2020 CCR & VSWMR Annual Groundwater Monitoring and Corrective Action Report

Possum Point Power Station
Ponds ABC
Solid Waste Permit No. 617

Prepared for:

Virginia Electric and Power Company
(d/b/a Dominion Energy Virginia)
120 Tredegar Street
Richmond, Virginia 23219

Prepared by:

Golder Associates Inc.
2108 West Laburnum Ave., Suite 200
Richmond, Virginia, USA 23227

+1 804 358-7900

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EXECUTIVE SUMMARY

This *2020 CCR and VSWMR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared by Golder Associates Inc. (Golder) on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for Ponds ABC (Unit) at the Possum Point Power Station (Station). Historically, the Station operated the Unit as an unlined surface impoundment for management of Coal Combustion Residuals (CCR) generated by the power generation operations at the Station. The Unit is considered an inactive CCR surface impoundment under Title 40 Code of Federal Regulations (CFR) Part 257.50 *et seq*. [Disposal of CCR from Electric Utilities (Final Rule; Federal Register Vol. 80, No. 74, 21302-21501 on April 17, 2015, as amended)], as well as the Commonwealth of Virginia adoption of 40 CFR Part 257 Subpart D by reference [Title 9 Virginia Administrative Code (VAC) Agency 20, Chapter 81-800 *et seq*. (9VAC20-81-800)]. Pursuant to the CCR Rule and the Virginia Department of Environmental Quality (DEQ)-issued solid waste permit (SWP), the Station is required to complete an Annual Groundwater Monitoring and Corrective Action Report (Report) for the Unit by January 31st annually or within 120 days of completing the laboratory analyses for the second semi-annual compliance event of the year, whichever occurs first.

As an inactive CCR surface impoundment in the Commonwealth of Virginia, the Unit is also subject to regulation under the Virginia Solid Waste Management Regulations (VSWMR). Consistent with this requirement, the Unit is maintained by Dominion Energy under SWP No. 617 issued by the DEQ on June 13, 2019. These regulations and the Unit's SWP require groundwater monitoring and reporting activities in addition to those required by the CCR Rule.

The Report is designed to meet the reporting requirements for both the CCR Rule and the VSWMR. Specifically, this Report documents the status of the groundwater monitoring program for the Unit, summarizes key actions completed, describes issues encountered and actions to resolve identified issues, and key project activities for the upcoming year. More specifically, this Report describes the performance of the Modified Assessment Monitoring Program (AMP) consistent with the Unit's SWP and the CCR Rule, activities performed to comply with CCR Rule and the Unit's SWP requirements, and the progression of future sampling activities pursuant to the CCR Rule and the Unit's SWP.

In accordance with 40 CFR Part 257.90(e)(6), the following information is being provided as an overview of the current status of groundwater monitoring and corrective action for the Unit:

i. *At the start of the current annual reporting period, whether the CCR unit was operating under the Detection Monitoring Program in §257.94 or the Assessment Monitoring Program in §257.95.*
    - At the start of 2020, the Unit was operating under the Assessment Monitoring Program in §257.95 and the Modified Assessment Monitoring Program in accordance with the SWP.

ii. *At the end of the current annual reporting period, whether the CCR unit was operating under the Detection Monitoring Program in §257.94 or the Assessment Monitoring Program in §257.95.*

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- At the end of 2020, the Unit was operating under the Assessment Monitoring Program in §257.95 and the Modified Assessment Monitoring Program in accordance with the SWP.

iii. *If it was determined that there was a statistically significant increase over background for one or more constituents listed in Appendix III to this part pursuant to §257.94(e).*

(A) Identify those constituents listed in Appendix III to this part and the names of the monitoring wells associated with such an increase

- In 2020, there were statistically significant increases over background for the following Appendix III constituents at the following wells:
  - Boron – wells ABC-1607, ABC-1608, ABC-1614
  - Calcium – wells ABC-1607, ABC-1608, ABC-1614
  - Chloride – wells ABC-1607, ABC-1608, ABC-1614
  - Total Dissolved Solids – wells ABC-1602 (upgradient), ABC-1607, ABC-1608, ABC-1614

(B) Provide the date when the assessment program was initiated for the CCR Unit.

