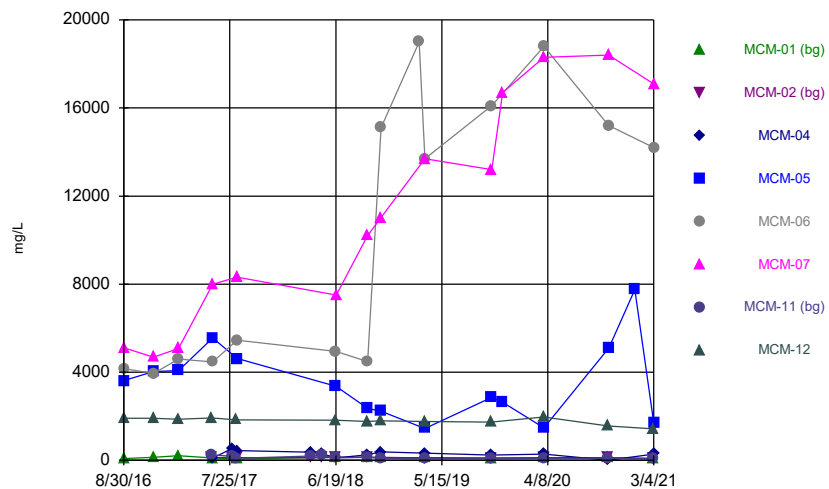
Constituent: Thallium Analysis Run 6/3/2021 2:36 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



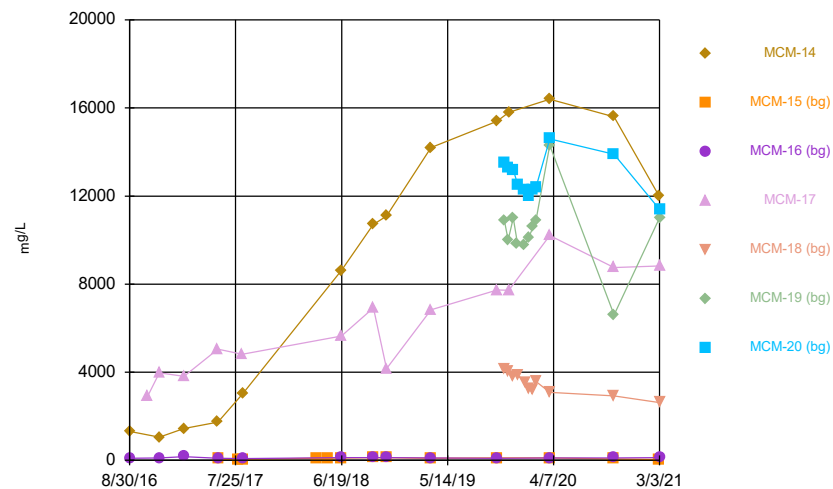
Constituent: Thallium Analysis Run 6/3/2021 2:36 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



Constituent: Total Dissolved Solids Analysis Run 6/3/2021 2:36 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series



Constituent: Total Dissolved Solids Analysis Run 6/3/2021 2:36 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Time Series

Constituent: Antimony (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.003							<0.003	<0.003
8/31/2016				<0.003	<0.003	<0.003			
11/30/2016	<0.003			<0.003	<0.003	<0.003		<0.003	<0.003
2/15/2017	<0.003							<0.003	<0.003
2/16/2017				<0.003	<0.003	<0.003			
5/31/2017		<0.003					<0.003	<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	<0.003	
8/16/2017	<0.003	<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	<0.003	<0.003
6/20/2018			<0.003	<0.003	<0.003				
6/21/2018						<0.003			
9/25/2018							<0.003	<0.003	<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		<0.003
11/7/2018	<0.003	<0.003		<0.003	<0.003			<0.003	
3/6/2019					<0.003				
3/25/2019							<0.003		
8/26/2019									0.0004 (J)
8/27/2019	<0.003		<0.003					<0.003	
8/28/2019		<0.003		<0.003	0.00098 (J)	<0.003	<0.003		
10/15/2019			<0.003					<0.003	<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	<0.003	<0.003
3/28/2020			<0.003	<0.003	0.0029 (J)	<0.003			

Time Series

Constituent: Arsenic (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.02							<0.02	<0.02
8/31/2016				<0.02	0.212	0.0066			
11/30/2016	0.0018 (J)			0.0132	0.129	0.0281		<0.02	<0.02
2/15/2017	0.0022 (J)							<0.02	<0.02
2/16/2017				0.0372	0.257	0.0295			
5/31/2017		<0.02					0.0259	0.0007 (J)	0.0008 (J)
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	0.0006 (J)	
8/16/2017	0.0038 (J)	<0.02							0.0007 (J)
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	0.001 (J)	0.0062 (J)
6/20/2018			0.0099	0.019	0.44				
6/21/2018						0.022 (J)			
9/25/2018							0.011	0.0011 (J)	0.0031 (J)
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)		0.0014 (J)
11/7/2018	0.0069	0.00059 (J)		0.002 (J)	0.5			0.0057	
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)		
8/26/2019									0.0022 (J)
8/27/2019	0.0079		0.0072					0.0011 (J)	
8/28/2019		<0.02		0.0019 (J)	0.5	0.011	0.005 (J)		
10/15/2019			0.0038 (J)					0.0024 (J)	0.0067
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		<0.02					0.0034 (J)	<0.02	<0.02
3/28/2020			0.0034 (J)	<0.02	0.3	0.012			
10/12/2020							0.0047 (J)	<0.02	
10/13/2020	0.0061	<0.02	0.0022 (J)						<0.02
10/14/2020					0.43	0.013			
10/15/2020				0.024					
1/4/2021				0.0072					
3/2/2021								<0.02	<0.02
3/3/2021	0.016 (J)	<0.02					0.011 (J)		
3/4/2021			0.0018 (J)	<0.02	0.35	0.015 (J)			

Time Series

Constituent: Arsenic (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		0.0018 (J)				
10/25/2016			<0.02			
11/30/2016		<0.02	0.0072			
2/15/2017		<0.02	0.0017 (J)			
5/31/2017			0.0018 (J)			
6/1/2017		<0.02				
6/2/2017	0.0026 (J)					
8/2/2017	0.0047 (J)					
8/15/2017			0.0015 (J)			
8/17/2017	0.0028 (J)	<0.02				
4/4/2018	0.0029 (J)					
5/8/2018	0.0048 (J)					
6/19/2018	0.0019 (J)		0.0029 (J)			
6/20/2018		0.00058 (J)				
9/26/2018	0.0023 (J)	0.00057	0.0015 (J)			
11/6/2018			<0.02			
11/7/2018	0.0028	0.00057				
8/27/2019	0.0041 (J)	0.0019 (J)	0.0024 (J)			
10/15/2019	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				<0.02	0.0092 (J)	0.022 (J)
2/13/2020				0.0066	0.021 (J)	0.029
3/27/2020	0.0018 (J)	<0.02	<0.02	0.0043 (J)	0.017	0.027
10/12/2020				<0.02		
10/13/2020	0.0042 (J)	<0.02	<0.02		0.0089	0.018
3/2/2021	0.021 (J)					
3/3/2021		0.0012 (J)	<0.02	0.0014 (J)	0.0086 (J)	0.016 (J)

Time Series

Constituent: Barium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	0.0443							0.108	0.0131
8/31/2016				0.0289	0.0498	0.0771			
11/30/2016	0.0524			0.0168	0.0528	0.101		0.121	0.0105
2/15/2017	0.124							0.111	0.0786
2/16/2017				0.016	0.0555	0.0865			
5/31/2017		0.127					0.0646	0.131	0.0199
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	0.126	
8/16/2017	0.0522	0.116							0.033
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	0.13	0.092
6/20/2018			0.027	0.014	0.06				
6/21/2018						0.1			
9/25/2018							0.041	0.12	0.098
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		0.1
11/7/2018	0.071	0.097		0.0085 (J)	0.19			0.11	
3/6/2019					0.16				
3/25/2019							0.036		
8/26/2019									0.12
8/27/2019	0.077		0.083					0.14	
8/28/2019		0.1		0.011	0.13	0.4	0.035		
10/15/2019			0.082					0.14	0.12
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	0.12	0.13
3/28/2020			0.039	0.0041 (J)	0.12	0.11			
10/12/2020							0.039	0.1	
10/13/2020	0.06	0.086	0.055						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	0.14	0.21					0.09		
3/4/2021			0.062	0.0082 (J)	0.14	0.2			

Time Series

Constituent: Barium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		0.0973				
10/25/2016			0.063			
11/30/2016		0.11	0.0628			
2/15/2017		0.0945	0.0102			
5/31/2017			0.061			
6/1/2017		0.121				
6/2/2017	0.0368 (J)					
8/2/2017	0.0355					
8/15/2017			0.0579			
8/17/2017	0.037	0.121				
4/4/2018	0.039					
5/8/2018	0.037					
6/19/2018	0.038		0.076			
6/20/2018		0.13				
9/26/2018	0.049	0.13	0.099			
11/6/2018			0.052			
11/7/2018	0.05	0.12				
8/27/2019	0.048	0.13	0.11			
10/15/2019	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	0.041	0.13	0.16	0.076	0.12	0.12
10/12/2020				0.091		
10/13/2020	0.024	0.11	0.14		0.12	0.12
3/2/2021	0.067					
3/3/2021		0.059	0.17	0.099	0.14	0.12

Time Series

Constituent: Beryllium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.002							0.0003 (J)	<0.002
8/31/2016				<0.002	<0.002	<0.002			
11/30/2016	<0.002			<0.002	<0.002	<0.002		0.0004 (J)	<0.002
2/15/2017	<0.002							0.0004 (J)	<0.002
2/16/2017				<0.002	<0.002	<0.002			
5/31/2017		0.0002 (J)					7E-05 (J)	0.0005 (J)	0.0001 (J)
6/1/2017	9E-05 (J)		0.0001 (J)						
6/2/2017				<0.002	<0.002	<0.002			
8/2/2017		0.0002 (J)	0.0003 (J)				0.0001 (J)		
8/15/2017							9E-05 (J)	0.0005 (J)	
8/16/2017	<0.002	0.0002 (J)							0.0002 (J)
8/17/2017			0.0002 (J)	<0.002	<0.002	<0.002			
4/4/2018			<0.002				<0.002		
4/5/2018		<0.002							
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)	0.00065 (J)	<0.002
6/20/2018			0.00021 (J)	<0.002	<0.002				
6/21/2018						<0.002			
9/25/2018							0.0001 (J)	0.00066 (J)	5E-05 (J)
9/26/2018	9.2E-05 (J)	0.00017 (J)							
9/27/2018			0.00031 (J)	<0.002	<0.002	7.4E-05 (J)			
11/6/2018			0.00077 (J)			0.00012 (J)	0.00012 (J)		9.7E-05 (J)
11/7/2018	0.0001 (J)	0.00015 (J)		5.4E-05 (J)	<0.002			0.00058 (J)	
3/6/2019					<0.002				
8/26/2019									0.0001 (J)
8/27/2019	9E-05 (J)		0.00032 (J)					0.0009 (J)	
8/28/2019		0.00011 (J)		<0.002	<0.002	<0.002	8.4E-05 (J)		
10/15/2019			0.00035 (J)					0.00079 (J)	<0.002
10/16/2019	<0.002	0.00013 (J)		<0.002			9E-05 (J)		
10/17/2019					<0.002	7.8E-05 (J)			
3/26/2020	<0.002								
3/27/2020		<0.002					<0.002	<0.002	<0.002
3/28/2020			<0.002	<0.002	<0.002	<0.002			
10/12/2020							<0.002	0.001 (J)	
10/13/2020	<0.002	<0.002	<0.002						<0.002
10/14/2020					<0.002	<0.002			
10/15/2020				<0.002					
1/4/2021				<0.002					
3/2/2021								<0.002	<0.002
3/3/2021	<0.002	<0.002					<0.002		
3/4/2021			<0.002	<0.002	<0.002	<0.002			

Time Series

Constituent: Beryllium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		0.0001 (J)				
10/25/2016			0.0004 (J)			
11/30/2016		0.0002 (J)	0.0003 (J)			
2/15/2017		<0.002	<0.002			
5/31/2017			0.0002 (J)			
6/1/2017		0.0002 (J)				
6/2/2017	0.0001 (J)					
8/2/2017	<0.002					
8/15/2017			0.0002 (J)			
8/17/2017	0.0001 (J)	0.0002 (J)				
4/4/2018	<0.002					
5/8/2018	0.00031 (J)					
6/19/2018	0.00034 (J)		0.00032 (J)			
6/20/2018		0.00024 (J)				
9/26/2018	0.00039 (J)	0.00019 (J)	0.00024 (J)			
11/6/2018			0.00026 (J)			
11/7/2018	0.00041 (J)	0.00019 (J)				
8/27/2019	0.00042 (J)	0.00021 (J)	0.00018 (J)			
10/15/2019	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	<0.002	<0.002	<0.002	0.004	0.011	0.018
10/12/2020				0.0041		
10/13/2020	<0.002	<0.002	<0.002		0.015	0.017
3/2/2021	<0.002					
3/3/2021		<0.002	<0.002	0.003	0.015	0.014

Time Series

Constituent: Boron (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	0.0325 (J)							1.18	0.726
8/31/2016				0.56	0.632	0.863			
11/30/2016	0.0334 (J)			0.529	0.637	0.804		1.3	0.565
2/15/2017	0.254							1.33	0.647
2/16/2017				0.539	0.698	0.815			
5/31/2017		0.161					0.0521	1.38	0.503
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	1.14	
8/16/2017	0.0435	0.148							0.539
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	1.2	0.76
6/20/2018			0.045	0.51	0.69				
6/21/2018						0.99			
9/25/2018							0.043	1	0.61
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		0.75
11/7/2018	0.037 (J)	0.1		0.51	0.86			1.4	
3/6/2019					1.5				
3/24/2019				0.44	1.1	1.2		1	0.95
3/25/2019	0.038 (J)	0.091	0.058				0.03 (J)		
10/15/2019			0.068					1.1	1
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			
11/21/2019									1
3/26/2020	0.064 (J)								
3/27/2020		0.17 (J)					0.058 (J)	1.5	1.3
3/28/2020			0.067 (J)	0.28 (J)	0.95	0.79			
10/12/2020							<0.5	1.3	
10/13/2020	<0.5	<0.5	<0.5						1.1
10/14/2020					1.5	1.8			
10/15/2020				0.61					
1/4/2021				0.98					
3/2/2021								1.4 (J)	1.4 (J)
3/3/2021	<0.5	<0.5					<0.5		
3/4/2021			0.11 (J)	0.4 (J)	1.4 (J)	1.6 (J)			

Time Series

Constituent: Boron (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		0.0972 (J)				
10/25/2016			1.73			
11/30/2016		0.0964	2.12			
2/15/2017		0.398	2.14			
5/31/2017			2.24			
6/1/2017		0.0776				
6/2/2017	0.0495					
8/2/2017	0.0333 (J)					
8/15/2017			2.1			
8/17/2017	0.0593	0.0853				
4/4/2018	0.065					
5/8/2018	0.062					
6/19/2018	0.064		1.7			
6/20/2018		0.079				
9/26/2018	0.06	0.072	1.3			
11/6/2018			1.8			
11/7/2018	0.062 (J)	0.074				
3/24/2019			1.4			
3/25/2019	0.057	0.067				
10/15/2019	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			1.5			
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	0.076 (J)	0.088 (J)	1.8	0.24 (J)	0.96	0.94
10/12/2020				0.24 (J)		
10/13/2020	<0.5	<0.5	1.8		0.73	1.1
3/2/2021	<0.5					
3/3/2021		<0.5	1.7 (J)	0.21 (J)	0.79 (J)	0.91 (J)

Time Series

Constituent: Cadmium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.0025							<0.0025	<0.0025
8/31/2016				<0.0025	<0.0025	<0.0025			
11/30/2016	<0.0025			<0.0025	<0.0025	<0.0025		<0.0025	<0.0025
2/15/2017	<0.0025							<0.0025	<0.0025
2/16/2017				<0.0025	<0.0025	<0.0025			
5/31/2017		<0.0025					<0.0025	<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	<0.0025	
8/16/2017	<0.0025	<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	<0.0025	<0.0025
6/20/2018			<0.0025	<0.0025	<0.0025				
6/21/2018						<0.0025			
9/25/2018							0.0002 (J)	<0.0025	<0.0025
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		<0.0025
11/7/2018	<0.0025	<0.0025		<0.0025	<0.0025			<0.0025	
3/6/2019					<0.0025				
8/26/2019									<0.0025
8/27/2019	<0.0025		<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	<0.0025	<0.0025
3/28/2020			<0.0025	<0.0025	<0.0025	<0.0025			

Time Series

Constituent: Calcium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	7.3							7.05	42.8
8/31/2016				65	82.8	119			
11/30/2016	10.8			71.7	68.7	103		8.69	33.2
2/15/2017	14.3							8.34	56.1
2/16/2017				74	94.8	114			
5/31/2017		5.9					18.6	8.85	73.6
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	8.05	
8/16/2017	8.7	5.25							99.6
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	8.3	285
6/20/2018			4.3	72.8	121				
6/21/2018						179			
6/28/2018	13							8.9	294
9/25/2018							6.2 (D)	6.8	283
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		297
11/7/2018	11.9	4.6		41.8	387.5 (D)			8.5	
3/6/2019					341				
3/24/2019				20.9 (J)	277	243		7.4	338
3/25/2019	12.6 (J)	4.7	20.8 (J)				2.5 (D)		
10/15/2019			15.5					7.9	321
10/16/2019	13.6	4.9		55.2			2.2		
10/17/2019					309	260			
11/20/2019				55.8		308			
11/21/2019									305
3/26/2020	10.1								
3/27/2020		4.9					3.3	8.3	286
3/28/2020			15.5	25.8	286	286			
10/12/2020							2.8	6.1	
10/13/2020	9.8	3.8	12.5						40.9
10/14/2020					245	207			
10/15/2020				69.1					
1/4/2021				104					
3/3/2021	14	4							
3/4/2021			15.1	23.4	233	244	2.1	6.5	205

Time Series

Constituent: Calcium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		4.02				
10/25/2016			69.4			
11/30/2016		4.87	83.9			
2/15/2017		6.61	96.3			
5/31/2017			122			
6/1/2017		6.42				
6/2/2017	2.77					
8/2/2017	1.27					
8/15/2017			117			
8/17/2017	5.53	5.62				
4/4/2018	6.5					
5/8/2018	6.7					
6/19/2018	7.4		136			
6/20/2018		5.7				
6/28/2018			138			
9/26/2018	8.5 (J)	5.3	148			
11/6/2018			24.7			
11/7/2018	9.8	5.3				
3/24/2019			136			
3/25/2019	7.8	5.7				
10/15/2019	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			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	5.9	5.4	222	23.2	122	113
10/12/2020				19.1		
10/13/2020	0.83	5.7	86.4		125	128
3/4/2021	1.4	11.2	143	26	123	110

Time Series

Constituent: Chloride (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	9.7							800	450
8/31/2016				1800	2200	2600			
11/30/2016	19			1100	2100	2800		760	310
2/15/2017	21							740	490
2/16/2017				2100	2500	3100			
5/31/2017		39					98	740	820
6/1/2017	12		22						
6/2/2017				3100	2500	4600			
8/2/2017		42	230				57		
8/15/2017							15	750	
8/16/2017	14	41							1500
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	760	5180
6/20/2018			27.5	1800	3100				
6/21/2018						3920			
9/25/2018							31.3	752 (D)	7220
9/26/2018	23.4	33.4							
9/27/2018			101	1300	2510 (D)	5660 (D)			
11/6/2018			107			6520	9.8		6020
11/7/2018	21.8	30.7		1180	8860			665	
3/6/2019					11700				
3/24/2019				717	6470	8720		744	7400
3/25/2019	19.4	33.5	78.5				12.9		
10/15/2019			46					744	9050
10/16/2019	21.4	33.1		941 (D)			12.2		
10/17/2019					9930	8210			
11/20/2019				1480		9810			
11/21/2019									8330
3/26/2020	23								
3/27/2020		32.9					14.5	675	7680
3/28/2020			71.4	693	9190	9070			
10/12/2020							13.9	552	
10/13/2020	13.5	25.7	54.4						6230
10/14/2020					6630	7910			
10/15/2020				1660					
1/4/2021				2460					
3/2/2021								459	<1
3/3/2021	13.6	20.5					9.4		
3/4/2021			69.6	652	6310	7540			

Time Series

Constituent: Chloride (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		26				
10/25/2016			1300			
11/30/2016		27	400			
2/15/2017		30	2000			
5/31/2017			2500			
6/1/2017		27				
6/2/2017	11					
8/2/2017	3.2					
8/15/2017			2500			
8/17/2017	12	32				
4/4/2018	13.4					
5/8/2018	13.2					
6/19/2018	13.7		3050			
6/20/2018		30				
9/26/2018	18.5	28.4	3965 (D)			
11/6/2018			2230			
11/7/2018	20.2	25.1				
3/24/2019			3960			
3/25/2019	19.7	21.8				
10/15/2019	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			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	14.1	23.6	4770	1450	6870	7110
10/12/2020				1340		
10/13/2020	3.8	23.3	3980		5260	5980
3/2/2021	4.2					
3/3/2021		27.6	<1	1230	5170	<1

Time Series

Constituent: Chromium (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.01							0.0054 (J)	0.0026 (J)
8/31/2016				0.0013 (J)	0.001 (J)	0.0022 (J)			
11/30/2016	<0.01			0.0012 (J)	<0.01	<0.01		0.0073 (J)	0.0016 (J)
2/15/2017	<0.01							0.0045 (J)	0.0018 (J)
2/16/2017				0.0012 (J)	0.0011 (J)	0.0028 (J)			
5/31/2017		<0.01					<0.01	0.0052 (J)	0.0019 (J)
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)	0.005 (J)	
8/16/2017	<0.01	<0.01							0.0019 (J)
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	0.0047 (J)	<0.01
6/20/2018			<0.01	<0.01	<0.01				
6/21/2018						<0.01			
9/25/2018							<0.01	<0.01	<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		<0.01
11/7/2018	<0.01	<0.01		<0.01	<0.01			<0.01	
3/6/2019					<0.01				
3/25/2019							<0.01		
8/26/2019									0.00071 (J)
8/27/2019	0.00079 (J)		0.0018 (J)					0.0056 (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)					0.0057 (J)	0.00076 (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	<0.01	<0.01
3/28/2020			<0.01	<0.01	<0.01	<0.01			