- The Unit initiated the Assessment Monitoring Program on September 24, 2019.

iv. *If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in Appendix IV to this part pursuant to §257.95(g)*

(A) Identify those constituents listed in Appendix IV to this part and the names of the monitoring wells associated with such an increase

- In 2020, there were statistically significant increases over the federal CCR Rule groundwater protection standard (GWPS) for the following constituents at the following wells:
  - Arsenic – well ABC-1614
  - Cobalt – well ABC-1608
- In 2020, there were statistically significant increases over the SWP groundwater protection standard (GPS) for the following constituents at the following wells:
  - Arsenic – well ABC-1614
  - Boron – wells ABC-1607, ABC-1608, ABC-1614
  - Cobalt – well ABC-1608
  - Nickel – wells ABC-1608, ABC-1614

(B) Provide the date when the Assessment of Corrective Measures was initiated for the CCR Unit

- An Assessment of Corrective Measures was initiated pursuant to §257.95(g)(5) of CCR Rule for arsenic on January 22, 2020.
- Boron and nickel were included in the Assessment of Corrective Measures pursuant to 9VAC20-81-260 *et seq*. of the VSWMR after exceedances over SWP GPS were identified on May 1, 2020.

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- Due to the SWP GPS exceedance of cobalt at ABC-1608 identified during the second semi-annual 2020 sampling event, Dominion Energy plans to submit an Alternate Source Demonstration (ASD) in accordance with CCR Rule and VSWMR timeframes.

(C) Provide the date when the public meeting was held for the Assessment of Corrective Measures for the CCR Unit

- Due to the coronavirus pandemic, a public meeting was not feasible during the reporting period. A public meeting will be scheduled for a future date when it is reasonable to do so.

(D) Provide the date when the Assessment of Corrective Measures was completed for the CCR Unit

- A draft Assessment of Corrective Measures Report (minus the public participation portion) was completed on June 19, 2020 and was submitted to DEQ the same day.

v. Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of the remedy selection

- A remedy was not selected during the current annual reporting period.

vi. Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period

- Remedial activities were not initiated or are not ongoing during this current annual reporting period.

Based on the 2020 sampling and data evaluation results, Golder recommends that Dominion Energy continue monitoring groundwater at this Unit under the Modified Assessment Monitoring Program and continue with the corrective action process in accordance with the CCR Rule and VSWMR.

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1.0 INTRODUCTION

This *2020 CCR & VSWMR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared by Golder Associates Inc. (Golder) on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for Ponds ABC (Unit) at the Possum Point Power Station (Station). Historically, the Station operated the Unit as an unlined surface impoundment for management of Coal Combustion Residuals (CCR) generated by the power generation operations at the Station. The Unit is considered an inactive CCR surface impoundment under Title 40 Code of Federal Regulations (CFR) Part 257.50 *et seq*. [Disposal of CCR from Electric Utilities (Final Rule; Federal Register Vol. 80, No. 74, 21302-21501 on April 17, 2015, as amended; Environmental Protection Agency [EPA], 2015, 2016, 2018, 2020a, 2020b)], as well as the Commonwealth of Virginia adoption of 40 CFR Part 257 Subpart D by reference [Title 9 Virginia Administrative Code (VAC) Agency 20, Chapter 81-800 *et seq*. (9VAC20-81-800; VWMB, 2019)]. Pursuant to the CCR Rule, the Station is required to complete an Annual Groundwater Monitoring and Corrective Action Report (Report) for the Unit by January 31st annually.

As an inactive CCR surface impoundment in the Commonwealth of Virginia, the Unit is also subject to regulation under the Virginia Solid Waste Management Regulations (Title 9, Virginia Administrative Code, Agency 20, Chapter 81 *et seq*.; VSWMR). Consistent with these requirements, the Unit is maintained by Dominion Energy under SWP No. 617 issued by the Virginia Department of Environmental Quality (DEQ; DEQ, 2019). These regulations and the Unit's SWP require groundwater monitoring and reporting activities that are in addition to those required by the CCR Rule. Specifically, the Unit's SWP also requires the submission of an Annual Report by January 31st of each calendar year or within 120 days of completing the laboratory analyses for the compliance event of the year, whichever occurs first. A completed copy of the DEQ's annual report checklist is presented in Appendix A.

Golder has prepared this Report for the Unit on behalf of Dominion Energy in accordance with CCR Rule Part 257.90(e), the Unit's SWP, and VSWMR requirements. This Report provides the monitoring data and the required data evaluations for the first and second semi-annual groundwater sampling events performed in February and August-September 2020.

1.1 Site Location

The Station is located in Prince William County at 19000 Possum Point Road, Dumfries, Virginia. As shown on Figure 1, the Station is located immediately west of the Potomac River and north of Quantico Creek. The Unit is located on the Station property immediately south of Possum Point Road near its intersection with Cockpit Point Road.

1.2 Site History

The Station has one active power generating unit: Unit 6 (combined cycle). Two of the former generating units (Units 3 and 4) that were converted from coal to natural gas in 2003, and two former generating units that were powered by coal (Units 1 and 2) have been retired. Unit 5 (heavy oil) was retired on December 30, 2020. Historically, the Station stored CCR in four unlined impoundments (Ponds A, B, C, and E) and one clay-lined impoundment (Pond D) located on site.

The Unit was constructed circa 1955 as a single embankment spanning three existing drainage features collectively covering approximately 10.6 acres. During operation, low-volume wastewaters including CCR flowed through the Unit until discharging through a riser structure on the northwest side of Pond C. The Unit operated until around 1967. Further expansion of the Station in the 1960s, as well as decreasing available storage in the Unit, prompted Dominion to construct an additional pond for ash sluicing. Placement of CCR into the Unit ceased in 1967. In 2016, excavation of the contents of the Unit was initiated to consolidate the CCR into Pond D. The DEQ confirmed removal of CCR and subsurface soils in conformance with the Unit's closure plan in August 2019.

1.3 Key Actions

Key actions for the Unit to date are as follows:

- Placed a copy of the *Groundwater Monitoring Plan* (GMP) documenting the design information for the monitoring wells pursuant to the CCR Rule [257.91(e)(1)] in the Unit's operating record on October 17, 2017 (last updated August 2019), pursuant to the CCR Rule [257.105(h)(2)];
- Initiated the collection of eleven baseline/background samples on November 4, 2016, and completed the background monitoring activities on December 13, 2018, pursuant to the CCR Rule [257.94(b)];
- Conducted the initial Detection Monitoring Program (DMP) compliance sampling event on March 11, 2019, and completed the sample analyses on April 17, 2019 (date of final laboratory analytical package), pursuant to the CCR Rule [257.94];
- Certified the Unit's groundwater monitoring system pursuant to the CCR Rule [257.91(e)(1) and Dominion Energy posted the Certification in the Unit's operating record on April 17, 2019, pursuant to the CCR Rule [257.105(h)(3)];
- Certified the selection of a statistical method pursuant to the CCR Rule [257.93(f)(6)] and Dominion Energy posted the Certification in the Unit's operating record on April 17, 2019, pursuant to the CCR Rule [257.105(h)(4)];
- The DEQ issued SWP No. 617 on June 13, 2019. The SWP initiated the Modified AMP and includes provisions for closure, groundwater monitoring, and surface water monitoring requirements for the Unit;
- Submitted the *Pond ABC Closure by Removal Report* and Engineer Certification to DEQ on June 25, 2019;

- A notification of a Statistically Significant Increase (SSI) over Unit background concentrations under the DMP was placed in the Unit's operating record on July 16, 2019;
- Submitted the *Pond ABC Facility Background Determination Report* (Golder, 2019b) and proposed Groundwater Protection Standards (GPS) to the DEQ on August 15, 2019;
- Received a letter from DEQ on August 30, 2019 verifying removal of CCR and subsurface soils in accordance with the unit's closure plan;
- Established groundwater protection standards (GWPS) for detected constituents in Appendix IV of Part 257 on October 24, 2019, pursuant to the CCR Rule [257.95(d)(2)];
- An ACM was initiated on January 22, 2020, with the notification of initiation placed in the Unit's operating record on February 21, 2020;
- Conducted the first semi-annual 2020 Modified AMP sampling event on February 19, 2020, and completed the sample analyses on March 18, 2020 (revised April 10, 2020), pursuant to the CCR Rule [257.94] and the Unit's SWP;
- Received a letter from DEQ on April 2, 2020, approving the ACM extension request and approving background based GPS for the Unit;
- Completed and certified an ACM extension demonstration for the Unit's ACM on April 21, 2020, a copy of which is presented in Appendix H;
- Notification of first semi-annual 2020 Federal Maximum Contaminant Level (MCL)-based SWP GPS exceedances was submitted to the DEQ on May 1, 2020;
- Notification of first semi-annual 2020 federal CCR GWPS exceedances was placed in the Unit's operating record on May 1, 2020;
- Completed the ACM for arsenic, boron, and nickel on June 19, 2020, and placed it into the Unit's operating record on the same day (Haley and Aldrich, 2020);
- Conducted the second semi-annual 2020 Modified AMP sampling event on September 2, 2020 (water levels gauged on August 31, 2020), and completed the sample analyses on October 1, 2020 (revised October 13, 2020), pursuant to the CCR Rule [257.94] and the Unit's SWP;
- Conducted a second semi-annual 2020 Modified AMP verification sampling event on October 15, 2020, and completed analysis on October 22, 2020, pursuant to the Unit's SWP;
- Notification of second semi-annual 2020 and SWP GPS exceedances was submitted to the DEQ on November 13, 2020; and
- Notification of second semi-annual 2020 federal CCR GWPS exceedances was placed in the Unit's operating record on November 13, 2020.