Time Series

Constituent: Cobalt (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.02							<0.02	0.0006 (J)
8/31/2016				<0.02	<0.02	<0.02			
11/30/2016	<0.02			<0.02	0.0009 (J)	0.0011 (J)		<0.02	<0.02
2/15/2017	<0.02							<0.02	<0.02
2/16/2017				<0.02	<0.02	<0.02			
5/31/2017		0.0005 (J)					<0.02	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)	0.0005 (J)	
8/16/2017	<0.02	0.0005 (J)							<0.02
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	0.00053 (J)	<0.02
6/20/2018			<0.02	<0.02	<0.02				
6/21/2018						<0.02			
9/25/2018							<0.02	<0.02	<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		<0.02
11/7/2018	<0.02	<0.02		<0.02	<0.02			<0.02	
3/6/2019					<0.02				
8/26/2019									<0.02
8/27/2019	<0.02		0.0078					0.0007 (J)	
8/28/2019		0.00042 (J)		<0.02	<0.02	<0.02	<0.02		
10/15/2019			0.0085					0.00054 (J)	<0.02
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	<0.02	<0.02
3/28/2020			0.0041 (J)	<0.02	<0.02	<0.02			
10/12/2020							<0.02	<0.02	
10/13/2020	<0.02	<0.02	0.0063						<0.02
10/14/2020					<0.02	<0.02			
10/15/2020				0.0019 (J)					
1/4/2021				<0.02					
3/2/2021								<0.02	<0.02
3/3/2021	<0.02	<0.02					<0.02		
3/4/2021			0.006	<0.02	<0.02	<0.02			

Time Series

Constituent: Cobalt (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		<0.02				
10/25/2016			<0.02			
11/30/2016		<0.02	0.0007 (J)			
2/15/2017		<0.02	<0.02			
5/31/2017			<0.02			
6/1/2017		<0.02				
6/2/2017	<0.02					
8/2/2017	<0.02					
8/15/2017			0.0004 (J)			
8/17/2017	<0.02	0.0004 (J)				
4/4/2018	<0.02					
5/8/2018	<0.02					
6/19/2018	<0.02		<0.02			
6/20/2018		<0.02				
9/26/2018	0.00052	0.00052	0.00052			
11/6/2018			<0.02			
11/7/2018	<0.02	<0.02				
8/27/2019	<0.02	0.0003 (J)	<0.02			
10/15/2019	<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	0.036
10/12/2020				<0.02		
10/13/2020	<0.02	<0.02	<0.02		<0.02	0.032
3/2/2021	<0.02					
3/3/2021		<0.02	<0.02	<0.02	<0.02	0.033

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	0.929							1.4	1.31
8/31/2016				2.39 (D)	2.47 (D)	5.4 (D)			
11/30/2016	5.64			1.66	1.6	3.13		4.37	0.438 (U)
2/15/2017	1.41							2.21	0.3 (U)
2/16/2017				2.71	1.83	3.09			
5/31/2017		1.17 (U)					1.2	2.62	1.77
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)	2.69	
8/16/2017	1.01 (U)	1.11 (U)							2.26
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)	2.96	5.39
6/20/2018			3.53	1.95	2.84				
6/21/2018						5.24			
9/25/2018							1.15 (U)	2.23	6.22
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		5.38
11/7/2018	0.616 (U)	0.429 (U)		1.41 (U)	8.58			2.14	
8/26/2019									7.68
8/27/2019	1.2 (U)		4.4					2.91	
8/28/2019		0.679 (U)		1.67	6.86	8.73	0.434 (U)		
10/15/2019			4.92					3.28	8.7
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			
11/21/2019									7.34
3/26/2020	1.15 (U)								
3/27/2020		0.838 (U)					0.609 (U)	2.33	9.63
3/28/2020			4.16	1.44 (U)	11 (U)	11.7			
10/12/2020							2.7	2.66	
10/13/2020	0.855 (U)	0.56 (U)	3.71						7.43
10/14/2020					8.97	13.1			
10/15/2020				2.56					
1/4/2021				5.84					
4/6/2021	1.01 (U)	0.474 (U)	2.83	1.43 (U)	7.89	9.66	1.88	2.2	7.02

Time Series

Constituent: Combined Radium 226 + 228 (pCi/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		0.977 (U)				
10/25/2016			2.22			
11/30/2016		0.994	2.01			
2/15/2017		1.65	1.56			
5/31/2017			1.92			
6/1/2017		1.22				
6/2/2017	1.47					
8/2/2017	1.99					
8/15/2017			2.47			
8/17/2017	2.03	1.71				
4/4/2018	1.96					
5/8/2018	1.69					
6/19/2018	1.83		2.82			
6/20/2018		1.78				
9/26/2018	0.637 (U)	1.56	3.15 (D)			
11/6/2018			2.95			
11/7/2018	0.894 (U)	0.651 (U)				
8/27/2019	2.33	1.03 (U)	5.82			
10/15/2019	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			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	1.84	1.51	9.54	10.2	22.8	47.2
10/12/2020				8.83		
10/13/2020	3.32	1.71	7.75		14.1	30.3
4/6/2021	1.74	1.81	7.8	9.57	20.4	31.5

Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	0.03 (J)							1.5	0.5
8/31/2016				0.93	0.41	0.92			
11/30/2016	0.04 (J)			0.93	0.61	0.99		1.4	0.49
2/15/2017	0.007 (J)							1.3	0.58
2/16/2017				0.6	0.3 (J)	0.54			
5/31/2017		0.01 (J)					0.85	1.2	0.56
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)	1.2	
8/16/2017	0.03 (J)	0.13 (J)							0.45
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)	0.91	<0.1
6/20/2018			0.033 (J)	0.5	0.22 (J)				
6/21/2018						0.28 (J)			
9/25/2018							0.15 (J)	1.1	<0.1
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		0.084 (J)
11/7/2018	<0.1	<0.1		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)
3/25/2019	0.038 (J)	0.039 (J)	0.055 (J)				0.12 (J)		
8/26/2019									<0.1
8/27/2019	<0.1		<0.1					1.1	
8/28/2019		<0.1		0.36	<0.1	<0.1	0.068 (J)		
10/15/2019			0.095 (J)					1	<0.1
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			
11/21/2019									<0.1
3/26/2020	<0.1								
3/27/2020		<0.1					0.066 (J)	1.1	<0.1
3/28/2020			<0.1	0.34	<0.1	<0.1			
10/12/2020							<0.1	1.2	
10/13/2020	<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					0.082 (J)		
3/4/2021			<0.1	0.45	<0.1	<0.1			

Time Series

Constituent: Fluoride (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		0.04 (J)				
10/25/2016			1.1			
11/30/2016		0.18 (J)	1.3			
2/15/2017		0.02 (J)	1.3			
5/31/2017			1.3			
6/1/2017		0.005 (J)				
6/2/2017	<0.1					
8/2/2017	0.05 (J)					
8/15/2017			1.2			
8/17/2017	<0.1	0.04 (J)				
4/4/2018	<0.1					
5/8/2018	<0.1					
6/19/2018	0.057 (J)		0.6			
6/20/2018		0.038 (J)				
9/26/2018	0.029	0.029	0.44 (D)			
11/6/2018			0.4			
11/7/2018	<0.1	<0.1				
3/24/2019			0.31			
3/25/2019	0.036 (J)	0.041 (J)				
8/27/2019	<0.1	<0.1	<0.1			
10/15/2019	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			
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	<0.1	<0.1	<0.1	0.06 (J)	<0.1	<0.1
10/12/2020				0.34		
10/13/2020	<0.1	<0.1	<0.1		<0.1	<0.1
3/2/2021	<0.1					
3/3/2021		<0.1	<0.1	0.32	<0.1	<0.1

Time Series

Constituent: Lead (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.005							0.0001 (J)	<0.005
8/31/2016				<0.005	<0.005	<0.005			
11/30/2016	<0.005			0.0002 (J)	<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		<0.005					<0.005	9E-05 (J)	<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	<0.005	
8/16/2017	<0.005	<0.005							8E-05 (J)
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	<0.005	<0.005
6/20/2018			<0.005	<0.005	<0.005				
6/21/2018						<0.005			
9/25/2018							<0.005	<0.005	<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		<0.005
11/7/2018	<0.005	<0.005		<0.005	<0.005			<0.005	
3/6/2019					<0.005				
3/25/2019							<0.005		
8/26/2019									<0.005
8/27/2019	<0.005		<0.005					0.00022 (J)	
8/28/2019		<0.005		<0.005	<0.005	0.0001 (J)	<0.005		
10/15/2019			<0.005					5.6E-05 (J)	<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	<0.005	<0.005
3/28/2020			<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
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	<0.005					<0.005		
3/4/2021			<0.005	<0.005	<0.005	<0.005			

Time Series

Constituent: Lead (mg/L) Analysis Run 6/3/2021 2:37 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		<0.005				
10/25/2016			<0.005			
11/30/2016		0.0002 (J)	<0.005			
2/15/2017		<0.005	<0.005			
5/31/2017			<0.005			
6/1/2017		<0.005				
6/2/2017	<0.005					
8/2/2017	0.0001 (J)					
8/15/2017			0.0002 (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			
6/20/2018		<0.005				
9/26/2018	0.00027	0.00027	0.00027			
11/6/2018			<0.005			
11/7/2018	<0.005	<0.005				
8/27/2019	0.00011 (J)	<0.005	0.00014 (J)			
10/15/2019	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
10/12/2020				<0.005		
10/13/2020	<0.005	<0.005	<0.005		<0.005	<0.005
3/2/2021	<0.005					
3/3/2021		<0.005	<0.005	<0.005	<0.005	<0.005

Time Series

Constituent: Lithium (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.03							0.0102 (J)	0.0112 (J)
8/31/2016				0.0219 (J)	0.0389 (J)	0.0122 (J)			
11/30/2016	<0.03			0.0333 (J)	0.0303 (J)	0.011 (J)		0.0106 (J)	<0.03
2/15/2017	<0.03							0.0115 (J)	0.0105 (J)
2/16/2017				0.0376 (J)	0.05 (J)	0.0142 (J)			
5/31/2017		<0.03					0.0047 (J)	0.011 (J)	0.0106 (J)
6/1/2017	<0.03		<0.03						
6/2/2017				0.0346 (J)	0.0477 (J)	0.0229 (J)			
8/2/2017		<0.03	<0.03				0.0036 (J)		
8/15/2017							<0.03	0.0123 (J)	
8/16/2017	<0.03	<0.03							0.0145 (J)
8/17/2017			<0.03	0.0367 (J)	0.0645	0.0241 (J)			
4/4/2018			0.0013 (J)				0.0041 (J)		
4/5/2018		<0.03							
5/8/2018			0.0012 (J)				0.0052 (J)		
5/9/2018		<0.03							
6/19/2018	<0.03	<0.03					0.0017 (J)	0.012 (J)	0.044 (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)	0.011 (J)	0.041 (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)	<0.03		0.047 (J)
11/7/2018	<0.03	<0.03		0.022 (J)	0.11			0.013 (J)	
3/6/2019					0.12				
8/26/2019									0.059
8/27/2019	<0.03		0.002 (J)					0.012 (J)	
8/28/2019		<0.03		0.023 (J)	0.13	0.12	0.00082 (J)		
10/15/2019			0.0019 (J)					0.012 (J)	0.056 (J)
10/16/2019	<0.03	<0.03		0.021 (J)			<0.03		
10/17/2019					0.12	0.096			
11/20/2019						0.12			
11/21/2019									0.052
3/26/2020	<0.03								
3/27/2020		<0.03					<0.03	<0.03	0.052
3/28/2020			<0.03	0.014 (J)	0.064	0.027 (J)			
10/12/2020							<0.03	0.011 (J)	
10/13/2020	<0.03	<0.03	<0.03						0.046 (J)
10/14/2020					0.11	0.039 (J)			
10/15/2020				0.57					
1/4/2021				0.043 (J)					
3/2/2021								<0.03	0.046 (J)
3/3/2021	<0.03	<0.03					<0.03		
3/4/2021			<0.03	0.017 (J)	0.096 (J)	0.035 (J)			

Time Series

Constituent: Lithium (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		<0.03				
10/25/2016			0.007 (J)			
11/30/2016		<0.03	0.0086 (J)			
2/15/2017		<0.03	0.0149 (J)			
5/31/2017			0.019 (J)			
6/1/2017		<0.03				
6/2/2017	<0.03					
8/2/2017	<0.03					
8/15/2017			0.016 (J)			
8/17/2017	<0.03	<0.03				
4/4/2018	0.0015 (J)					
5/8/2018	0.0014 (J)					
6/19/2018	0.0016 (J)		0.021 (J)			
6/20/2018		<0.03				
9/26/2018	0.0018 (J)	0.00097	0.02 (J)			
11/6/2018			0.017 (J)			
11/7/2018	<0.03	<0.03				
8/27/2019	0.002 (J)	<0.03	0.023 (J)			
10/15/2019	0.0016 (J)					
10/16/2019		<0.03	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)
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	<0.03	<0.03	0.033 (J)	<0.03	0.018 (J)	0.024 (J)
10/12/2020				<0.03		
10/13/2020	<0.03	<0.03	0.028 (J)		0.022 (J)	0.025 (J)
3/2/2021	<0.03					
3/3/2021		<0.03	<0.03	<0.03	0.019 (J)	0.018 (J)

Time Series

Constituent: Mercury (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.0005							<0.0005	<0.0005
8/31/2016				<0.0005	<0.0005	<0.0005			
11/30/2016	<0.0005			<0.0005	<0.0005	<0.0005		<0.0005	<0.0005
2/15/2017	<0.0005							<0.0005	<0.0005
2/16/2017				<0.0005	<0.0005	<0.0005			
5/31/2017		<0.0005					<0.0005	<0.0005	<0.0005
6/1/2017	<0.0005		<0.0005						
6/2/2017				4.2E-05 (J)	<0.0005	<0.0005			
8/2/2017		<0.0005	<0.0005				<0.0005		
8/15/2017							<0.0005	<0.0005	
8/16/2017	<0.0005	<0.0005							<0.0005
8/17/2017			<0.0005	<0.0005	<0.0005	<0.0005			
4/4/2018			<0.0005				<0.0005		
4/5/2018		<0.0005							
5/8/2018			<0.0005				<0.0005		
5/9/2018		<0.0005							
6/19/2018	<0.0005	<0.0005					<0.0005	<0.0005	<0.0005
6/20/2018			<0.0005	<0.0005	<0.0005				
6/21/2018						<0.0005			
9/25/2018							<0.0005	<0.0005	<0.0005
9/26/2018	3.6E-05	3.6E-05							
9/27/2018			<0.0005	<0.0005	<0.0005	<0.0005			
11/6/2018			0.00071			0.00067	0.0007		0.00066
11/7/2018	<0.0005	<0.0005		<0.0005	<0.0005			<0.0005	
3/6/2019					<0.0005				
8/26/2019									<0.0005
8/27/2019	<0.0005		<0.0005					<0.0005	
8/28/2019		<0.0005		<0.0005	<0.0005	<0.0005	<0.0005		
3/26/2020	<0.0005								
3/27/2020		<0.0005					<0.0005	<0.0005	<0.0005
3/28/2020			<0.0005	<0.0005	<0.0005	<0.0005			

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.01							<0.01	<0.01
8/31/2016				<0.01	<0.01	<0.01			
11/30/2016	<0.01			<0.01	<0.01	<0.01		<0.01	<0.01
2/15/2017	<0.01							<0.01	<0.01
2/16/2017				<0.01	<0.01	<0.01			
5/31/2017		<0.01					<0.01	<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	<0.01	
8/16/2017	<0.01	<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	<0.01	<0.01
6/20/2018			<0.01	<0.01	<0.01				
6/21/2018						<0.01			
9/25/2018							<0.01	<0.01	<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		<0.01
11/7/2018	<0.01	<0.01		<0.01	0.0024 (J)			<0.01 (D)	
3/6/2019					<0.01				
8/26/2019									<0.01
8/27/2019	<0.01		<0.01					<0.01	
8/28/2019		<0.01		<0.01	0.0017 (J)	<0.01	<0.01		
10/15/2019			<0.01					<0.01	<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	<0.01	<0.01
3/28/2020			<0.01	<0.01	<0.01	<0.01			

Time Series

Constituent: Molybdenum (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		<0.01				
10/25/2016			<0.01			
11/30/2016		<0.01	<0.01			
2/15/2017		<0.01	<0.01			
5/31/2017			<0.01			
6/1/2017		<0.01				
6/2/2017	<0.01					
8/2/2017	<0.01					
8/15/2017			<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			
6/20/2018		<0.01				
9/26/2018	0.0019	0.0019	0.0019			
11/6/2018			<0.01			
11/7/2018	<0.01 (D)	<0.01				
8/27/2019	<0.01	<0.01	<0.01			
10/15/2019	<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

Time Series

Constituent: pH (S.U.) Analysis Run 6/3/2021 2:38 PM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	5.66							6.49	7.04
8/31/2016				6.93	7.21	6.66			
11/30/2016	5.36			6.77	7.23	6.69		6.5	7.13
2/15/2017	5.25							6.51	7.02
2/16/2017				6.89	7.27	6.72			
5/31/2017		5.06					5.29	6.45	7
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	6.41	
8/16/2017	5.58	4.98							6.88
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	6.32	6.78
6/20/2018			4.79	6.83	7.19				
6/21/2018						6.45			
9/25/2018							5.13	6.31	6.75
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		6.92
11/7/2018	5.72	5.03		6.6	6.91			6.3	
3/24/2019				6.1	6.98	6.38		6.4	6.59
3/25/2019	5.75	5.08	4.93				5.05		
8/26/2019									6.62
8/27/2019	5.58		5.05					6.24	
8/28/2019		4.99		6.69	6.87	6.35	4.87		
10/15/2019			4.89					6.19	6.58
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			
11/21/2019									6.67
3/26/2020	5.45								
3/27/2020		5.12					5.09	6.33	6.59
3/28/2020			5.27	6.6	6.8	6.35			
10/12/2020							5	6.35	
10/13/2020	5.69	5.03	5.25						6.56
10/14/2020					6.93	6.32			
10/15/2020				6.53					
1/4/2021				6.66					
3/2/2021								6.34	6.55
3/3/2021	5.81	5.06					5.07		
3/4/2021			5.31	6.52	6.94	6.33			

Time Series

Constituent: pH (S.U.) Analysis Run 6/3/2021 2:38 PM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		5.18				
10/25/2016			6.95			
11/30/2016		4.96	6.95			
2/15/2017		5.13	6.85			
5/31/2017			6.96			
6/1/2017		4.99				
6/2/2017	5.31					
8/2/2017	5.05					
8/15/2017			6.99			
8/17/2017	5.52	4.68				
4/4/2018	5.45					
5/8/2018	5.54					
6/19/2018	5.6		6.91			
6/20/2018		4.77				
9/26/2018	5.17	4.65	6.81			
11/6/2018			5.99			
11/7/2018	5.47	4.99				
3/24/2019	5.4		6.62			
3/25/2019		5.13				
8/27/2019	5.35	4.88	6.23			
10/15/2019	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			6.44			
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	5.3	5.12	6.93	4.34	5.14	3.81
10/12/2020				4.29		
10/13/2020	5.02	5.17	6.34		5.04	3.72
3/2/2021	5.16					
3/3/2021		5.71	6.58	4.37	5.1	3.36

Time Series

Constituent: Selenium (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.1							0.0011 (J)	<0.1
8/31/2016				0.002 (J)	0.0015 (J)	0.0021 (J)			
11/30/2016	0.0011 (J)			0.0023 (J)	0.0054 (J)	<0.1		0.0023 (J)	<0.1
2/15/2017	<0.1							0.0021 (J)	0.0014 (J)
2/16/2017				0.002 (J)	0.0022 (J)	0.0025 (J)			
5/31/2017		<0.1					<0.1	<0.1	<0.1
6/1/2017	<0.1		<0.1						
6/2/2017				<0.1	<0.1	<0.1			
8/2/2017		<0.1	<0.1				<0.1		
8/15/2017							<0.1	0.0021 (J)	
8/16/2017	<0.1	<0.1							0.0018 (J)
8/17/2017			<0.1	<0.1	0.002 (J)	0.0033 (J)			
4/4/2018			<0.1				<0.1		
4/5/2018		<0.1							
5/8/2018			<0.1				<0.1		
5/9/2018		<0.1							
6/19/2018	<0.1	<0.1					<0.1	0.0017 (J)	<0.1
6/20/2018			<0.1	<0.1	<0.1				
6/21/2018						<0.1			
9/25/2018							<0.1	0.002 (J)	0.0019 (J)
9/26/2018	0.0014	0.0014							
9/27/2018			<0.1	<0.1	<0.1	0.0023 (J)			
11/6/2018			0.0025 (J)			0.0048 (J)	<0.1		0.0057 (J)
11/7/2018	<0.1	<0.1		<0.1	0.0075 (J)			<0.1	
3/6/2019					0.0024 (J)				
3/25/2019							<0.1		
8/26/2019									0.0025 (J)
8/27/2019	<0.1		<0.1					0.0019 (J)	
8/28/2019		<0.1		<0.1	0.0014 (J)	0.0019 (J)	<0.1		
10/15/2019			<0.1					<0.1	0.003 (J)
10/16/2019	<0.1	<0.1		<0.1			<0.1		
10/17/2019					0.0066 (J)	0.0049 (J)			
3/26/2020	<0.1								
3/27/2020		<0.1					<0.1	<0.1	<0.1
3/28/2020			<0.1	<0.1	<0.1	<0.1			
10/12/2020							<0.1	<0.1	
10/13/2020	<0.1	<0.1	<0.1						<0.1
10/14/2020					<0.1	<0.1			
10/15/2020				0.0028 (J)					
1/4/2021				<0.1					
3/2/2021								<0.1	<0.1
3/3/2021	<0.1	<0.1					<0.1		
3/4/2021			0.00038 (J)	<0.1	<0.1	<0.1			

Time Series

Constituent: Selenium (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		<0.1				
10/25/2016			0.003 (J)			
11/30/2016		0.0011 (J)	0.0087 (J)			
2/15/2017		<0.1	0.0067 (J)			
5/31/2017			0.0018 (J)			
6/1/2017		<0.1				
6/2/2017	<0.1					
8/2/2017	<0.1					
8/15/2017			0.0025 (J)			
8/17/2017	<0.1	<0.1				
4/4/2018	<0.1					
5/8/2018	0.0016 (J)					
6/19/2018	0.0022 (J)		<0.1			
6/20/2018		<0.1				
9/26/2018	0.0015 (J)	0.0014	0.0016 (J)			
11/6/2018			<0.1			
11/7/2018	<0.1	<0.1				
8/27/2019	0.0018 (J)	<0.1	0.0018 (J)			
10/15/2019	<0.1					
10/16/2019		<0.1	<0.1			
11/7/2019				0.036	0.063	0.12
11/18/2019				<0.1		
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	<0.1	<0.1	<0.1	0.0034 (J)	0.013	0.012
10/12/2020				<0.1		
10/13/2020	<0.1	<0.1	<0.1		0.0076 (J)	0.0056 (J)
3/2/2021	<0.1					
3/3/2021		<0.1	<0.1	0.0012 (J)	0.013 (J)	0.0094 (J)

Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	17							4.3	6.4
8/31/2016				37	21	290			
11/30/2016	33			63	19	240		7.6	4.5
2/15/2017	83							3	37
2/16/2017				90	22	220			
5/31/2017		46					40	2.5	61
6/1/2017	51		42						
6/2/2017				210	28	500			
8/2/2017		43	120				34		
8/15/2017							24	3.2	
8/16/2017	36	41							130
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	1.6	498
6/20/2018			25.3	46 (J)	33				
6/21/2018						481			
9/25/2018							25.6	1	790
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		875
11/7/2018	45.6	35.8		41.3 (J)	734			0.41 (J)	
3/6/2019					1220 (J)				
3/24/2019				131	413	1070		1.5	1170
3/25/2019	43	34.2	137				24.9		
10/15/2019			105					0.54 (J)	<1
10/16/2019	31.9	24.4		122.5 (D)			17.4		
10/17/2019					507	1230			
11/20/2019				132		1550			
11/21/2019									1070
3/26/2020	36.2								
3/27/2020		28.6					23.4	<1	899
3/28/2020			86.6	63.8	701	1090			
10/12/2020							19.3	<1	
10/13/2020	32.3	27.6	92.3						695
10/14/2020					510	904			
10/15/2020				147					
1/4/2021				262					
3/2/2021								1.2	97.5
3/3/2021	33.8	27.6					19.9		
3/4/2021			99.1	82.2	596	982			

Time Series

Constituent: Sulfate (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		24				
10/25/2016			84			
11/30/2016		26	52			
2/15/2017		30	190			
5/31/2017			260			
6/1/2017		24				
6/2/2017	13					
8/2/2017	14					
8/15/2017			210			
8/17/2017	14	26				
4/4/2018	13.4					
5/8/2018	14.8					
6/19/2018	15.5		218			
6/20/2018		31.2				
9/26/2018	23	36.8	333 (D)			
11/6/2018			182			
11/7/2018	22.2	35				
3/24/2019			413			
3/25/2019	22.4	40.1				
10/15/2019	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			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	14.6	31.2	504	219	836	700
10/12/2020				191		
10/13/2020	7.6	26.8	378		609	638
3/2/2021	8					
3/3/2021		30.5	420	171	<1	743

Time Series

Constituent: Thallium (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	<0.001							<0.001	<0.001
8/31/2016				<0.001	<0.001	<0.001			
11/30/2016	<0.001			<0.001	<0.001	<0.001		<0.001	<0.001
2/15/2017	<0.001							<0.001	<0.001
2/16/2017				<0.001	<0.001	<0.001			
5/31/2017		<0.001					<0.001	<0.001	<0.001
6/1/2017	<0.001		<0.001						
6/2/2017				<0.001	<0.001	<0.001			
8/2/2017		<0.001	<0.001				<0.001		
8/15/2017							<0.001	<0.001	
8/16/2017	<0.001	<0.001							<0.001
8/17/2017			<0.001	<0.001	<0.001	<0.001			
4/4/2018			<0.001				<0.001		
4/5/2018		<0.001							
5/8/2018			<0.001				<0.001		
5/9/2018		<0.001							
6/19/2018	<0.001	<0.001					<0.001	<0.001	<0.001
6/20/2018			<0.001	<0.001	<0.001				
6/21/2018						<0.001			
9/25/2018							<0.001	<0.001	<0.001
9/26/2018	0.00014	0.00014							
9/27/2018			<0.001	<0.001	<0.001	<0.001			
11/6/2018			<0.001			<0.001	<0.001		<0.001
11/7/2018	<0.001	<0.001		<0.001	<0.001			<0.001	
3/6/2019					<0.001				
8/26/2019									<0.001
8/27/2019	<0.001		<0.001					<0.001	
8/28/2019		<0.001		<0.001	<0.001	<0.001	<0.001		
10/15/2019			<0.001					<0.001	<0.001
10/16/2019	<0.001	<0.001		<0.001			<0.001		
10/17/2019					7.6E-05 (J)	<0.001			
3/26/2020	<0.001								
3/27/2020		<0.001					<0.001	<0.001	<0.001
3/28/2020			<0.001	<0.001	<0.001	<0.001			

Time Series

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-02 (bg)	MCM-04	MCM-05	MCM-06	MCM-07	MCM-11 (bg)	MCM-12	MCM-14
8/30/2016	86							1910	1310
8/31/2016				3620	4160	5100			
11/30/2016	131			4030	3950	4680		1910	1050
2/15/2017	212							1870	1440
2/16/2017				4080	4600	5080			
5/31/2017		123					257	1920	1740
6/1/2017	103		97						
6/2/2017				5560	4470	8000			
8/2/2017		136	538				183		
8/15/2017							90	1840	
8/16/2017	65	124							3010
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	1820	8630
6/20/2018			114	3370	4940				
6/21/2018						7500			
9/25/2018							137	1760	10700
9/26/2018	133	132							
9/27/2018			255	2360	4480	10200			
11/6/2018			388			11000	89		11100
11/7/2018	121	134		2230	15100			1800	
3/6/2019					19000				
3/24/2019				1450	13700	13700		1770	14200
3/25/2019	116	111	327				74		
10/15/2019			237					1730	15400
10/16/2019	104	96		2860			82		
10/17/2019					16100	13200			
11/20/2019				2640		16700			
11/21/2019									15800
3/26/2020	114								
3/27/2020		119					87	1970	16400
3/28/2020			284	1470	18800	18300			
10/12/2020							94	1560	
10/13/2020	113	118	<25						15600
10/14/2020					15200	18400			
10/15/2020				5100					
1/4/2021				7750					
3/2/2021								1430	12000
3/3/2021	99	84					66		
3/4/2021			285	1700	14200	17100			

Time Series

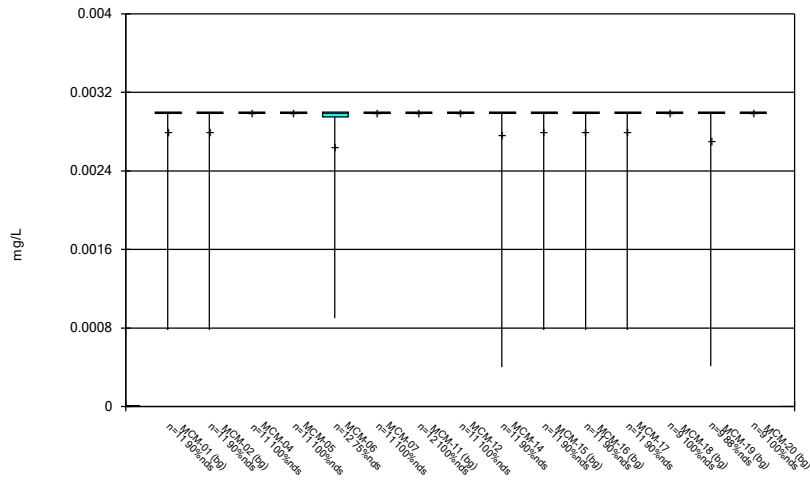
Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/3/2021 2:38 PM View: Descriptive

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-15 (bg)	MCM-16 (bg)	MCM-17	MCM-18 (bg)	MCM-19 (bg)	MCM-20 (bg)
8/30/2016		99				
10/25/2016			2900			
11/30/2016		111	3970			
2/15/2017		170	3820			
5/31/2017			5050			
6/1/2017		98				
6/2/2017	69					
8/2/2017	35					
8/15/2017			4820			
8/17/2017	51	84				
4/4/2018	90					
5/8/2018	89					
6/19/2018	110		5640			
6/20/2018		123				
9/26/2018	124	117	6920			
11/6/2018			4160			
11/7/2018	125	120				
3/24/2019			6840			
3/25/2019	98	101				
10/15/2019	107					
10/16/2019		95	7740			
11/7/2019				4140	10900	13500
11/18/2019				4030		
11/19/2019					10000	13300
11/21/2019			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	110	110	10200	3090	14300	14600
10/12/2020				2920		
10/13/2020	63	115	8750		6600	13900
3/2/2021	40					
3/3/2021		122	8830	2620	11000	11400

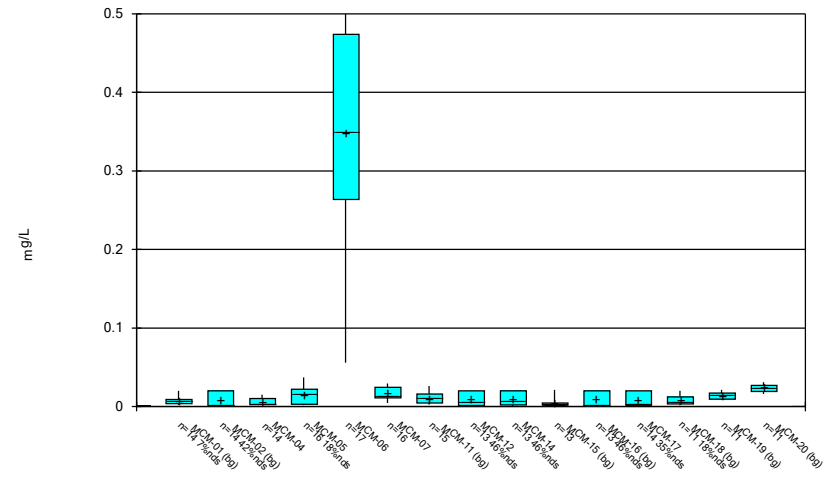
FIGURE B.

Box & Whiskers Plot



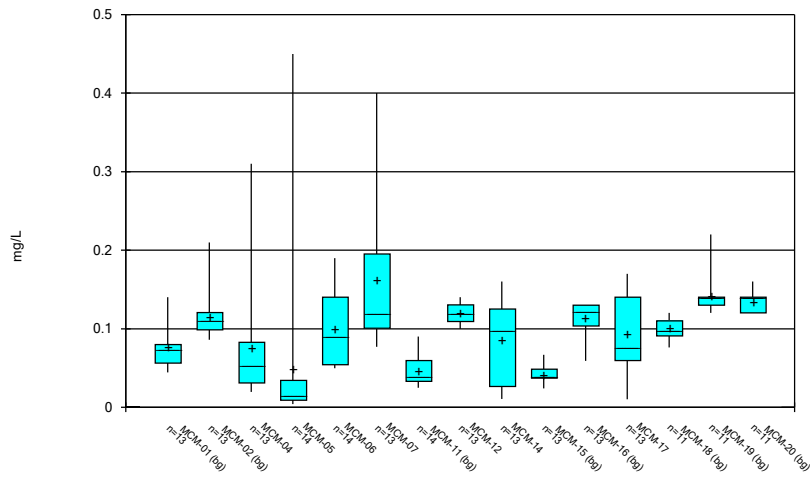
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



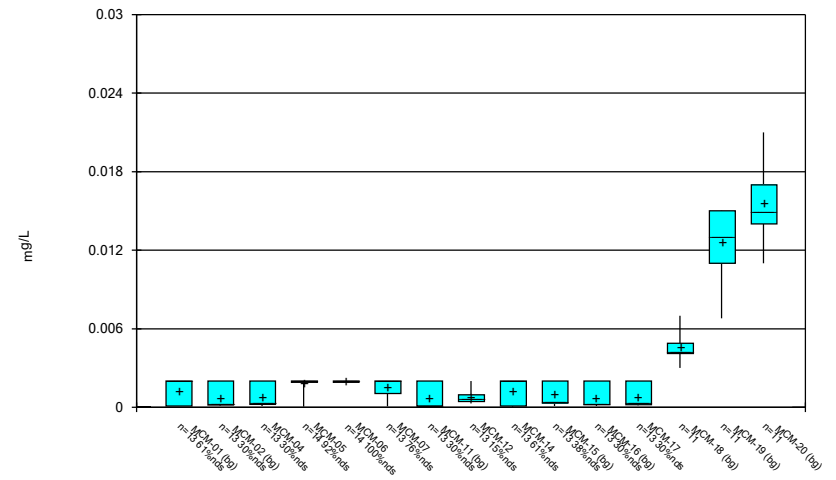
Constituent: Arsenic Analysis Run 6/2/2021 8:53 AM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



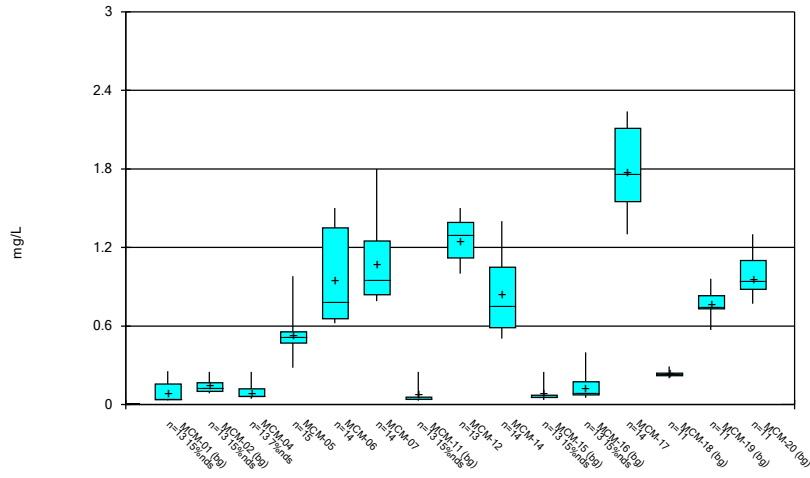
Constituent: Barium Analysis Run 6/2/2021 8:53 AM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



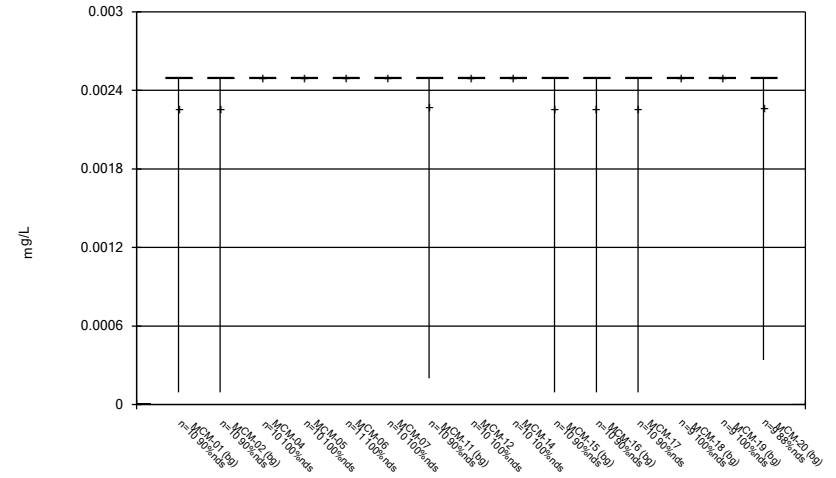
Constituent: Beryllium Analysis Run 6/2/2021 8:53 AM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



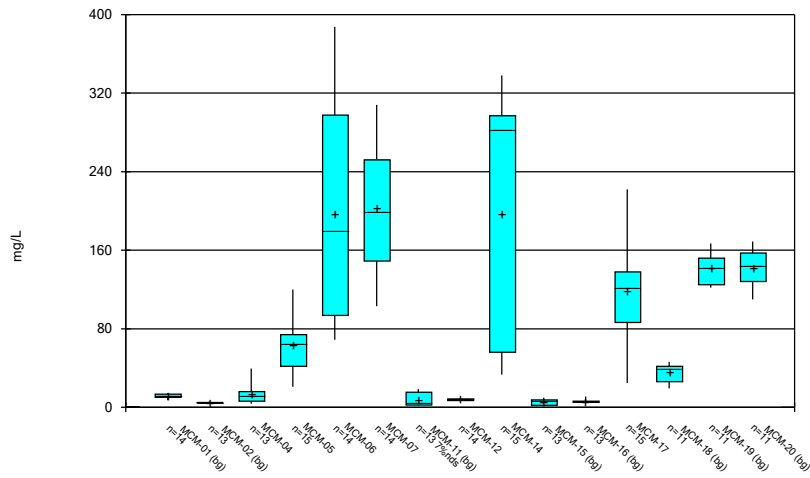
Constituent: Boron Analysis Run 6/2/2021 8:53 AM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



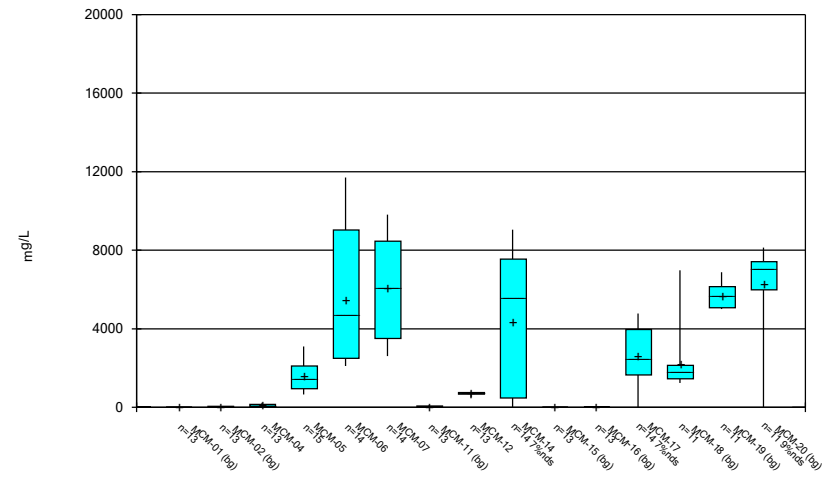
Constituent: Cadmium Analysis Run 6/2/2021 8:53 AM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



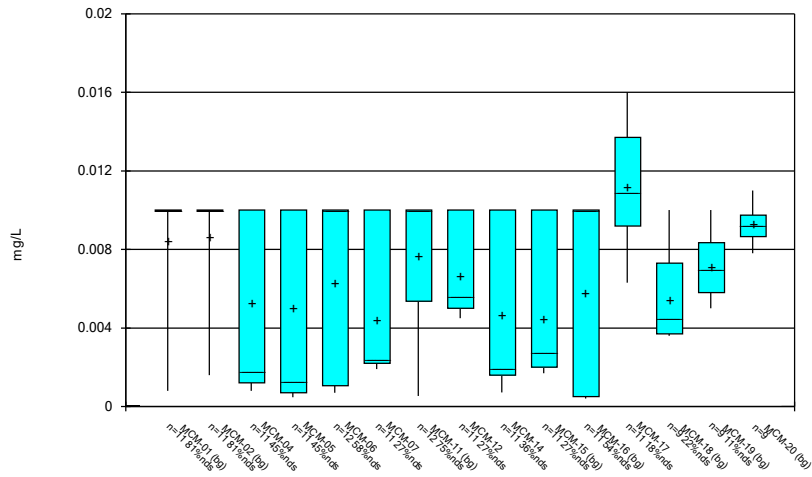
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Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



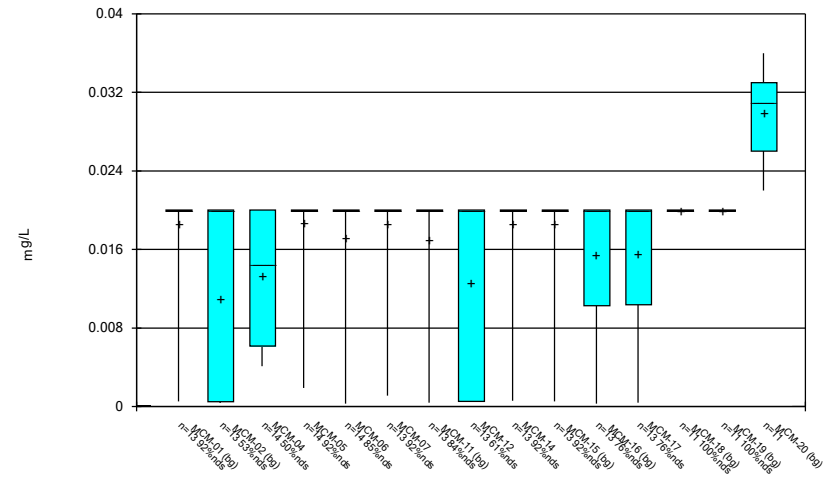
Constituent: Chloride Analysis Run 6/2/2021 8:53 AM View: Descriptive
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



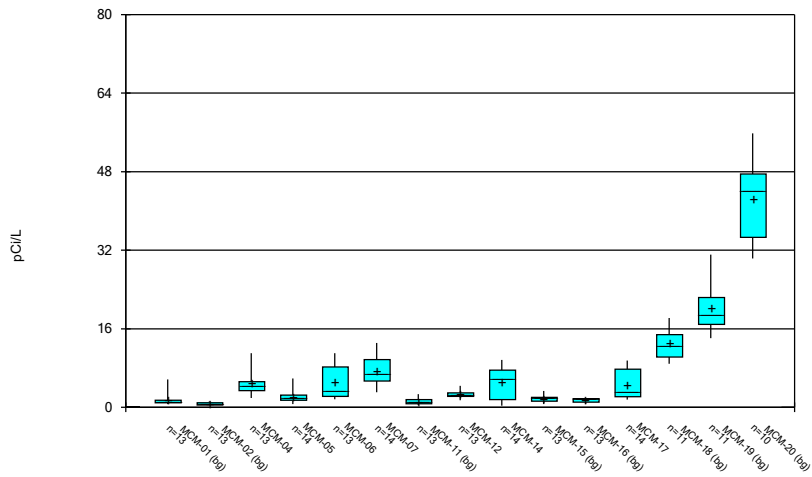
Constituent: Chromium Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



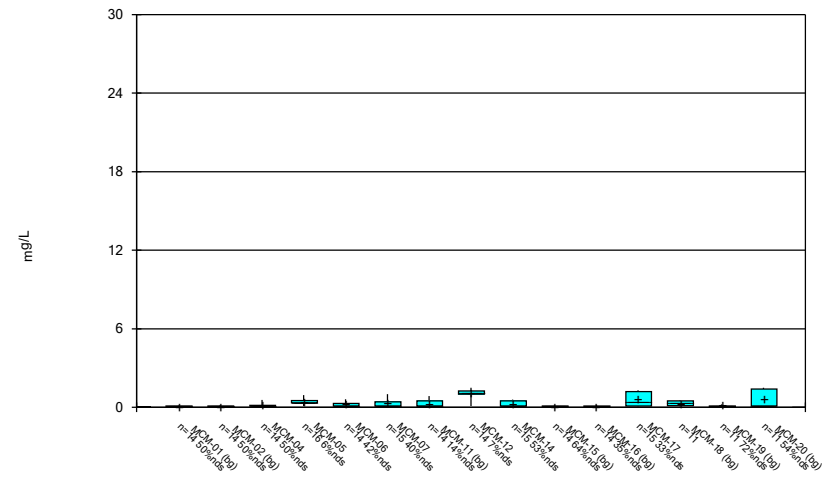
Constituent: Cobalt Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