1.4 Monitoring Program Issues

There were no monitoring program concerns identified during the compliance monitoring events conducted in 2020.

1.5 Variances

The Station currently does not have any variances related to the groundwater monitoring program for the Unit.

2.0 SITE INFORMATION

The Station is owned and maintained by Dominion Energy and consists of approximately 650 acres on a peninsula that is bordered to the east and south by the Potomac River, and to the west by Quantico Creek. The Station property is used for industrial purposes, and the surrounding properties are generally undeveloped or consist of private residential development. Undeveloped areas primarily consist of predominantly hardwoods and deciduous wooded uplands with wetlands present in low lying areas adjacent to stream channels.

The Unit defined as an inactive CCR impoundments per the CCR rule and VSWMR regulations and as an inactive surface impoundment, the Unit was subject to the groundwater monitoring provisions of the CCR Rule by April 17, 2019, and the provisions of the DEQ-issued SWP on June 13, 2019.

2.1 Monitoring Well Network

The Unit's GMP (Golder, 2018; Golder 2019a) details the design of the Unit's CCR Rule groundwater monitoring network. As presented in the GMP, the monitoring network is comprised of one (1) upgradient/background well (ABC-1602) and three (3) downgradient monitoring wells (ABC-1607, ABC-1608, and ABC-1614) designed to monitor the uppermost aquifer beneath the Unit. The groundwater monitoring well locations relative to the Unit are shown on Figure 2.

2.1.1 Annual Review of Monitoring Network

Wells were inspected during each sampling event and were determined to be functioning appropriately and no wells require replacement.

2.1.2 Monitoring Well Installation and Decommissioning Activities

Upgradient compliance well ABC-1602 and downgradient compliance wells ABC-1607, ABC-1608, and ABC-1614 were installed between September and October 2016. As of the date of this report, no compliance wells for the Unit have been decommissioned.

2.2 Geology and Hydrogeology

A summary of the geology and hydrogeology for the Station is presented in the following sections.

2.2.1 Geology

The Station and surrounding area are located entirely within the Coastal Plain physiographic province of Virginia. This province is characterized by transgressive and regressive unconsolidated sediments that generally form broad terraces that slope towards the east. The terraces are transected by surface drainage channels, some of which have since been infilled.

The Station is underlain by Cretaceous marine sediments of the Potomac Formation and Tertiary to Quaternary fluvial-deltaic sediments mapped as lower Tertiary terrace deposits, and the Charles City, Shirley, and Tabb Formations. These sediments are unconsolidated and consist of clays, silts, poorly to well sorted sands, and gravel that exist as interbedded, discontinuous, horizontal layers across the site. The thickness of the sedimentary sequence ranges up to at least 600 feet as determined by well logs for the surrounding area. The Station appears to be located immediately west of a northeasterly trending monocline, which may be contributing to the easterly dip observed for the geologic strata.

Based on geological data obtained from soil borings advanced at the Station, the Potomac Confining Unit is considered to be a confining unit for the underlying Potomac Aquifer. The Potomac Confining Unit is present across the upland study area beneath the Unit. Therefore, the uppermost aquifer beneath the study area, which is present within the overlaying Quaternary/Tertiary and Cretaceous sediments, is physically and hydrologically separated from the lower confined Potomac Aquifer.

2.2.2 Hydrogeology

The uppermost aquifer beneath the Unit is unconfined and is present in the Quaternary/Tertiary and Cretaceous sediments that overlie the Potomac Confining Unit. Locally, the groundwater flow direction in the uppermost aquifer beneath the Unit is from the northeast to the southwest.

2.2.3 Potentiometric Surface Evaluation

The purpose of this evaluation is to determine the elevation of the groundwater surface beneath the Unit by generating a potentiometric surface contour map using groundwater elevations from compliance wells. Historical static water level data for the Unit are summarized in Appendix B.

The Groundwater Surface Contour Map presented as Figure 2 was prepared using static water level data obtained during the first semi-annual Modified AMP compliance event on February 19, 2020. The Groundwater Surface Contour Map presented as Figure 3 was prepared using static water level data obtained during the second semi-annual Modified AMP compliance event on August 31, 2020. The interpreted data indicates that the groundwater gradient and flow directions remain consistent (southwest) with previous interpretations. Consequently, the groundwater monitoring network continues to adequately monitor the uppermost aquifer in accordance with provisions of the CCR Rule (257.91) and the VSWMR (9VAC20-81-250.A.3).

2.2.4 Groundwater Flow Rate Calculation

Consistent with the requirements of the CCR Rule, the rate and direction of groundwater flow within the uppermost aquifer beneath the Unit was determined after each sampling event. Appendix C presents the equations used to calculate the approximate horizontal rate of groundwater flow in the uppermost aquifer beneath the Unit. Concurrently, with the June 2019 ACM performed for Pond D (Golder, 2019c), the average estimated hydraulic

conductivity for the uppermost aquifer (site-wide) was recalculated. As presented in the 2019 Pond D ACM (Golder, 2019c), the average estimated hydraulic conductivity decreased from 3.16E-04 centimeters per second (cm/s) to 2.01E-04 cm/s. Using this updated hydraulic conductivity estimate, the estimated average groundwater flow rate in the uppermost aquifer beneath the Unit was calculated at approximately 25.6 to 27.1 feet per year.

2.2.5 Network Certification

Based on this evaluation and previous evaluations completed for the Unit, the Unit's permitted groundwater monitoring system continues to adequately monitor the uppermost aquifer beneath the Unit in accordance with requirements of 9VAC20-81-250.A.3 and 9VAC20 81 250.E.2.a.(2)(e).

3.0 FIELD ACTIVITIES

Compliance groundwater sampling activities that occurred during 2020 are summarized in the following sections.

3.1 First Semi-Annual 2020 Modified Assessment Monitoring Program Sampling Event

Pursuant to the requirements in 40 CFR 257.95(d)(1) and the SWP, a semi-annual Modified AMP monitoring event was completed for the Unit on February 19, 2020, for the constituents and parameters listed Appendices III and IV of the CCR Rule and the additional constituents and parameters listed the SWP (VSWMR Table 3.1 metals not included in the CCR Rule, former Virginia Pollutant Discharge Elimination System [VPDES] constituents not included in the CCR Rule, and hexavalent chromium).

During the first semi-annual Modified AMP sampling event, the compliance monitoring wells were sampled in accordance with the procedures presented in the Station's GMP (Golder, 2018; Golder, 2019a). Samples collected during the first semi-annual Modified AMP event, with the exception of hexavalent chromium, were submitted on ice in secured coolers under chain of custody control to Pace Analytical Services, LLC (Pace) in Mechanicsville, Virginia. The samples were then shipped to the Asheville, North Carolina (#460222), Ormond Beach, Florida (#460165), and Greensburg, Pennsylvania (#460198) locations of Pace for analysis. The hexavalent chromium samples were submitted on ice in secured coolers under chain of custody control to Air Water & Soil Laboratories, Inc. (AWS) in Richmond, Virginia. Pace and AWS (#460021) are Virginia Environmental Laboratory Accreditation Program (VELAP)-accredited laboratories for the analyses required under the federal and state regulations as outlined in the GMP and SWP. The field data sheets for the first semi-annual 2020 Modified AMP sampling events are included in Appendix D.1.

Monitoring Event	Sample Date(s)	Final Laboratory Package Receipt Date
First Semi-Annual Modified AMP Event	February 19, 2020	March 18, 2020 (revised April 10, 2020)

3.2 Second Semi-Annual 2020 Modified Assessment Monitoring Program Sampling Event

Pursuant to the requirements in 40 CFR 257.95(d)(1) and the SWP, a semi-annual Modified AMP monitoring event was completed for the Unit on September 2, 2020 (water levels gauged on August 31, 2020), for the constituents and parameters listed Appendices III and IV of the CCR Rule and the additional constituents and parameters listed the SWP.