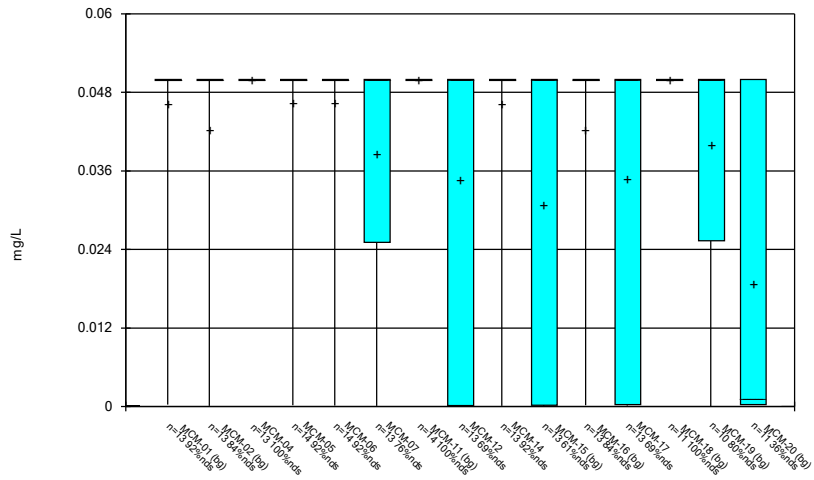
Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



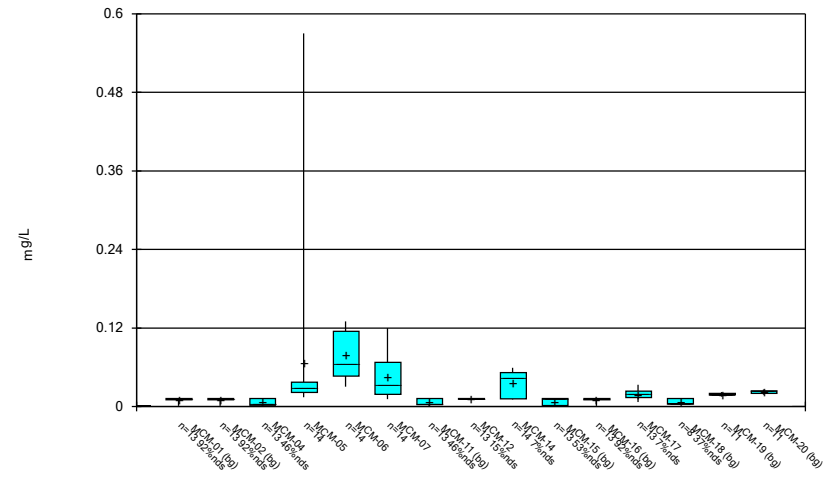
Constituent: Fluoride Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



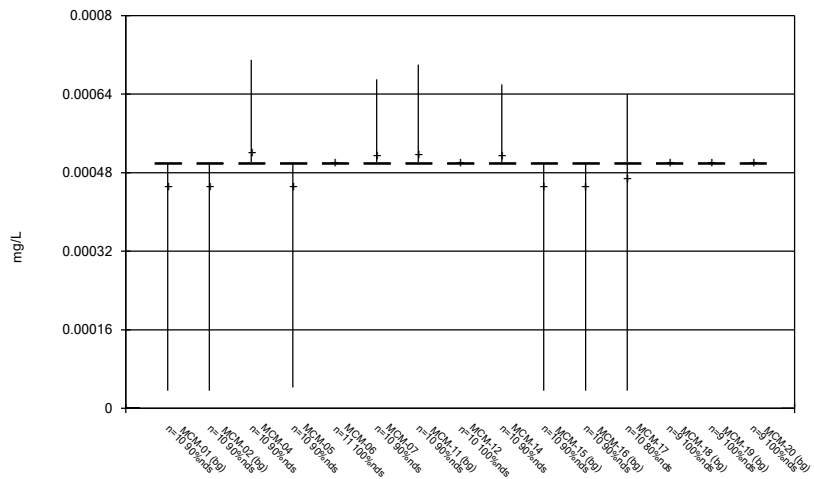
Constituent: Lead Analysis Run 6/2/2021 8:53 AM View: Descriptive
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Box & Whiskers Plot



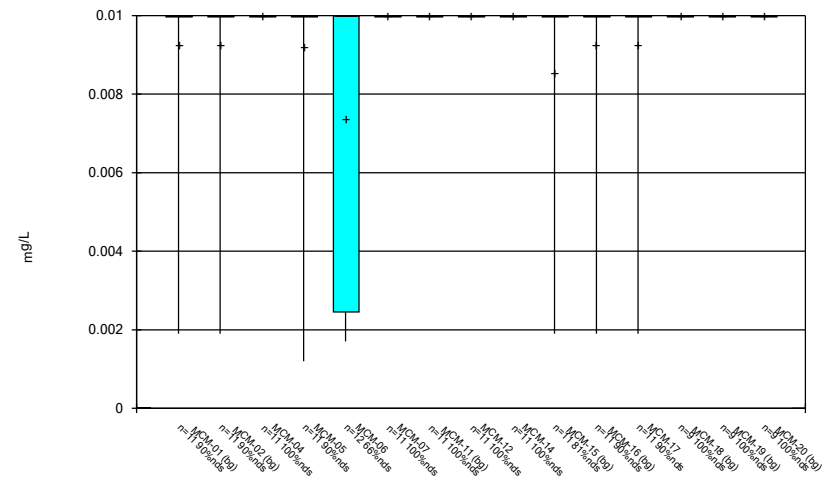
Constituent: Lithium Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



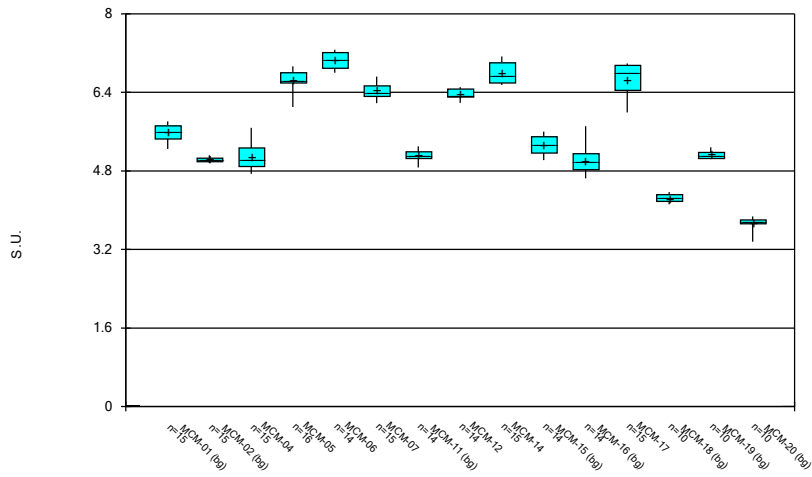
Constituent: Mercury Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



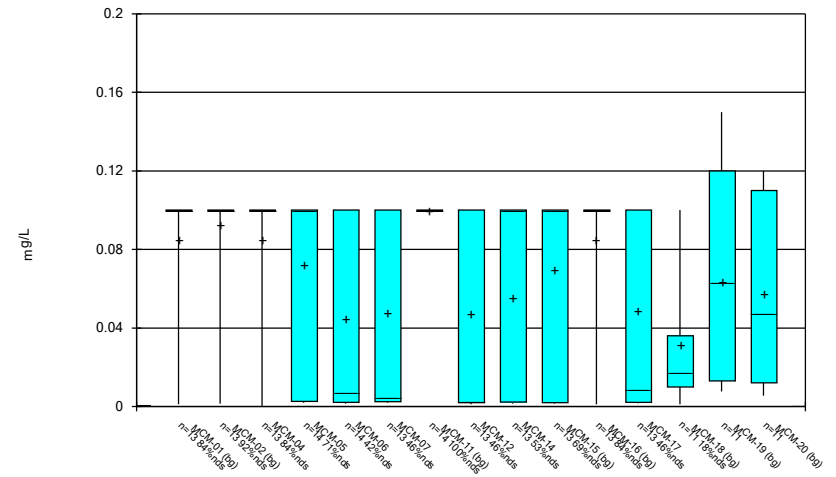
Constituent: Molybdenum Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



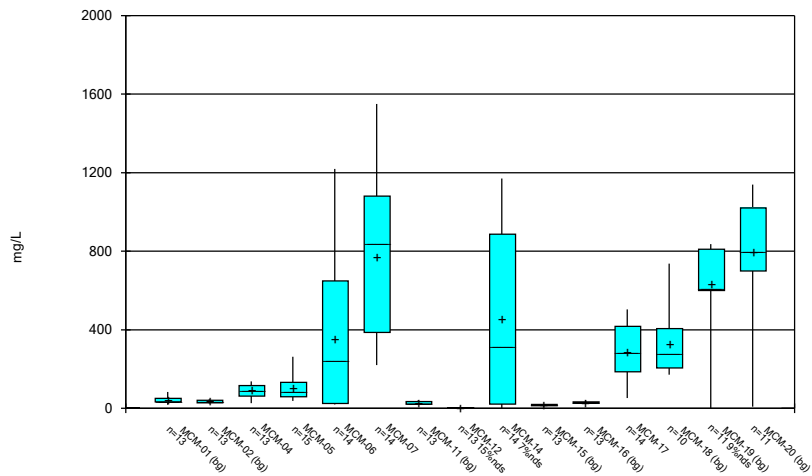
Constituent: pH Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



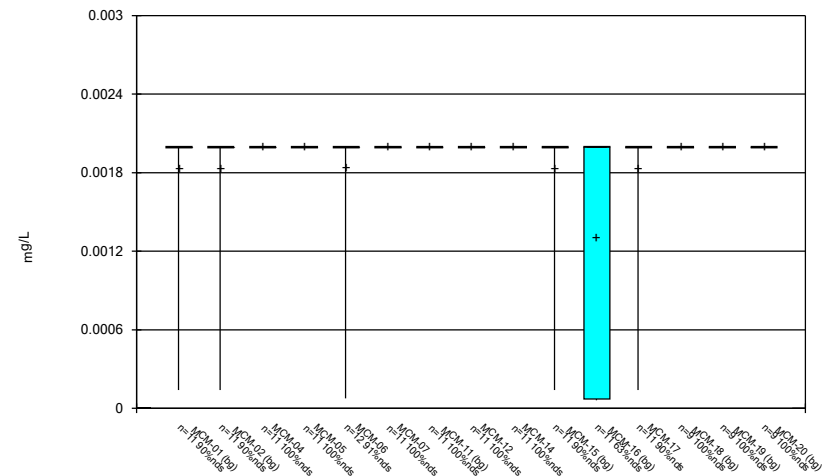
Constituent: Selenium Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



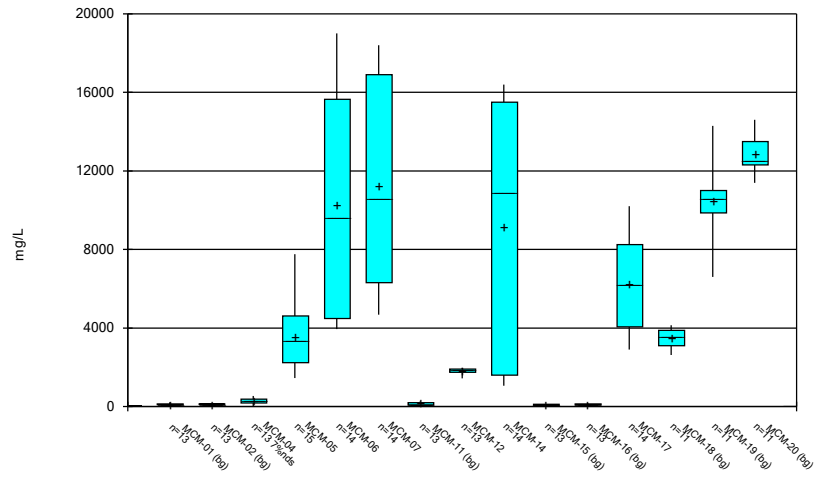
Constituent: Sulfate Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



Constituent: Thallium Analysis Run 6/2/2021 8:53 AM View: Descriptive
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Box & Whiskers Plot



Constituent: Total Dissolved Solids Analysis Run 6/2/2021 8:53 AM View: Descriptive
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 6/2/2021, 8:58 AM

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.

Interwell Prediction Limits - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 8:46 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Calcium (mg/L)	MCM-06	169	n/a	3/4/2021	233	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	3/4/2021	244	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	3/4/2021	205	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.81	3.36	3/4/2021	6.52	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.81	3.36	3/4/2021	6.94	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.81	3.36	3/4/2021	6.33	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.81	3.36	3/2/2021	6.34	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.81	3.36	3/2/2021	6.55	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.81	3.36	3/3/2021	6.58	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-07	14600	n/a	3/4/2021	17100	Yes	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2

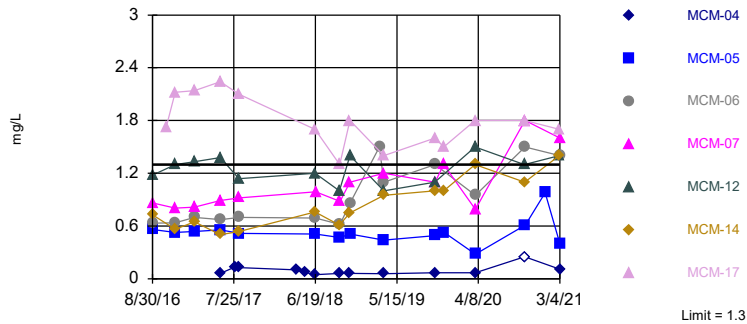
Interwell Prediction Limits - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 8:46 AM

Constituent	Well	Upper Lim.	Lower Lim.	Date	Observ.	Sig.	Bg N	Bg Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Boron (mg/L)	MCM-04	1.3	n/a	3/4/2021	0.11J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-05	1.3	n/a	3/4/2021	0.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-06	1.3	n/a	3/4/2021	1.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-07	1.3	n/a	3/4/2021	1.6J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-12	1.3	n/a	3/2/2021	1.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-14	1.3	n/a	3/2/2021	1.4J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Boron (mg/L)	MCM-17	1.3	n/a	3/3/2021	1.7J	No	98	n/a	n/a	10.2	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-04	169	n/a	3/4/2021	15.1	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-05	169	n/a	3/4/2021	23.4	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-06	169	n/a	3/4/2021	233	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-07	169	n/a	3/4/2021	244	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-12	169	n/a	3/4/2021	6.5	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-14	169	n/a	3/4/2021	205	Yes	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Calcium (mg/L)	MCM-17	169	n/a	3/4/2021	143	No	99	n/a	n/a	1.01	n/a	n/a	0.0001973	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-04	8130	n/a	3/4/2021	69.6	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-05	8130	n/a	3/4/2021	652	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-06	8130	n/a	3/4/2021	6310	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-07	8130	n/a	3/4/2021	7540	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-12	8130	n/a	3/2/2021	459	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-14	8130	n/a	3/2/2021	0.5ND	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Chloride (mg/L)	MCM-17	8130	n/a	3/3/2021	0.5ND	No	98	n/a	n/a	1.02	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-04	1.5	n/a	3/4/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-05	1.5	n/a	3/4/2021	0.45	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-06	1.5	n/a	3/4/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-07	1.5	n/a	3/4/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-12	1.5	n/a	3/2/2021	1	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-14	1.5	n/a	3/2/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
Fluoride (mg/L)	MCM-17	1.5	n/a	3/3/2021	0.1ND	No	103	n/a	n/a	42.72	n/a	n/a	0.0001842	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-04	5.81	3.36	3/4/2021	5.31	No	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-05	5.81	3.36	3/4/2021	6.52	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-06	5.81	3.36	3/4/2021	6.94	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-07	5.81	3.36	3/4/2021	6.33	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-12	5.81	3.36	3/2/2021	6.34	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-14	5.81	3.36	3/2/2021	6.55	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
pH (S.U.)	MCM-17	5.81	3.36	3/3/2021	6.58	Yes	102	n/a	n/a	0	n/a	n/a	0.0003743	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-04	1140	n/a	3/4/2021	99.1	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-05	1140	n/a	3/4/2021	82.2	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-06	1140	n/a	3/4/2021	596	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-07	1140	n/a	3/4/2021	982	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-12	1140	n/a	3/2/2021	1.2	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-14	1140	n/a	3/2/2021	97.5	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Sulfate (mg/L)	MCM-17	1140	n/a	3/3/2021	420	No	97	n/a	n/a	1.031	n/a	n/a	0.0002062	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-04	14600	n/a	3/4/2021	285	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-05	14600	n/a	3/4/2021	1700	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-06	14600	n/a	3/4/2021	14200	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-07	14600	n/a	3/4/2021	17100	Yes	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-12	14600	n/a	3/2/2021	1430	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-14	14600	n/a	3/2/2021	12000	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2
Total Dissolved Solids (mg/L)	MCM-17	14600	n/a	3/3/2021	8830	No	98	n/a	n/a	0	n/a	n/a	0.0002018	NP Inter (normality) 1 of 2

Within Limit

Prediction Limit
Interwell Non-parametric

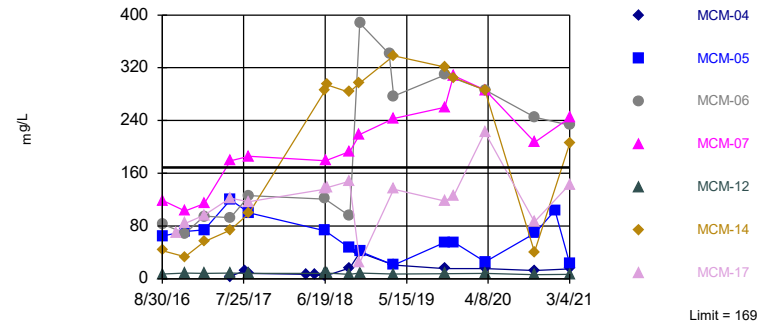


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 98 background values. 10.2% NDs. Annual per-constituent alpha = 0.002821. Individual comparison alpha = 0.0002018 (1 of 2). Comparing 7 points to limit.

Constituent: Boron Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Exceeds Limit: MCM-06, MCM-07, MCM-14

Prediction Limit
Interwell Non-parametric

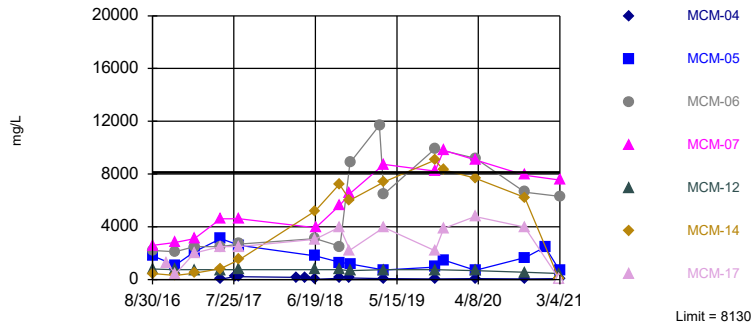


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 99 background values. 1.01% NDs. Annual per-constituent alpha = 0.002759. Individual comparison alpha = 0.0001973 (1 of 2). Comparing 7 points to limit.

Constituent: Calcium Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Within Limit

Prediction Limit
Interwell Non-parametric

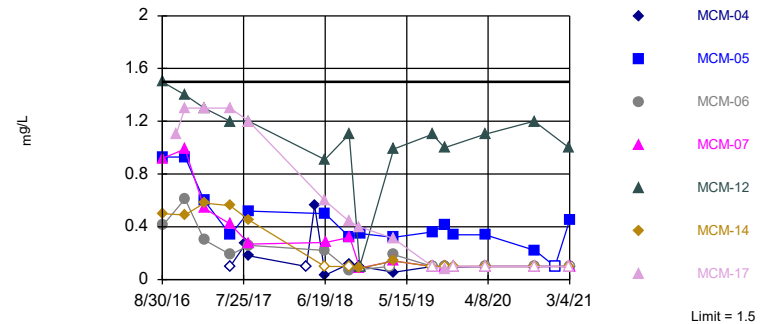


Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 98 background values. 1.02% NDs. Annual per-constituent alpha = 0.002821. Individual comparison alpha = 0.0002018 (1 of 2). Comparing 7 points to limit.

Constituent: Chloride Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Within Limit

Prediction Limit
Interwell Non-parametric

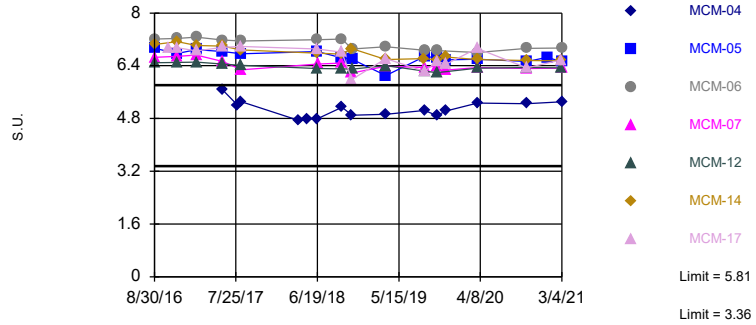


Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 103 background values. 42.72% NDs. Annual per-constituent alpha = 0.002576. Individual comparison alpha = 0.0001842 (1 of 2). Comparing 7 points to limit.

Constituent: Fluoride Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Exceeds Limits: MCM-05, MCM-06, MCM-07, MCM-12, MCM-14, MCM-17

Prediction Limit
Interwell Non-parametric



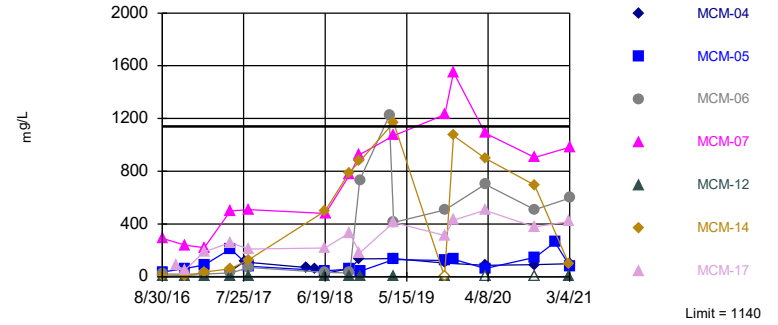
Non-parametric test used in lieu of parametric prediction limit because the Chi Squared normality test showed the data to be non-normal at the 0.01 alpha level. Limits are highest and lowest of 102 background values. Annual per-constituent alpha = 0.005233. Individual comparison alpha = 0.0003743 (1 of 2). Comparing 7 points to limit.

Constituent: pH Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Within Limit

Hollow symbols indicate censored values.

Prediction Limit
Interwell Non-parametric



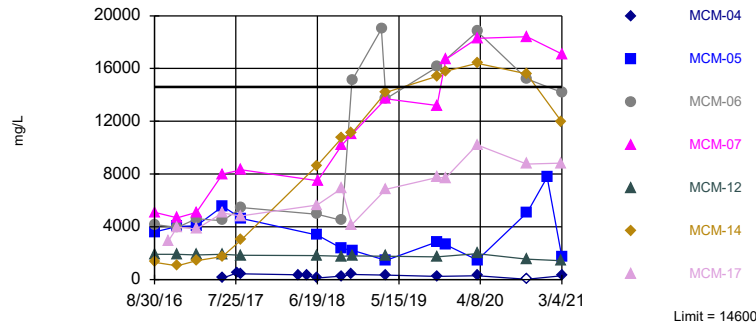
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 97 background values. 1.031% NDs. Annual per-constituent alpha = 0.002883. Individual comparison alpha = 0.0002062 (1 of 2). Comparing 7 points to limit.

Constituent: Sulfate Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Hollow symbols indicate censored values.

Exceeds Limit: MCM-07

Prediction Limit
Interwell Non-parametric



Non-parametric test used in lieu of parametric prediction limit because the Shapiro Francia normality test showed the data to be non-normal at the 0.01 alpha level. Limit is highest of 98 background values. 1.031% NDs. Annual per-constituent alpha = 0.002821. Individual comparison alpha = 0.0002018 (1 of 2). Comparing 7 points to limit.

Constituent: Total Dissolved Solids Analysis Run 6/2/2021 8:42 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 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 6/2/2021 8:46 AM View: PLs
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)		

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (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	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				0.84	0.27	1.1
11/18/2019					0.29 (J)	
11/19/2019				0.83		1.3
11/20/2019						
11/21/2019						
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				0.75	0.24 (J)	0.94
2/4/2020				0.79 (J)	0.24 (J)	0.96 (J)
2/13/2020				0.74	0.22	0.88
3/26/2020						
3/27/2020	0.17 (J)		0.076 (J)	0.96	0.24 (J)	0.94
3/28/2020		0.067 (J)				
10/12/2020					0.24 (J)	
10/13/2020	<0.5	<0.5	<0.5	0.73		1.1
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Boron (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (bg)	MCM-20 (bg)
1/4/2021						
3/2/2021			<0.5			
3/3/2021	<0.5			0.79 (J)	0.21 (J)	0.91 (J)
3/4/2021		0.11 (J)				

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 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 6/2/2021 8:46 AM View: PLs
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

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-20 (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	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	163	158
11/18/2019				41.8		
11/19/2019					169	152
11/20/2019						
11/21/2019						
12/4/2019					140	142
12/5/2019				40.5		
12/17/2019						136
12/18/2019				42	145	
1/8/2020					157	147
1/9/2020				37.1		
1/21/2020				40.1	152	167
2/4/2020				36.2	139	142
2/13/2020				38.9	146	148
3/26/2020						
3/27/2020	4.9		5.9	23.2	113	122
3/28/2020		15.5				
10/12/2020				19.1		
10/13/2020	3.8	12.5	0.83		128	125
10/14/2020						

Prediction Limit

Constituent: Calcium (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-20 (bg)	MCM-19 (bg)
10/15/2020						
1/4/2021						
3/3/2021	4					
3/4/2021		15.1	1.4	26	110	123

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 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 6/2/2021 8:46 AM View: PLs
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		

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (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	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				6170	2360	7880
11/18/2019					6970	
11/19/2019				5650		8130
11/20/2019						
11/21/2019						
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				5010	1630	6000
2/4/2020				5030	1760	5700
2/13/2020				6140	1850	7060
3/26/2020						
3/27/2020	32.9		14.1	6870	1450	7110
3/28/2020		71.4				
10/12/2020					1340	
10/13/2020	25.7	54.4	3.8	5260		5980
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Chloride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (bg)	MCM-20 (bg)
1/4/2021						
3/2/2021			4.2			
3/3/2021	20.5			5170	1230	<1
3/4/2021		69.6				

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	MCM-05	MCM-17	MCM-11 (bg)
8/30/2016	0.03 (J)	0.04 (J)	0.5	1.5					
8/31/2016					0.92	0.41	0.93		
10/25/2016								1.1	
11/30/2016	0.04 (J)	0.18 (J)	0.49	1.4	0.99	0.61	0.93	1.3	
2/15/2017	0.007 (J)	0.02 (J)	0.58	1.3				1.3	
2/16/2017					0.54	0.3 (J)	0.6		
5/31/2017			0.56	1.2				1.3	0.85
6/1/2017	<0.1	0.005 (J)							
6/2/2017					0.42	0.19 (J)	0.34		
8/2/2017									0.69
8/15/2017				1.2				1.2	0.29 (J)
8/16/2017	0.03 (J)		0.45						
8/17/2017		0.04 (J)			0.27 (J)	0.26 (J)	0.52		
4/4/2018									0.32
4/5/2018									
5/8/2018									0.63
5/9/2018									
6/19/2018	<0.1		<0.1	0.91				0.6	0.17 (J)
6/20/2018		0.038 (J)				0.22 (J)	0.5		
6/21/2018					0.28 (J)				
9/25/2018			<0.1	1.1					0.15 (J)
9/26/2018	0.12 (J)	0.029						0.44 (D)	
9/27/2018					0.32 (D)	0.068 (J)	0.32		
11/6/2018			0.084 (J)		0.086 (J)			0.4	<0.1
11/7/2018	<0.1	<0.1		<0.1		10.3 (o)	0.35		
3/6/2019						<0.1			
3/24/2019			0.14 (J)	0.99	0.14 (J)	0.19 (J)	0.32	0.31	
3/25/2019	0.038 (J)	0.041 (J)							0.12 (J)
8/26/2019			<0.1						
8/27/2019	<0.1	<0.1		1.1				<0.1	
8/28/2019					<0.1	<0.1	0.36		0.068 (J)
10/15/2019			<0.1	1					
10/16/2019	0.046 (JD)	0.044 (J)					0.41	0.083 (J)	0.1 (J)
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		<0.1	<0.1	1.1				<0.1	0.066 (J)
3/28/2020					<0.1	<0.1	0.34		
10/12/2020				1.2					<0.1

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	MCM-05	MCM-17	MCM-11 (bg)
10/13/2020	<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			<0.1	1					
3/3/2021	<0.1	<0.1						<0.1	0.082 (J)
3/4/2021					<0.1	<0.1	0.45		

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (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	0.01 (J)					
6/1/2017		<0.1				
6/2/2017			<0.1			
8/2/2017	0.14 (J)	0.27 (J)	0.05 (J)			
8/15/2017						
8/16/2017	0.13 (J)					
8/17/2017		0.18 (J)	<0.1			
4/4/2018		<0.1	<0.1			
4/5/2018	<0.1					
5/8/2018		0.56	<0.1			
5/9/2018	<0.1					
6/19/2018	0.065 (J)		0.057 (J)			
6/20/2018		0.033 (J)				
6/21/2018						
9/25/2018						
9/26/2018	0.029		0.029			
9/27/2018		0.12 (J)				
11/6/2018		<0.1				
11/7/2018	<0.1		<0.1			
3/6/2019						
3/24/2019						
3/25/2019	0.039 (J)	0.055 (J)	0.036 (J)			
8/26/2019						
8/27/2019		<0.1	<0.1			
8/28/2019	<0.1					
10/15/2019		0.095 (J)	0.14 (J)			
10/16/2019	0.044 (JD)					
10/17/2019						
11/7/2019				<0.1	0.49	1.4
11/18/2019					0.52	
11/19/2019				0.033 (J)		1.2
11/20/2019						
11/21/2019						
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				0.11 (J)	0.13 (J)	0.53
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	<0.1		<0.1	<0.1	0.06 (J)	<0.1
3/28/2020		<0.1				
10/12/2020					0.34	

Prediction Limit

Constituent: Fluoride (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (bg)	MCM-20 (bg)
10/13/2020	<0.1	<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	<0.1			<0.1	0.32	<0.1
3/4/2021		<0.1				

Prediction Limit

Constituent: pH (S.U.) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-05	MCM-06	MCM-07	MCM-17	MCM-02 (bg)
8/30/2016	5.66	5.18	7.04	6.49					
8/31/2016					6.93	7.21	6.66		
10/25/2016								6.95	
11/30/2016	5.36	4.96	7.13	6.5	6.77	7.23	6.69	6.95	
2/15/2017	5.25	5.13	7.02	6.51				6.85	
2/16/2017					6.89	7.27	6.72		
5/31/2017			7	6.45				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		6.78	6.32				6.91	5.02
6/20/2018		4.77			6.83	7.19			
6/21/2018							6.45		
9/25/2018			6.75	6.31					
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			6.59	6.4	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			6.58	6.19					
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	6.59	6.33				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 (S.U.) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-05	MCM-06	MCM-07	MCM-17	MCM-02 (bg)
1/4/2021					6.66				
3/2/2021			6.55	6.34					
3/3/2021	5.81	5.71						6.58	5.06
3/4/2021					6.52	6.94	6.33		

Prediction Limit

Constituent: pH (S.U.) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-20 (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	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				4.25	3.79	5.21
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				4.28	3.73	5.1
2/4/2020				4.26	3.72	5.15
2/13/2020				4.2	3.75	5.07
3/26/2020						
3/27/2020	5.09		5.3	4.34	3.81	5.14
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 (S.U.) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-18 (bg)	MCM-20 (bg)	MCM-19 (bg)
1/4/2021						
3/2/2021			5.16			
3/3/2021	5.07			4.37	3.36	5.1
3/4/2021		5.31				

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	MCM-05	MCM-17	MCM-02 (bg)
8/30/2016	17	24	6.4	4.3					
8/31/2016					290	21	37		
10/25/2016								84	
11/30/2016	33	26	4.5	7.6	240	19	63	52	
2/15/2017	83	30	37	3				190	
2/16/2017					220	22	90		
5/31/2017			61	2.5				260	46
6/1/2017	51	24							
6/2/2017					500	28	210		
8/2/2017									43
8/15/2017				3.2				210	
8/16/2017	36		130						41
8/17/2017		26			510	69	80		
4/4/2018									
4/5/2018									33.4
5/8/2018									
5/9/2018									36
6/19/2018	50.3		498	1.6				218	35.5
6/20/2018		31.2				33	46 (J)		
6/21/2018					481				
9/25/2018			790	1					
9/26/2018	54.1	36.8						333 (D)	39.6
9/27/2018					777 (D)	29.4 (D)	58.5 (J)		
11/6/2018			875		926			182	
11/7/2018	45.6	35		0.41 (J)		734	41.3 (J)		35.8
3/6/2019						1220 (J)			
3/24/2019			1170	1.5	1070	413	131	413	
3/25/2019	43	40.1							34.2
10/15/2019			<1	0.54 (J)					
10/16/2019	31.9	28.5					122.5 (D)	312.5 (D)	24.4
10/17/2019					1230	507			
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		31.2	899	<1				504	28.6
3/28/2020					1090	701	63.8		
10/12/2020				<1					
10/13/2020	32.3	26.8	695					378	27.6
10/14/2020					904	510			
10/15/2020							147		

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-01 (bg)	MCM-16 (bg)	MCM-14	MCM-12	MCM-07	MCM-06	MCM-05	MCM-17	MCM-02 (bg)
1/4/2021							262		
3/2/2021			97.5	1.2					
3/3/2021	33.8	30.5						420	27.6
3/4/2021					982	596	82.2		

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (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	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				832	379	1010
11/18/2019					737	
11/19/2019				795		1140
11/20/2019						
11/21/2019						
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				611	254	798
2/4/2020				599	432	1120
2/13/2020				761	300	833
3/26/2020						
3/27/2020	23.4		14.6	836	219	700
3/28/2020		86.6				
10/12/2020	19.3				191	
10/13/2020		92.3	7.6	609		638
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Sulfate (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-11 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (bg)	MCM-20 (bg)
1/4/2021						
3/2/2021			8			
3/3/2021	19.9			<1	171	743
3/4/2021		99.1				

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs

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 6/2/2021 8:46 AM View: PLs
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		

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs

Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (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	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				10900	4140	13500
11/18/2019					4030	
11/19/2019				10000		13300
11/20/2019						
11/21/2019						
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				10100	3280	12000
2/4/2020				10600	3220	12300
2/13/2020				10900	3580	12400
3/26/2020						
3/27/2020	119		110	14300	3090	14600
3/28/2020		284				
10/12/2020					2920	
10/13/2020	118	<25	63	6600		13900
10/14/2020						
10/15/2020						

Prediction Limit

Constituent: Total Dissolved Solids (mg/L) Analysis Run 6/2/2021 8:46 AM View: PLs
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

	MCM-02 (bg)	MCM-04	MCM-15 (bg)	MCM-19 (bg)	MCM-18 (bg)	MCM-20 (bg)
1/4/2021						
3/2/2021			40			
3/3/2021	84			11000	2620	11400
3/4/2021		285				

FIGURE E.

Trend Test Summary - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 10:16 AM

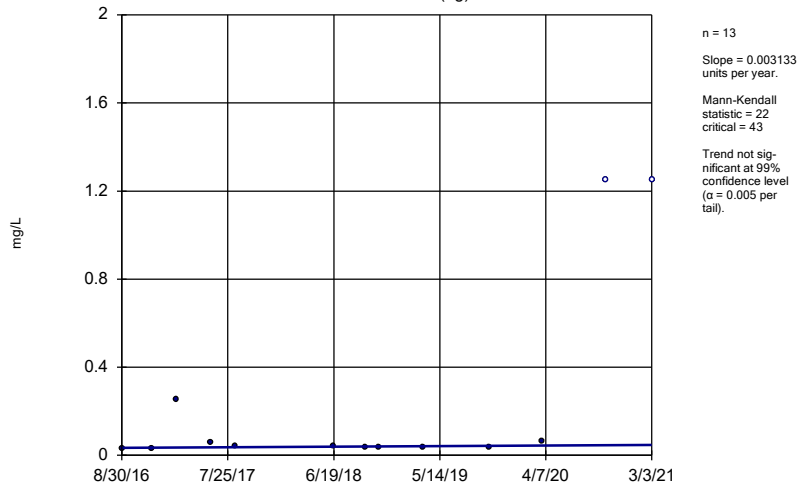
<u>Constituent</u>	<u>Well</u>	<u>Slope</u>	<u>Calc.</u>	<u>Critical</u>	<u>Sig.</u>	<u>N</u>	<u>%NDs</u>	<u>Normality</u>	<u>Xform</u>	<u>Alpha</u>	<u>Method</u>
Boron (mg/L)	MCM-06	0.1827	58	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-07	0.1656	54	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-14	0.1706	64	48	Yes	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	45.07	66	48	Yes	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-11 (bg)	-3.673	-48	-43	Yes	13	7.692	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-25.18	-41	-34	Yes	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-20 (bg)	-45.49	-35	-34	Yes	11	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.08015	-75	-58	Yes	16	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.1063	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-07	-0.08184	-54	-53	Yes	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.07081	-59	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1266	-86	-53	Yes	15	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-07	3348	77	48	Yes	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-11 (bg)	-39.73	-46	-43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-18 (bg)	-1825	-47	-34	Yes	11	0	n/a	n/a	0.01	NP

Trend Test Summary - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 10:16 AM

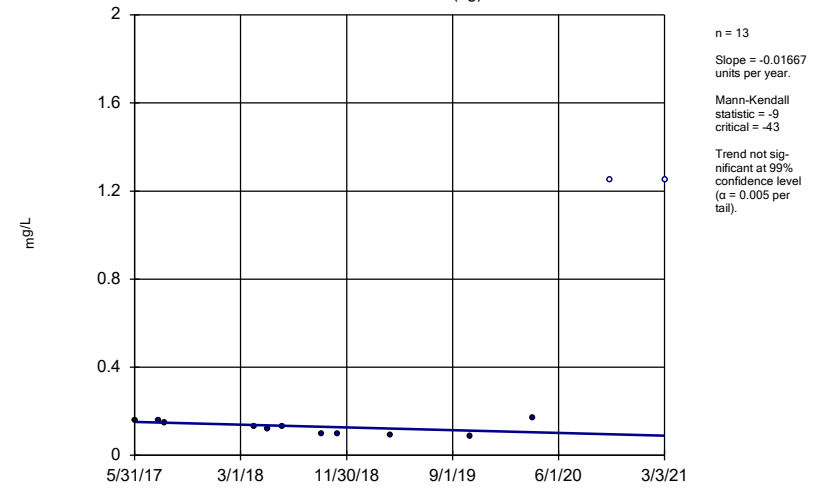
Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Boron (mg/L)	MCM-01 (bg)	0.003133	22	43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-02 (bg)	-0.01667	-9	-43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-06	0.1827	58	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-07	0.1656	54	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-11 (bg)	0.004718	16	43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-12	0.02041	11	43	No	13	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-14	0.1706	64	48	Yes	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-15 (bg)	0.01038	32	43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-16 (bg)	-0.006667	-13	-43	No	13	15.38	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-17	-0.09481	-25	-48	No	14	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-18 (bg)	-0.0269	-14	-34	No	11	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-19 (bg)	0.03587	3	34	No	11	0	n/a	n/a	0.01	NP
Boron (mg/L)	MCM-20 (bg)	0	1	34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-01 (bg)	0.4611	15	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-02 (bg)	-0.3024	-33	-43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-06	45.25	43	48	No	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-07	45.07	66	48	Yes	14	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-11 (bg)	-3.673	-48	-43	Yes	13	7.692	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-14	59.7	43	53	No	15	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-15 (bg)	0.3325	7	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-16 (bg)	0.1273	14	43	No	13	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-18 (bg)	-25.18	-41	-34	Yes	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-19 (bg)	-28.78	-26	-34	No	11	0	n/a	n/a	0.01	NP
Calcium (mg/L)	MCM-20 (bg)	-45.49	-35	-34	Yes	11	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-01 (bg)	0.06432	39	53	No	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-02 (bg)	0.02023	31	53	No	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-05	-0.08015	-75	-58	Yes	16	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-06	-0.1063	-54	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-07	-0.08184	-54	-53	Yes	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-11 (bg)	-0.07081	-59	-48	Yes	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-12	-0.05177	-45	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-14	-0.1266	-86	-53	Yes	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-15 (bg)	-0.08568	-29	-48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-16 (bg)	0.05425	15	48	No	14	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-17	-0.1219	-46	-53	No	15	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-18 (bg)	0.1568	29	30	No	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-19 (bg)	-0.0833	-18	-30	No	10	0	n/a	n/a	0.01	NP
pH (S.U.)	MCM-20 (bg)	-0.1921	-24	-30	No	10	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-01 (bg)	-5.09	-16	-43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-02 (bg)	-7.464	-30	-43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-07	3348	77	48	Yes	14	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-11 (bg)	-39.73	-46	-43	Yes	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-15 (bg)	10.17	15	43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-16 (bg)	1.344	6	43	No	13	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-18 (bg)	-1825	-47	-34	Yes	11	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-19 (bg)	371.5	7	34	No	11	0	n/a	n/a	0.01	NP
Total Dissolved Solids (mg/L)	MCM-20 (bg)	-1278	-14	-34	No	11	0	n/a	n/a	0.01	NP

Sen's Slope Estimator
MCM-01 (bg)



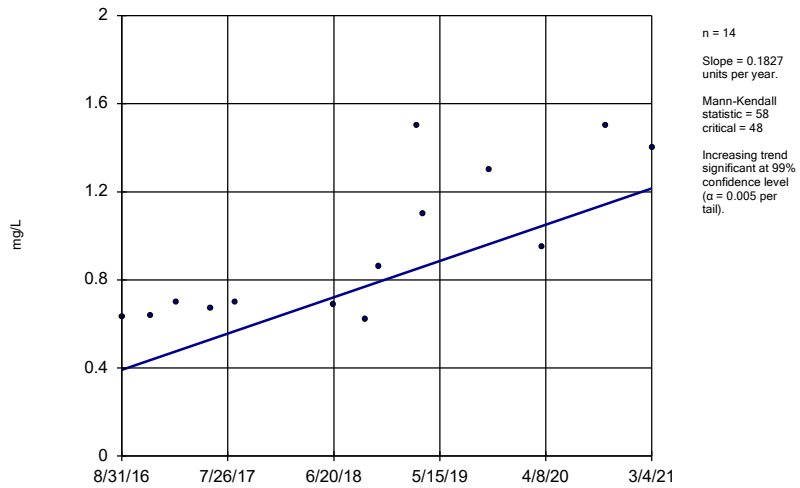
Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-02 (bg)



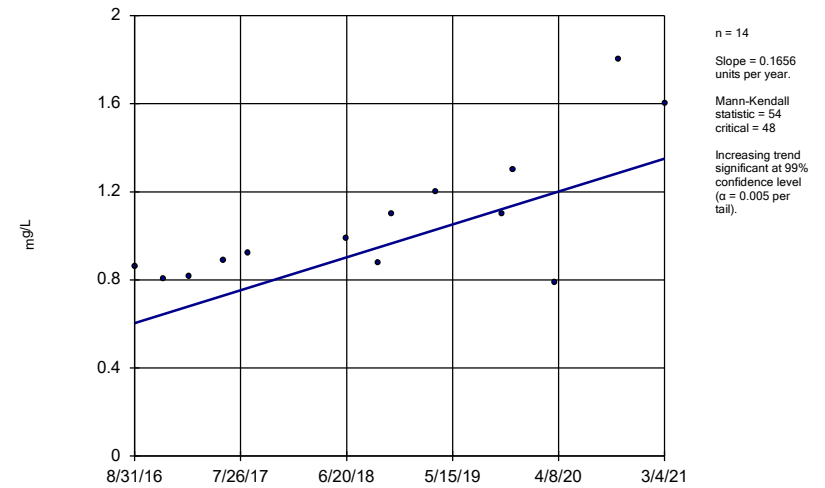
Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-06



Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

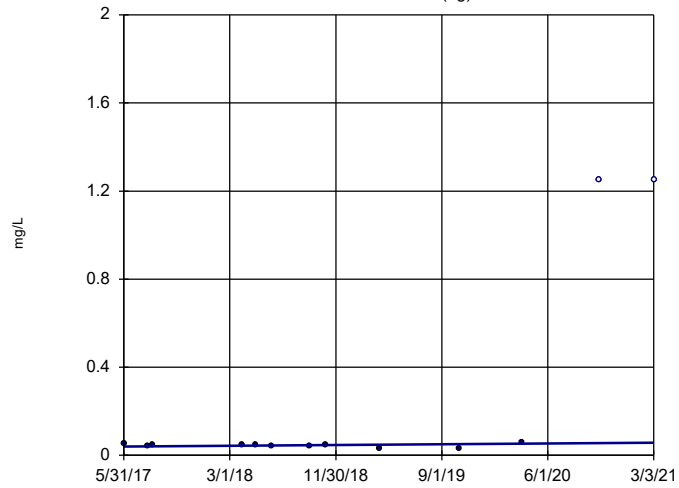
Sen's Slope Estimator
MCM-07



Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-11 (bg)

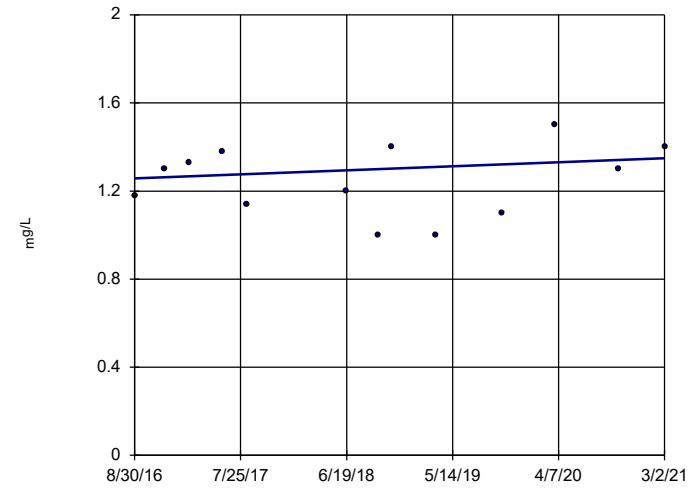


n = 13
 Slope = 0.004718
 units per year.
 Mann-Kendall
 statistic = 16
 critical = 43
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-12

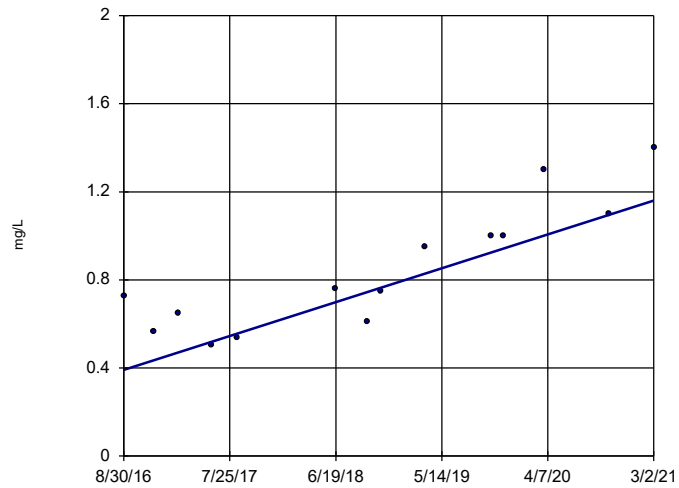


n = 13
 Slope = 0.02041
 units per year.
 Mann-Kendall
 statistic = 11
 critical = 43
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-14

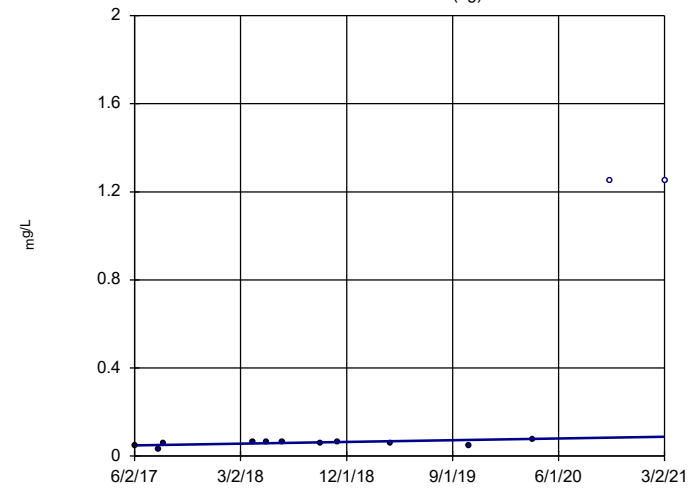


n = 14
 Slope = 0.1706
 units per year.
 Mann-Kendall
 statistic = 64
 critical = 48
 Increasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-15 (bg)

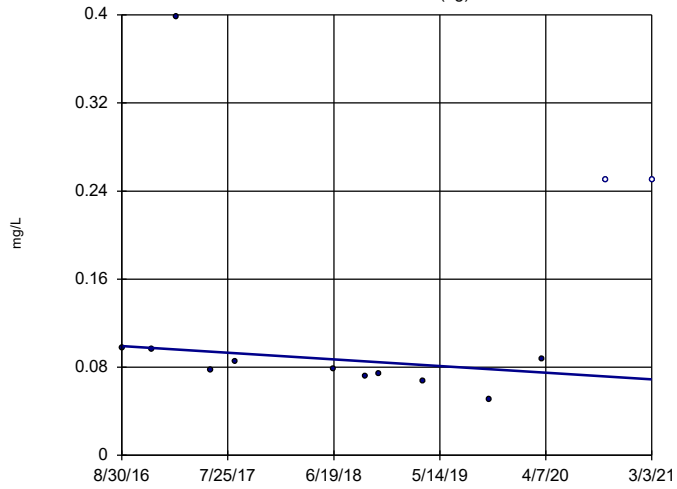


n = 13
 Slope = 0.01038
 units per year.
 Mann-Kendall
 statistic = 32
 critical = 43
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

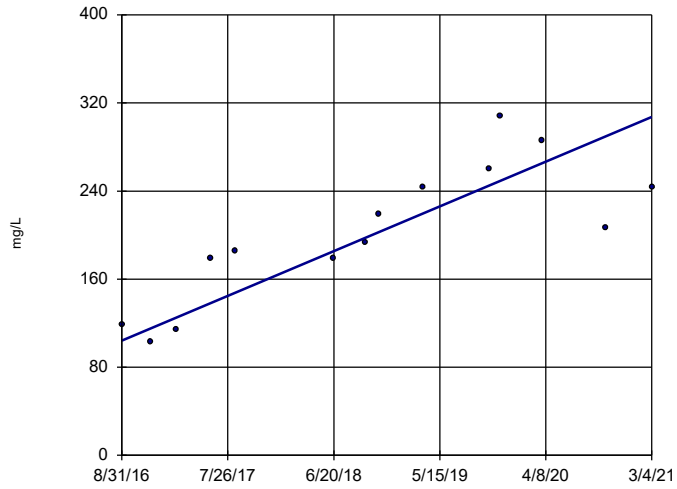
Constituent: Boron Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-16 (bg)

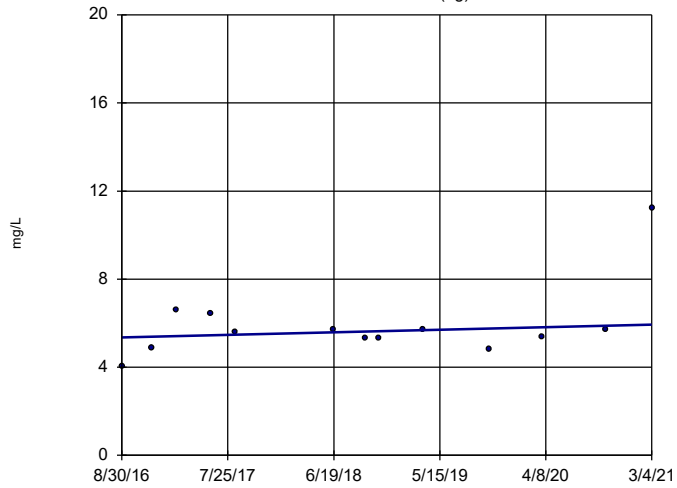


Sen's Slope Estimator MCM-07



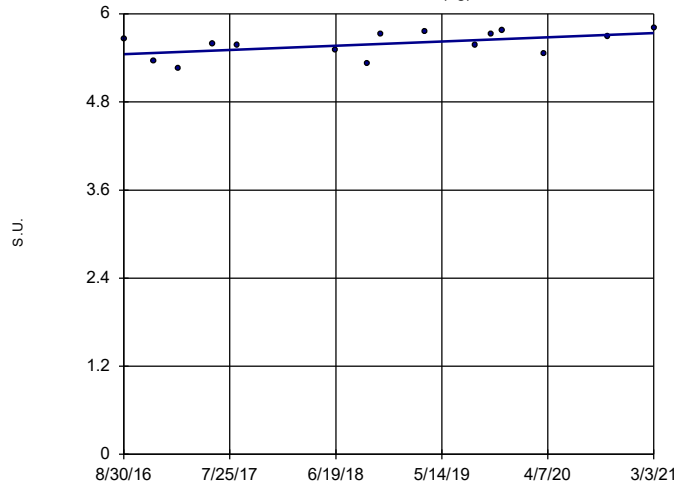
Sen's Slope Estimator

MCM-16 (bg)

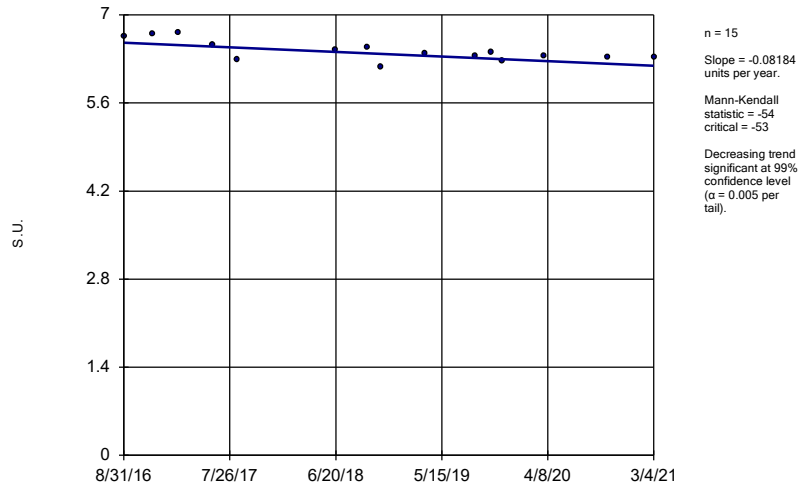


Sen's Slope Estimator

MCM-01 (bg)

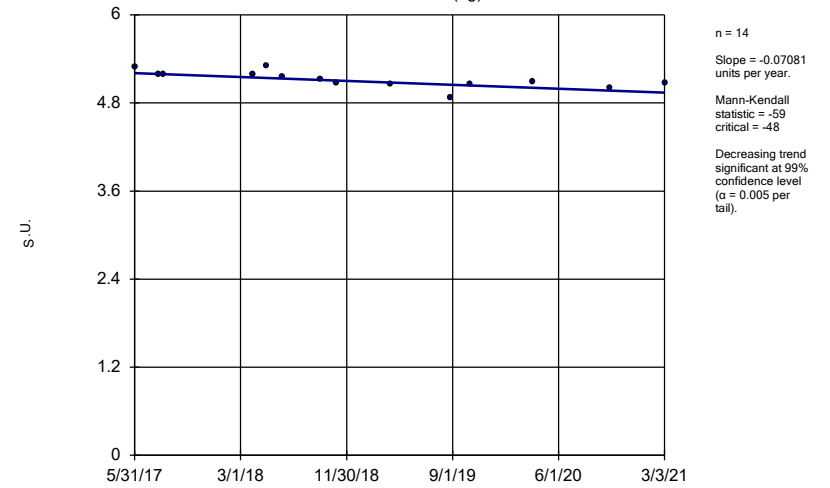


Sen's Slope Estimator
MCM-07



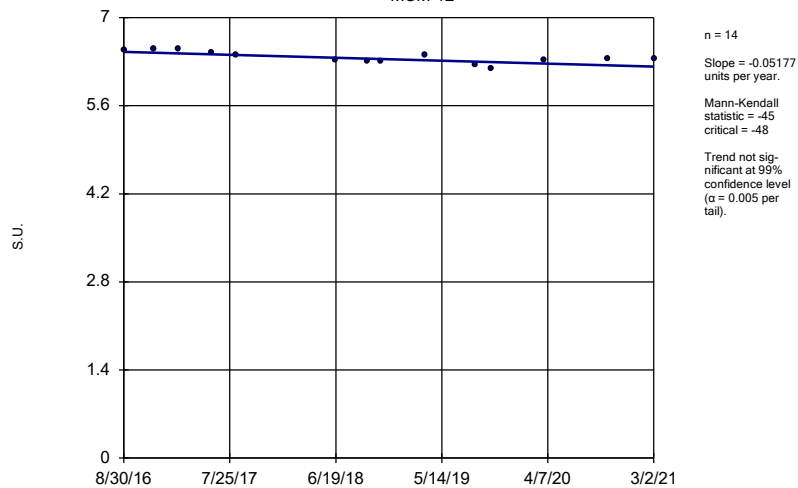
Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-11 (bg)



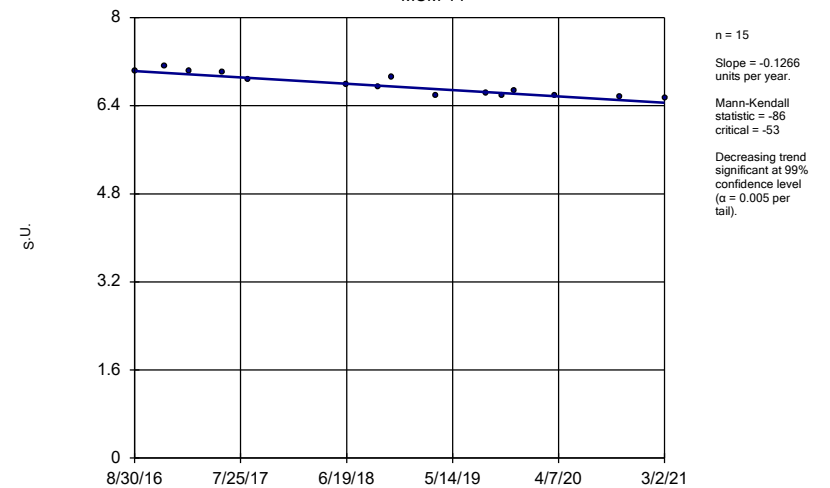
Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-12



Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

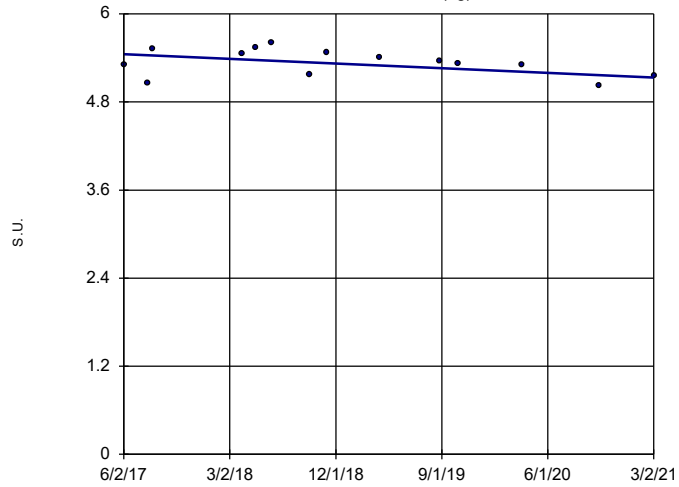
Sen's Slope Estimator
MCM-14



Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-15 (bg)

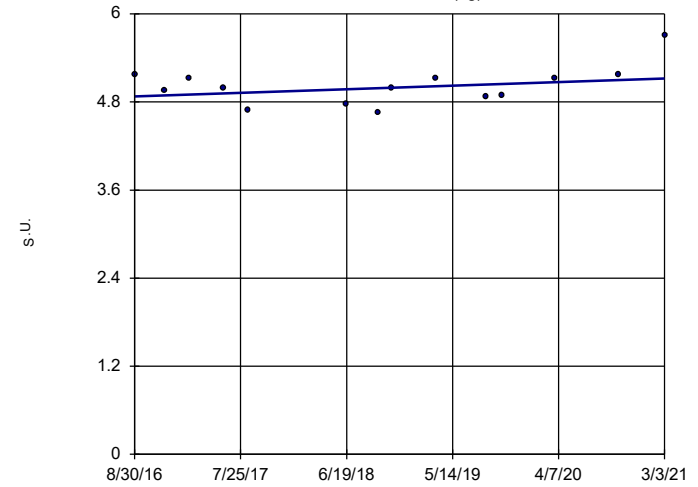


n = 14
 Slope = -0.08568 units per year.
 Mann-Kendall statistic = -29
 critical = -48
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-16 (bg)

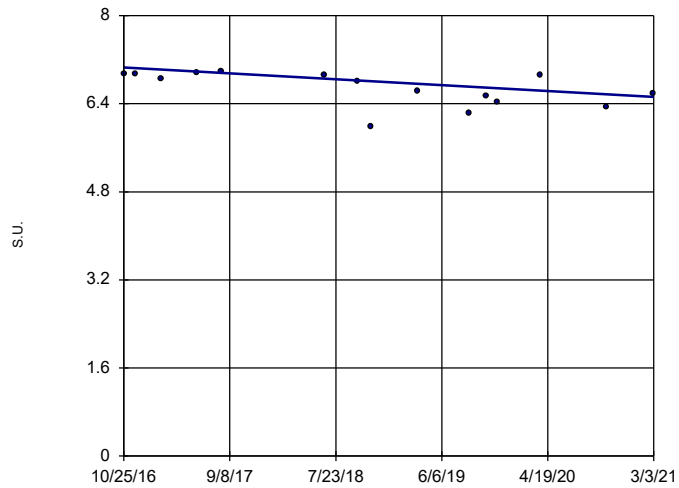


n = 14
 Slope = 0.05425 units per year.
 Mann-Kendall statistic = 15
 critical = 48
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-17

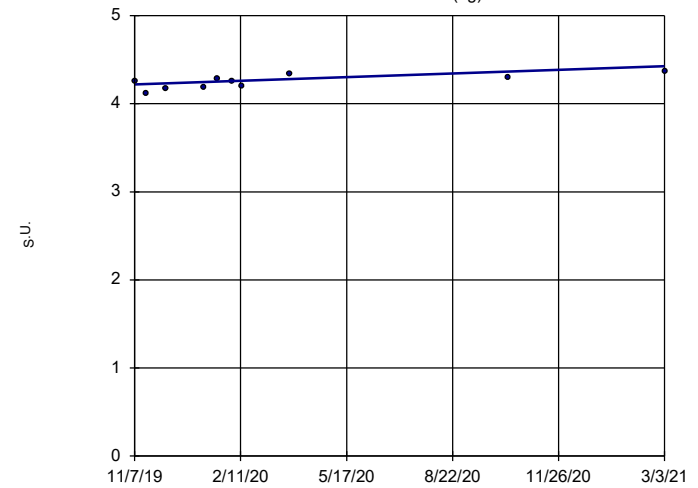


n = 15
 Slope = -0.1219 units per year.
 Mann-Kendall statistic = -46
 critical = -53
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-18 (bg)

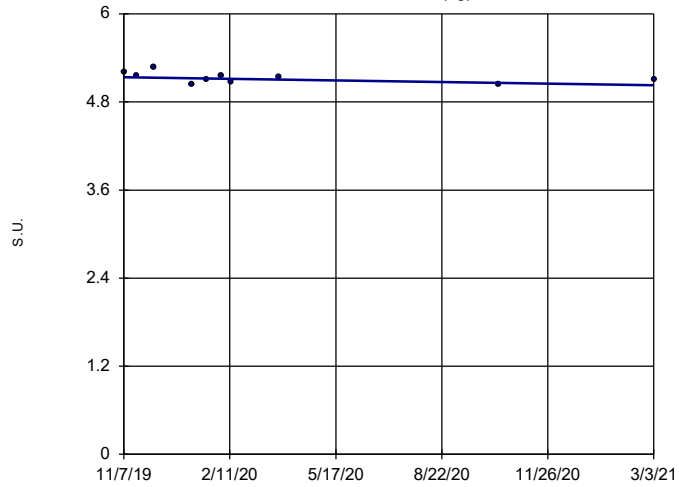


n = 10
 Slope = 0.1568 units per year.
 Mann-Kendall statistic = 29
 critical = 30
 Trend not significant at 99% confidence level (α = 0.005 per tail).

Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

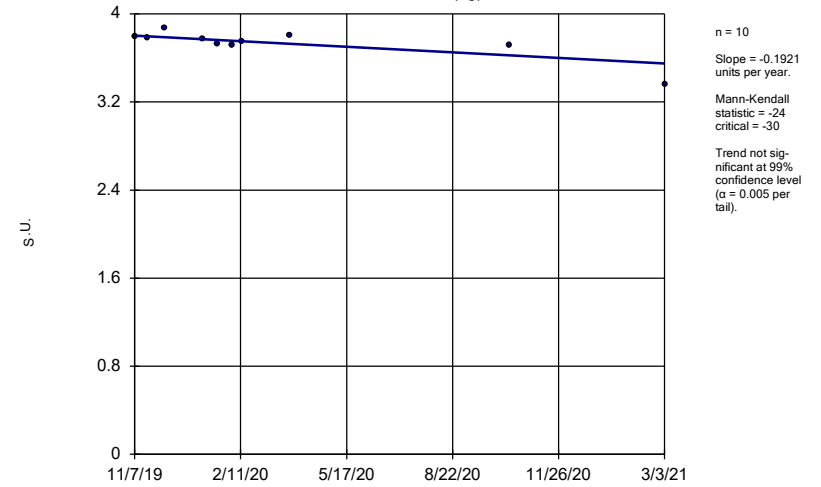
MCM-19 (bg)



Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

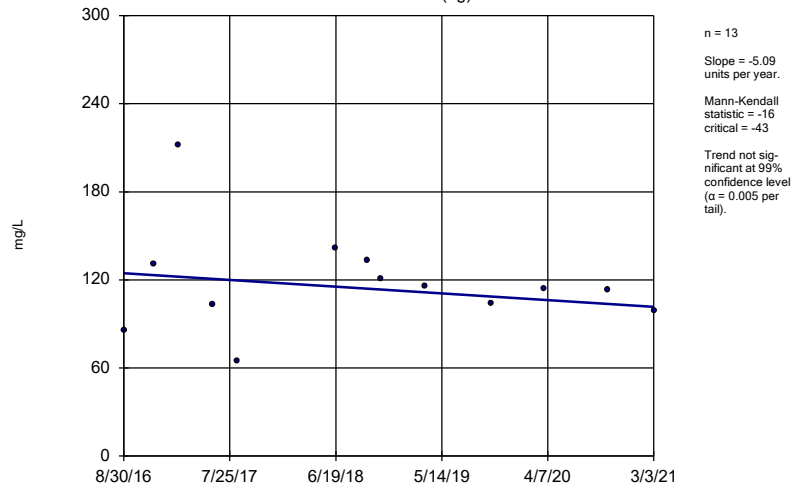
MCM-20 (bg)



Constituent: pH Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

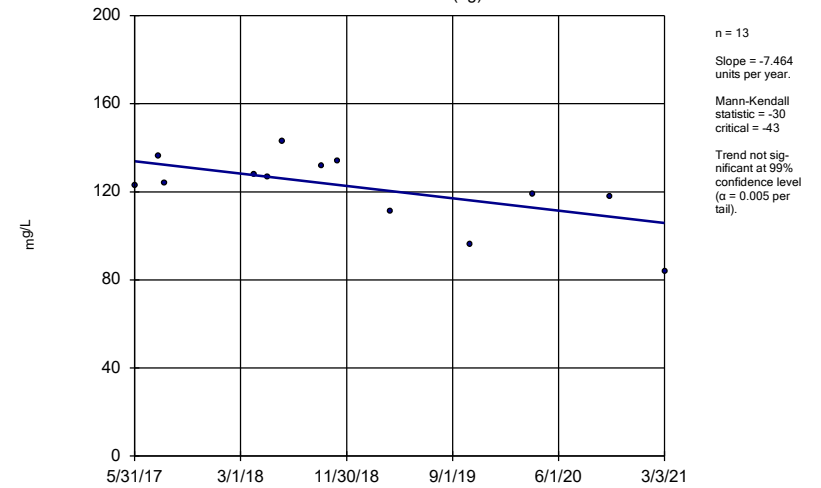
MCM-01 (bg)



Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

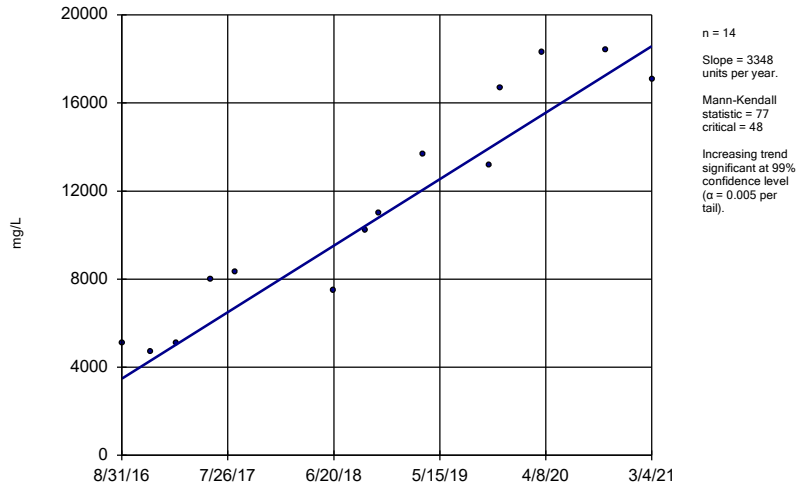
Sen's Slope Estimator

MCM-02 (bg)



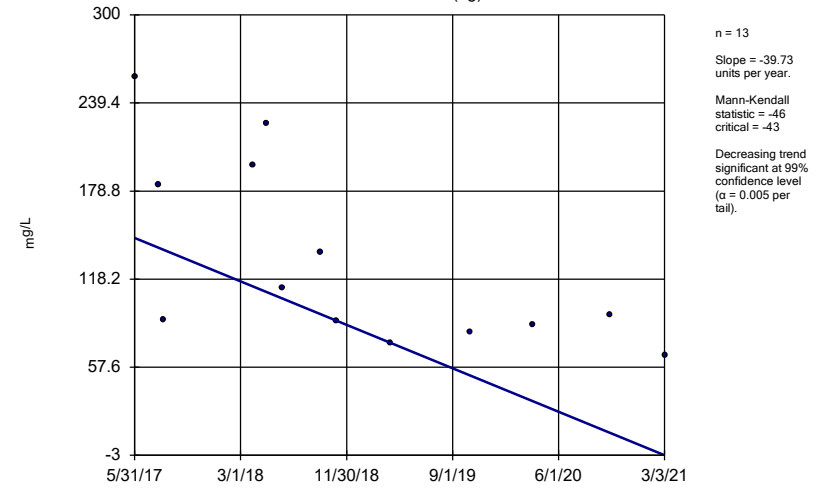
Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:15 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-07



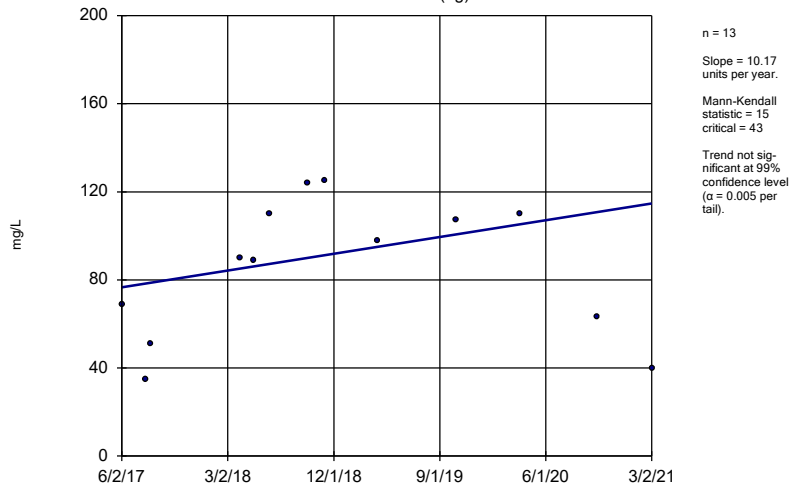
Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-11 (bg)



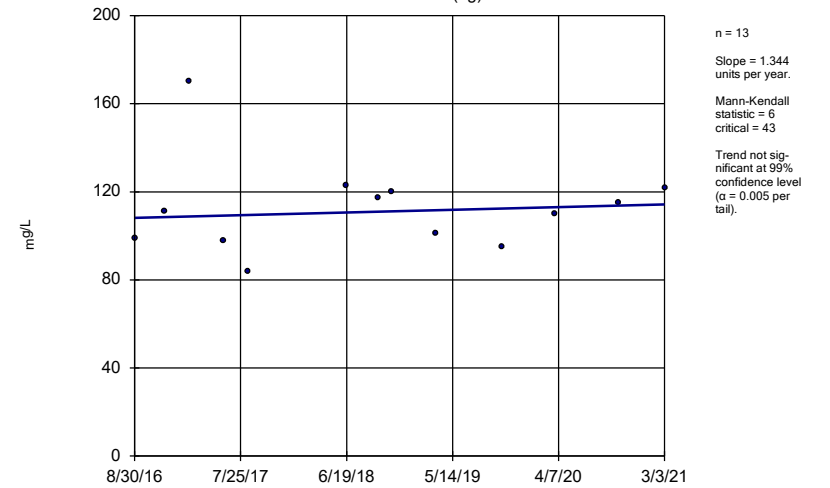
Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator
MCM-15 (bg)



Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

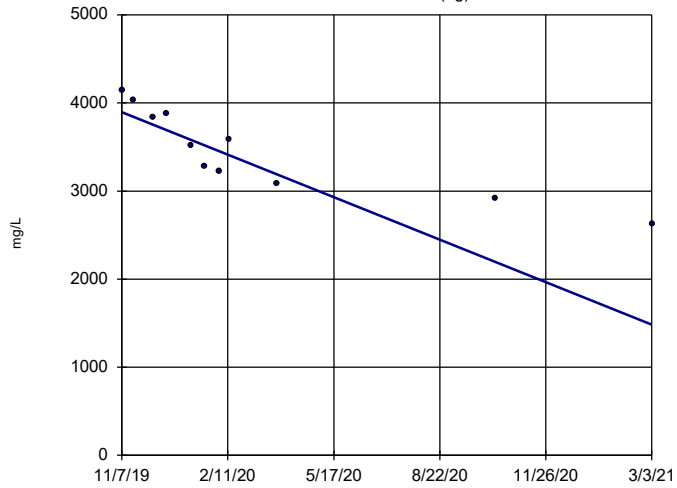
Sen's Slope Estimator
MCM-16 (bg)



Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:15 AM View: Trend Tests
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-18 (bg)

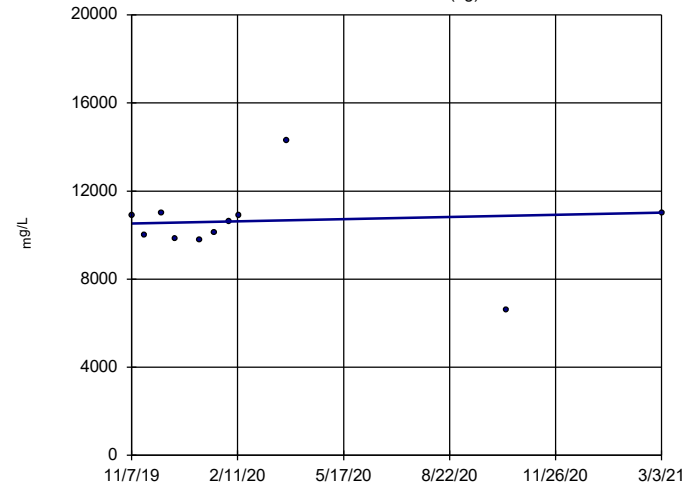


n = 11
 Slope = -1825
 units per year.
 Mann-Kendall
 statistic = -47
 critical = -34
 Decreasing trend
 significant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:16 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-19 (bg)

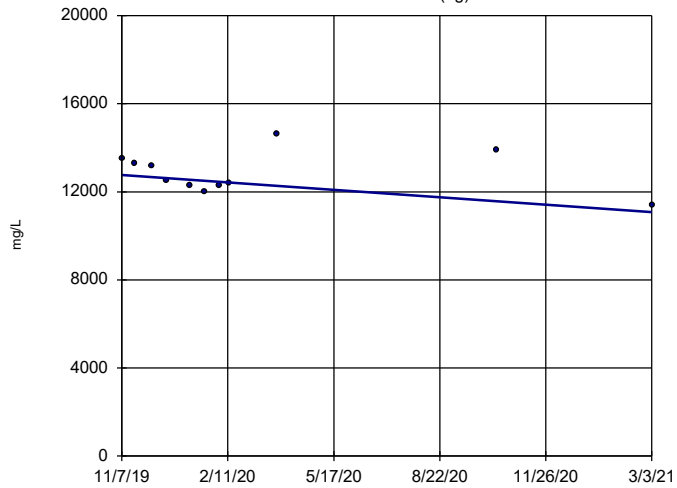


n = 11
 Slope = 371.5
 units per year.
 Mann-Kendall
 statistic = 7
 critical = 34
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:16 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Sen's Slope Estimator

MCM-20 (bg)



n = 11
 Slope = -1278
 units per year.
 Mann-Kendall
 statistic = -14
 critical = -34
 Trend not sig-
 nificant at 99%
 confidence level
 ($\alpha = 0.005$ per
 tail).

Constituent: Total Dissolved Solids Analysis Run 6/2/2021 10:16 AM View: Trend Tests
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

FIGURE F.

Tolerance Limits Summary

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:21 AM

<u>Constituent</u>	<u>Upper Lim.</u>	<u>Bg N</u>	<u>Bg Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Antimony (mg/L)	0.003	83	n/a	n/a	93.98	n/a	n/a	0.01416	NP Inter(NDs)
Arsenic (mg/L)	0.031	102	n/a	n/a	14.71	n/a	n/a	0.005343	NP Inter(normality)
Barium (mg/L)	0.22	99	n/a	n/a	0	n/a	n/a	0.006232	NP Inter(normality)
Beryllium (mg/L)	0.021	98	n/a	n/a	25.51	n/a	n/a	0.00656	NP Inter(normality)
Cadmium (mg/L)	0.0025	77	n/a	n/a	92.21	n/a	n/a	0.01926	NP Inter(NDs)
Chromium (mg/L)	0.011	83	n/a	n/a	46.99	n/a	n/a	0.01416	NP Inter(normality)
Cobalt (mg/L)	0.036	98	n/a	n/a	75.51	n/a	n/a	0.00656	NP Inter(NDs)
Combined Radium 226 + 228 (pCi/L)	55.8	97	n/a	n/a	0	n/a	n/a	0.006905	NP Inter(normality)
Fluoride (mg/L)	1.5	103	n/a	n/a	42.72	n/a	n/a	0.005076	NP Inter(normality)
Lead (mg/L)	0.005	98	n/a	n/a	80.61	n/a	n/a	0.00656	NP Inter(NDs)
Lithium (mg/L)	0.03	95	n/a	n/a	54.74	n/a	n/a	0.007651	NP Inter(normality)
Mercury (mg/L)	0.0007	77	n/a	n/a	93.51	n/a	n/a	0.01926	NP Inter(NDs)
Molybdenum (mg/L)	0.01	82	n/a	n/a	93.9	n/a	n/a	0.01491	NP Inter(NDs)
Selenium (mg/L)	0.15	99	n/a	n/a	59.6	n/a	n/a	0.006232	NP Inter(normality)
Thallium (mg/L)	0.001	82	n/a	n/a	91.46	n/a	n/a	0.01491	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	0.03	0.04	0.03
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 Interval Summary Table - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:39 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.04	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.

Federal Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:39 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008331	0.0028	0.031	No	14	0.005879	0.004391	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No	16	0.0152	0.01251	18.75	None	No	0.01	NP (Cohens/xfrm)
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02195	0.01109	0.031	No	16	0.01652	0.008345	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.02	0.0007	0.031	No	13	0.0102	0.009531	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.02	0.0008	0.031	No	13	0.01085	0.008988	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.02	0.0017	0.031	No	14	0.009029	0.008609	35.71	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09676	0.03202	2	No	13	0.07538	0.07744	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No	14	0.04916	0.1161	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	14	0.09989	0.0489	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No	13	0.1617	0.1016	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1298	0.1097	2	No	13	0.1198	0.01349	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1237	0.04782	2	No	13	0.08578	0.05104	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1284	0.0565	2	No	13	0.09245	0.04835	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.0005952	0.0002445	0.021	No	13	0.00037	0.0001781	30.77	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-05	0.0005	0.000054	0.021	No	14	0.0004681	0.0001192	92.86	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.0005	0.000078	0.021	No	13	0.0004055	0.0001798	76.92	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.0007366	0.0003954	0.021	No	13	0.0005908	0.0002044	15.38	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-14	0.0005	0.000097	0.021	No	13	0.0003498	0.0002003	61.54	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-17	0.0004965	0.0002216	0.021	No	13	0.0003262	0.0001374	30.77	Cohen's	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.02	0.006	0.036	No	14	0.01332	0.007045	50	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.02	0.0019	0.036	No	14	0.01871	0.004837	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.02	0.0009	0.036	No	14	0.01723	0.007046	85.71	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.02	0.0011	0.036	No	13	0.01855	0.005242	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.02	0.00053	0.036	No	13	0.01252	0.009847	61.54	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-14	0.02	0.0006	0.036	No	13	0.01851	0.005381	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.02	0.00052	0.036	No	13	0.01551	0.008534	76.92	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.218	3.179	55.8	No	13	4.783	2.274	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.717	1.341	55.8	No	14	2.105	1.199	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.299	2.539	55.8	No	13	5.201	3.358	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.522	5.33	55.8	No	14	7.426	2.959	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.141	2.089	55.8	No	13	2.615	0.7073	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.336	2.788	55.8	No	14	5.062	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.209	2.459	55.8	No	14	4.743	2.96	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.18	0.095	4	No	14	0.1438	0.1321	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5623	0.2891	4	No	16	0.4394	0.2242	6.25	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	14	0.2034	0.1528	42.86	None	No	0.01	NP (Cohens/xfrm)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	15	0.3044	0.2982	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.281	0.9397	4	No	14	1.079	0.326	7.143	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	15	0.2403	0.2041	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No	15	0.5689	0.5163	33.33	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.015	No	14	0.004657	0.001283	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.015	No	14	0.004651	0.001304	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.015	No	13	0.003875	0.002137	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.015	No	13	0.003497	0.002346	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-14	0.005	0.00008	0.015	No	13	0.004622	0.001365	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.015	No	13	0.003535	0.002288	69.23	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.04	No	13	0.007985	0.006789	46.15	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.04	No	14	0.06651	0.1452	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.04	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.05737	0.01927	0.04	No	14	0.04446	0.03805	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.013	0.0106	0.04	No	13	0.01205	0.001514	15.38	None	No	0.01	NP (Cohens/xfrm)
Lithium (mg/L)	MCM-14	0.05066	0.03131	0.04	No	14	0.03606	0.01894	7.143	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02431	0.01361	0.04	No	13	0.01896	0.007193	7.692	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.04	0.0025	0.15	No	13	0.03407	0.01449	84.62	None	No	0.01	NP (NDs)

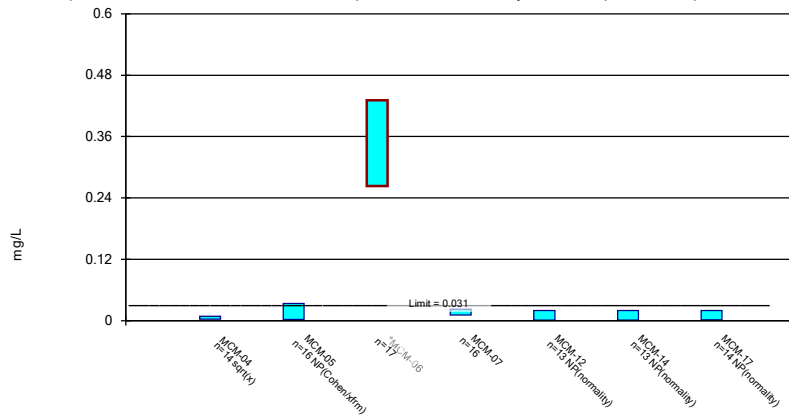
Federal Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:39 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Selenium (mg/L)	MCM-05	0.04	0.0023	0.15	No	14	0.02922	0.01769	71.43	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-06	0.04	0.002	0.15	No	14	0.01921	0.01877	42.86	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.04	0.0021	0.15	No	13	0.02014	0.01916	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.04	0.0017	0.15	No	13	0.01948	0.01978	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.04	0.0018	0.15	No	13	0.02279	0.01937	53.85	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.04	0.0018	0.15	No	13	0.02047	0.01893	46.15	None	No	0.01	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

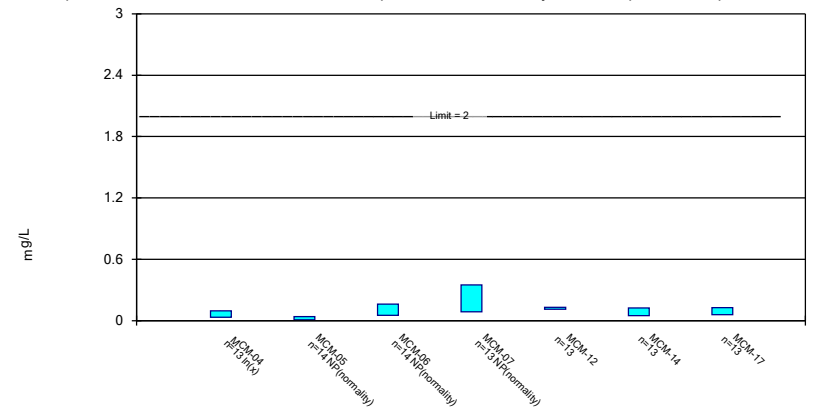
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Arsenic Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

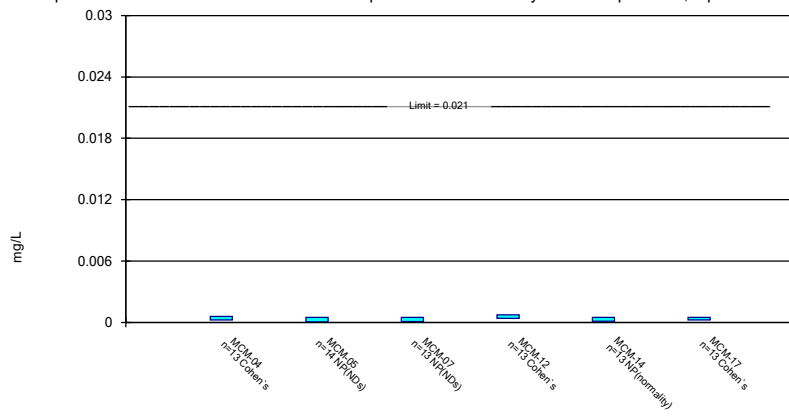
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Barium Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

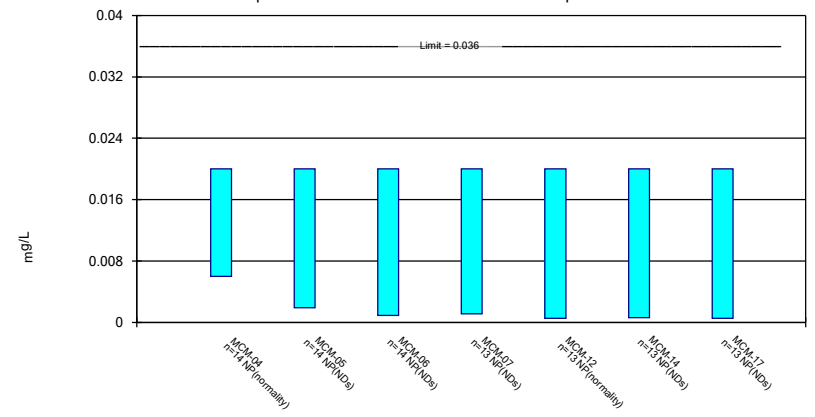
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

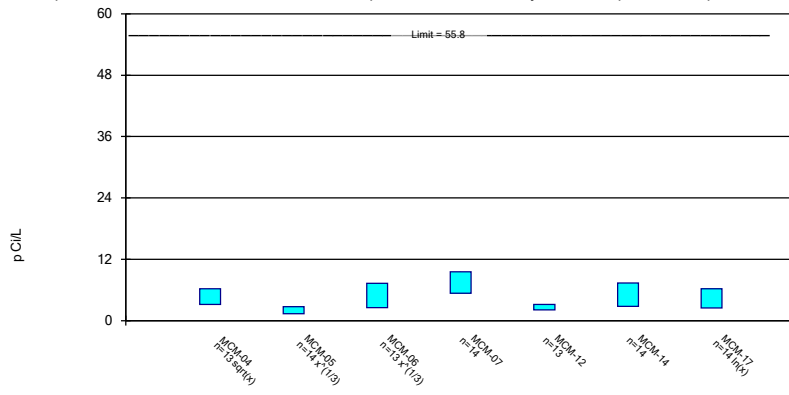
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Constituent: Cobalt Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric Confidence Interval

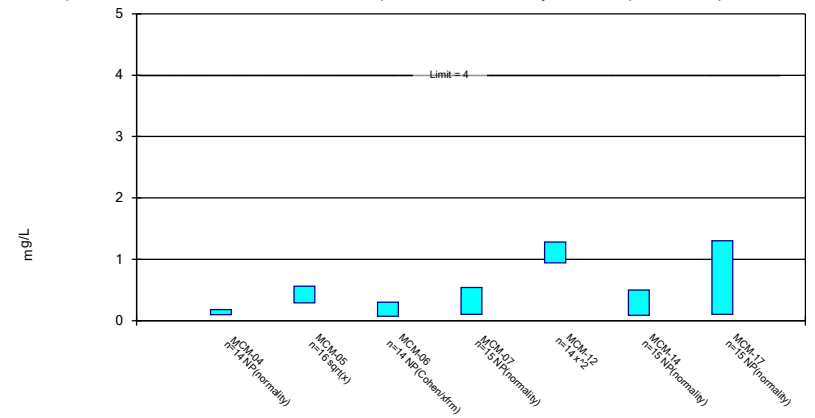
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Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

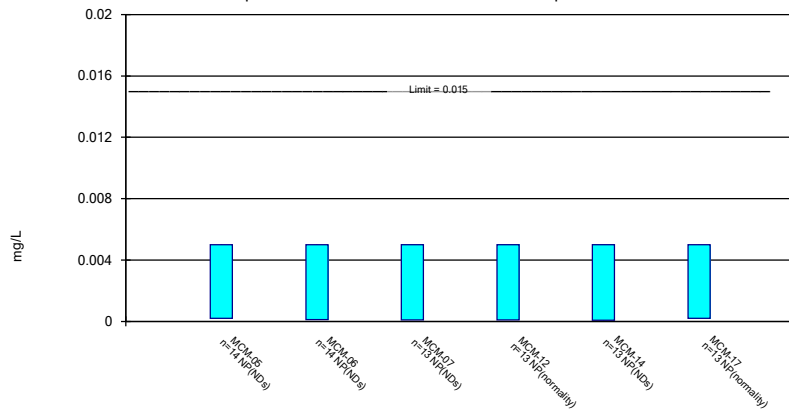
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Constituent: Fluoride Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

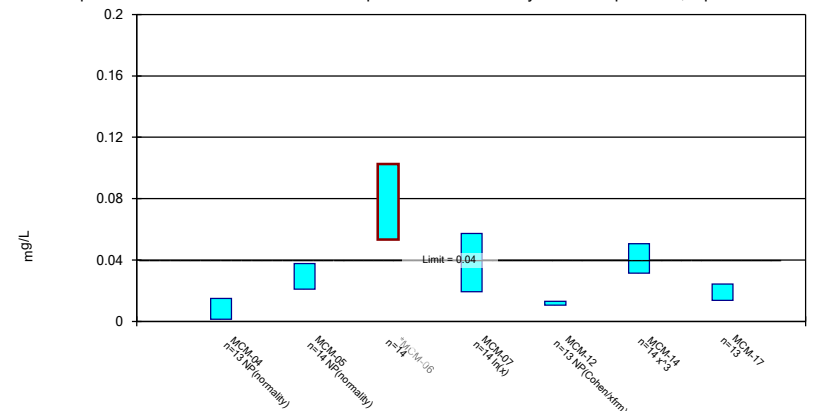
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

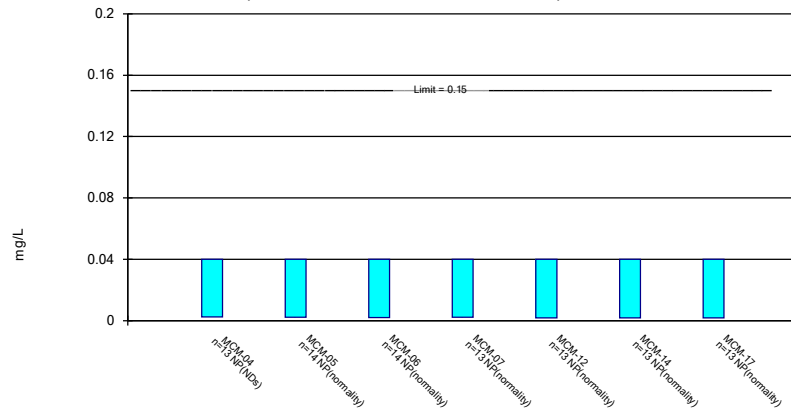
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/2/2021 9:37 AM View: 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 6/2/2021 9:37 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

FIGURE I.

State Confidence Interval Summary Table - Significant Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:35 AM

<u>Constituent</u>	<u>Well</u>	<u>Upper Lim.</u>	<u>Lower Lim.</u>	<u>Compliance</u>	<u>Sig.</u>	<u>N</u>	<u>Mean</u>	<u>Std. Dev.</u>	<u>%NDs</u>	<u>ND Adj.</u>	<u>Transform</u>	<u>Alpha</u>	<u>Method</u>
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.03	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-14	0.05066	0.03131	0.03	Yes	14	0.03606	0.01894	7.143	None	x^3	0.01	Param.

State Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:35 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Arsenic (mg/L)	MCM-04	0.008331	0.0028	0.031	No	14	0.005879	0.004391	0	None	sqrt(x)	0.01	Param.
Arsenic (mg/L)	MCM-05	0.0335	0.0019	0.031	No	16	0.0152	0.01251	18.75	None	No	0.01	NP (Cohens/xfrm)
Arsenic (mg/L)	MCM-06	0.4312	0.2631	0.031	Yes	17	0.3472	0.1342	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-07	0.02195	0.01109	0.031	No	16	0.01652	0.008345	0	None	No	0.01	Param.
Arsenic (mg/L)	MCM-12	0.02	0.0007	0.031	No	13	0.0102	0.009531	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-14	0.02	0.0008	0.031	No	13	0.01085	0.008988	46.15	None	No	0.01	NP (normality)
Arsenic (mg/L)	MCM-17	0.02	0.0017	0.031	No	14	0.009029	0.008609	35.71	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-04	0.09676	0.03202	2	No	13	0.07538	0.07744	0	None	ln(x)	0.01	Param.
Barium (mg/L)	MCM-05	0.0393	0.0085	2	No	14	0.04916	0.1161	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-06	0.16	0.0528	2	No	14	0.09989	0.0489	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-07	0.35	0.0865	2	No	13	0.1617	0.1016	0	None	No	0.01	NP (normality)
Barium (mg/L)	MCM-12	0.1298	0.1097	2	No	13	0.1198	0.01349	0	None	No	0.01	Param.
Barium (mg/L)	MCM-14	0.1237	0.04782	2	No	13	0.08578	0.05104	0	None	No	0.01	Param.
Barium (mg/L)	MCM-17	0.1284	0.0565	2	No	13	0.09245	0.04835	0	None	No	0.01	Param.
Beryllium (mg/L)	MCM-04	0.0005952	0.0002445	0.021	No	13	0.00037	0.0001781	30.77	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-05	0.0005	0.000054	0.021	No	14	0.0004681	0.0001192	92.86	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-07	0.0005	0.000078	0.021	No	13	0.0004055	0.0001798	76.92	Cohen's	No	0.01	NP (NDs)
Beryllium (mg/L)	MCM-12	0.0007366	0.0003954	0.021	No	13	0.0005908	0.0002044	15.38	Cohen's	No	0.01	Param.
Beryllium (mg/L)	MCM-14	0.0005	0.000097	0.021	No	13	0.0003498	0.0002003	61.54	None	No	0.01	NP (normality)
Beryllium (mg/L)	MCM-17	0.0004965	0.0002216	0.021	No	13	0.0003262	0.0001374	30.77	Cohen's	No	0.01	Param.
Cobalt (mg/L)	MCM-04	0.02	0.006	0.036	No	14	0.01332	0.007045	50	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-05	0.02	0.0019	0.036	No	14	0.01871	0.004837	92.86	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-06	0.02	0.0009	0.036	No	14	0.01723	0.007046	85.71	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-07	0.02	0.0011	0.036	No	13	0.01855	0.005242	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-12	0.02	0.00053	0.036	No	13	0.01252	0.009847	61.54	None	No	0.01	NP (normality)
Cobalt (mg/L)	MCM-14	0.02	0.0006	0.036	No	13	0.01851	0.005381	92.31	None	No	0.01	NP (NDs)
Cobalt (mg/L)	MCM-17	0.02	0.00052	0.036	No	13	0.01551	0.008534	76.92	None	No	0.01	NP (NDs)
Combined Radium 226 + 228 (pCi/L)	MCM-04	6.218	3.179	55.8	No	13	4.783	2.274	0	None	sqrt(x)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-05	2.717	1.341	55.8	No	14	2.105	1.199	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-06	7.299	2.539	55.8	No	13	5.201	3.358	0	None	x^(1/3)	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-07	9.522	5.33	55.8	No	14	7.426	2.959	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-12	3.141	2.089	55.8	No	13	2.615	0.7073	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-14	7.336	2.788	55.8	No	14	5.062	3.21	0	None	No	0.01	Param.
Combined Radium 226 + 228 (pCi/L)	MCM-17	6.209	2.459	55.8	No	14	4.743	2.96	0	None	ln(x)	0.01	Param.
Fluoride (mg/L)	MCM-04	0.18	0.095	4	No	14	0.1438	0.1321	50	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-05	0.5623	0.2891	4	No	16	0.4394	0.2242	6.25	None	sqrt(x)	0.01	Param.
Fluoride (mg/L)	MCM-06	0.3	0.068	4	No	14	0.2034	0.1528	42.86	None	No	0.01	NP (Cohens/xfrm)
Fluoride (mg/L)	MCM-07	0.54	0.1	4	No	15	0.3044	0.2982	40	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-12	1.281	0.9397	4	No	14	1.079	0.326	7.143	None	x^2	0.01	Param.
Fluoride (mg/L)	MCM-14	0.5	0.084	4	No	15	0.2403	0.2041	53.33	None	No	0.01	NP (normality)
Fluoride (mg/L)	MCM-17	1.3	0.1	4	No	15	0.5689	0.5163	33.33	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-05	0.005	0.0002	0.005	No	14	0.004657	0.001283	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-06	0.005	0.00012	0.005	No	14	0.004651	0.001304	92.86	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-07	0.005	0.0001	0.005	No	13	0.003875	0.002137	76.92	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-12	0.005	0.00009	0.005	No	13	0.003497	0.002346	69.23	None	No	0.01	NP (normality)
Lead (mg/L)	MCM-14	0.005	0.00008	0.005	No	13	0.004622	0.001365	92.31	None	No	0.01	NP (NDs)
Lead (mg/L)	MCM-17	0.005	0.0002	0.005	No	13	0.003535	0.002288	69.23	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-04	0.015	0.0013	0.03	No	13	0.007985	0.006789	46.15	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-05	0.0376	0.021	0.03	No	14	0.06651	0.1452	0	None	No	0.01	NP (normality)
Lithium (mg/L)	MCM-06	0.1027	0.0534	0.03	Yes	14	0.07803	0.03478	0	None	No	0.01	Param.
Lithium (mg/L)	MCM-07	0.05737	0.01927	0.03	No	14	0.04446	0.03805	0	None	ln(x)	0.01	Param.
Lithium (mg/L)	MCM-12	0.013	0.0106	0.03	No	13	0.01205	0.001514	15.38	None	No	0.01	NP (Cohens/xfrm)
Lithium (mg/L)	MCM-14	0.05066	0.03131	0.03	Yes	14	0.03606	0.01894	7.143	None	x^3	0.01	Param.
Lithium (mg/L)	MCM-17	0.02431	0.01361	0.03	No	13	0.01896	0.007193	7.692	None	No	0.01	Param.
Selenium (mg/L)	MCM-04	0.04	0.0025	0.15	No	13	0.03407	0.01449	84.62	None	No	0.01	NP (NDs)

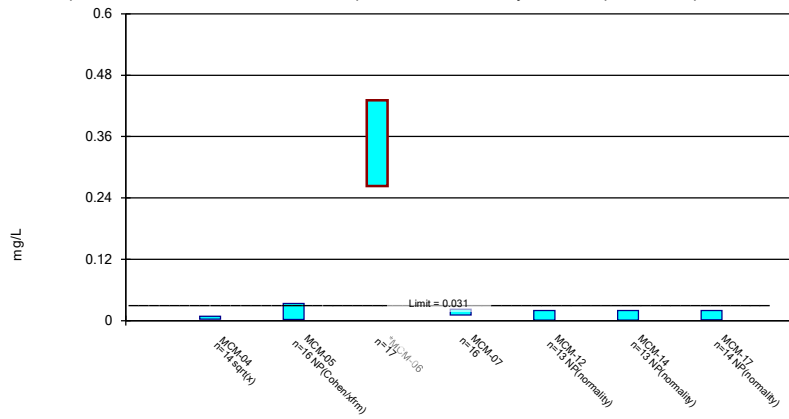
State Confidence Interval Summary Table - All Results

Plant McManus Client: Southern Company Data: McManus Ash Pond Data Printed 6/2/2021, 9:35 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	Mean	Std. Dev.	%NDs	ND Adj.	Transform	Alpha	Method
Selenium (mg/L)	MCM-05	0.04	0.0023	0.15	No	14	0.02922	0.01769	71.43	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-06	0.04	0.002	0.15	No	14	0.01921	0.01877	42.86	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-07	0.04	0.0021	0.15	No	13	0.02014	0.01916	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-12	0.04	0.0017	0.15	No	13	0.01948	0.01978	46.15	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-14	0.04	0.0018	0.15	No	13	0.02279	0.01937	53.85	None	No	0.01	NP (normality)
Selenium (mg/L)	MCM-17	0.04	0.0018	0.15	No	13	0.02047	0.01893	46.15	None	No	0.01	NP (normality)

Parametric and Non-Parametric (NP) Confidence Interval

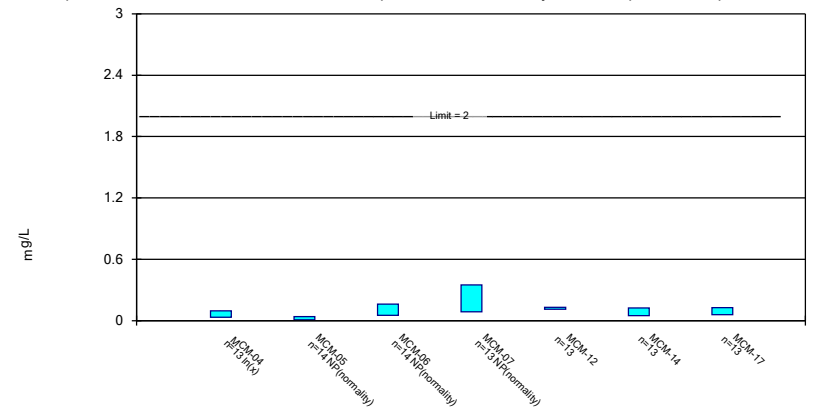
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Constituent: Arsenic Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

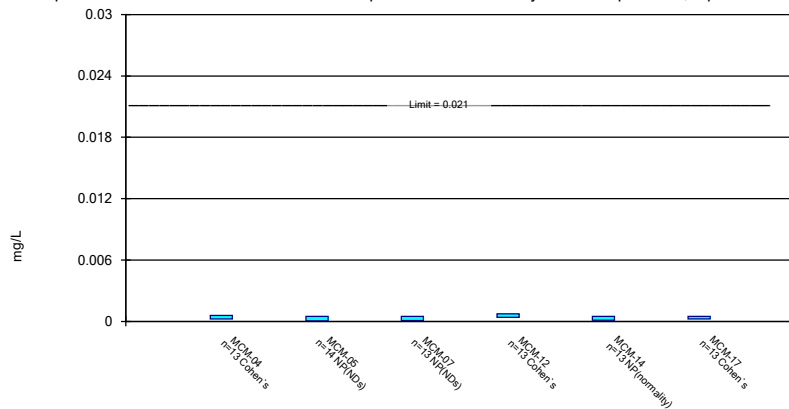
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Constituent: Barium Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

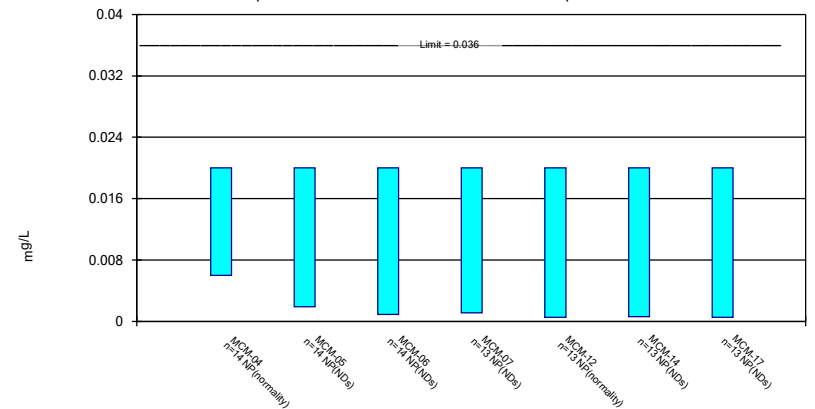
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Beryllium Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

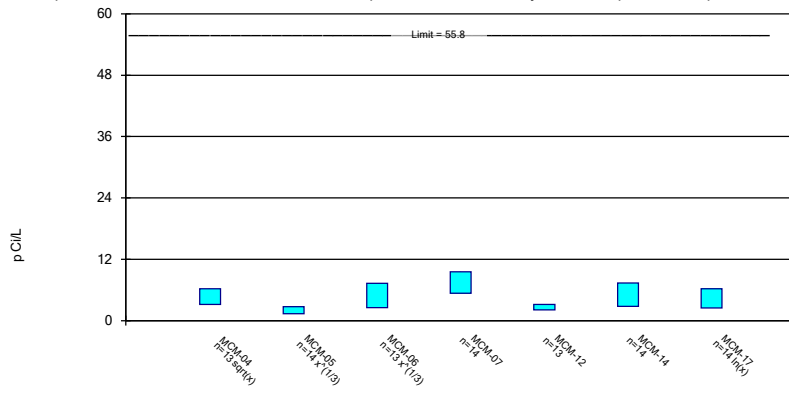
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Cobalt Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
 Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric Confidence Interval

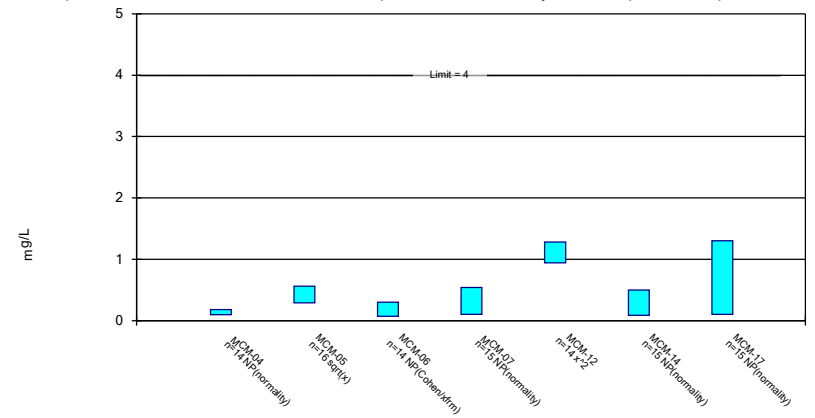
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Combined Radium 226 + 228 Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

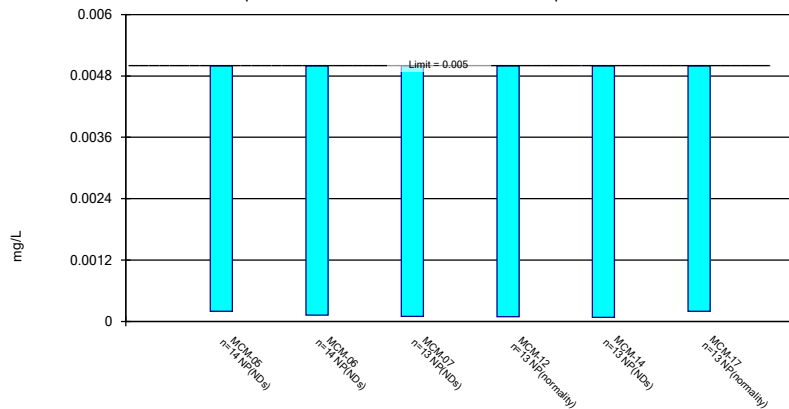
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Constituent: Fluoride Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Non-Parametric Confidence Interval

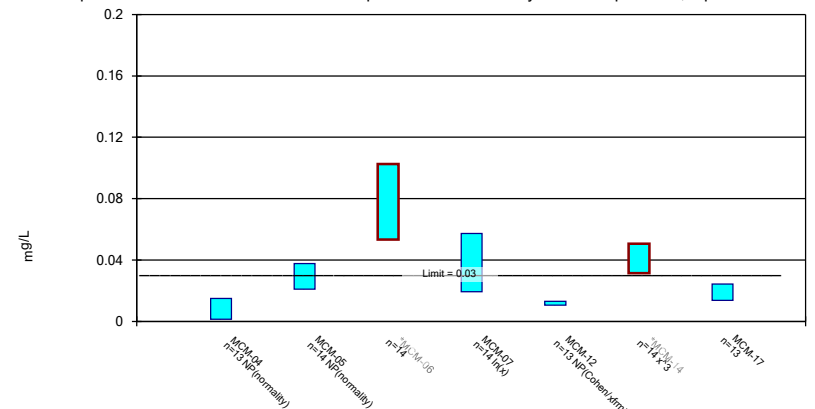
Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: Lead Analysis Run 6/2/2021 9:31 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data

Parametric and Non-Parametric (NP) Confidence Interval

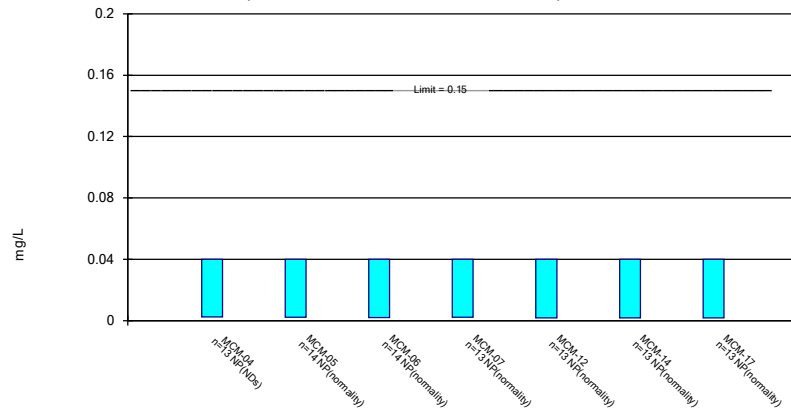
Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.



Constituent: Lithium Analysis Run 6/2/2021 9:31 AM View: 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 6/2/2021 9:31 AM View: Confidence Intervals
Plant McManus Client: Southern Company Data: McManus Ash Pond Data