During the second semi-annual Modified AMP sampling event, the compliance monitoring wells were sampled in accordance with the procedures presented in the Station's GMP (Golder, 2018; Golder, 2019a). Samples collected

during the second semi-annual Modified AMP event, with the exception of hexavalent chromium, were submitted on ice in secured coolers under chain of custody control to Pace in Mechanicsville, Virginia. The samples were then shipped to the Asheville, North Carolina (#460222), Eden, North Carolina (#460025), Baton Rouge, Louisiana (#460215), and Greensburg, Pennsylvania (#460198) locations of Pace for analysis. The hexavalent chromium samples were submitted on ice in secured coolers under chain-of-custody control to Enthalpy Analytical, Inc. (Enthalpy; formerly AWS) in Richmond, Virginia. Enthalpy retains the VELAP-accreditation held by AWS. The field data sheets for the second semi-annual 2020 Modified AMP sampling events are included in Appendix D.2.

Monitoring Event	Sample Date(s)	Final Laboratory Package Receipt Date
Second Semi-Annual Modified AMP Event	September 2, 2020	October 1, 2020 (revised October 13, 2020)

3.2.1 Second Semi-Annual 2020 Verification Sampling Activities

Due to the identification of suspect analytical results for cobalt in the sample collected from compliance monitoring well ABC-1608, a verification sampling event was conducted on October 15, 2020. The well was sampled in accordance with the GMP. The field data sheets for the second semi-annual 2020 Modified AMP verification sampling event are included in Appendix D.3. After completing the field activities, the groundwater verification sample and associated quality control sample (field blank) were submitted on October 15, 2020, on ice and in a secured cooler under chain of-custody control to Pace in Mechanicsville, Virginia and shipped to the Asheville, North Carolina (#460222) location.

A summary of the second semi-annual 2020 Modified AMP verification sampling event is presented in the following table:

Monitoring Event	Sample Date(s)	Final Laboratory Package Receipt Date
Second Semi-Annual Modified AMP Verification Event	October 15, 2020	October 21, 2020

4.0 LABORATORY ANALYTICAL RESULTS

Laboratory analytical results from the sampling events conducted in 2020 are summarized in the following sections.

4.1 First Semi-Annual 2020 Modified Assessment Program Sampling Event

Groundwater samples collected during the first semi-annual 2020 Modified AMP event were analyzed by Pace and AWS for the presence and concentrations of the constituents and parameters listed in Appendices III and IV of the CCR Rule as well as additional SWP-required constituents. The laboratory certificates of analysis and chain-of-custody forms for the sampling event are presented in Appendix E.1. A summary of the CCR and VSWMR sampling data for the event is presented in Table 1.

4.2 Second Semi-Annual 2020 Modified Assessment Monitoring Program Event

Groundwater samples collected during the second semi-annual 2020 Modified AMP event were analyzed by Pace and Enthalpy for the presence and concentrations of the constituents and parameters listed in Appendices III and IV of the CCR Rule as well as additional SWP-required constituents. The laboratory certificates of analysis and chain-of-custody forms for the sampling event are presented in Appendix E.2. A summary of the CCR and VSWMR sampling data for the event is presented in Table 2.

4.2.1 Second Semi-Annual 2020 Modified Assessment Monitoring Program Verification Event

Groundwater samples collected during the second semi-annual 2020 Modified AMP verification event were analyzed for the presence and concentration of cobalt. The laboratory certificates of analysis and chain-of-custody forms for the sampling event are presented in Appendix E.3. A summary of the sampling data for the event is presented in Table 3.

4.3 Review of Prior Detections

A summary of historically detected constituents for each well is presented in Appendix F.

5.0 GROUNDWATER EVALUATION

Groundwater samples collected in 2020 were analyzed for constituents and parameters listed in Appendices III and IV of the CCR Rule as well as additional SWP-required constituents. Constituent and parameter data are discussed in the following sections.

5.1 Antimony

Antimony was not detected in the 2020 samples.

5.2 Arsenic

Arsenic was detected at estimated concentrations above the laboratory method detection limit (MDL) in the samples collected from ABC-1608. Arsenic was detected at quantified concentrations above the laboratory reporting limit (RL) in the first and second semi-annual samples collected from ABC-1614 at concentrations of 44.4 micrograms per liter (µg/L) and 44.1 µg/L, respectively.

5.3 Barium

Barium was detected at quantified concentrations above the laboratory RL in each compliance well with concentrations ranging from 50.6 µg/L in the first semi-annual sample collected from ABC-1607 to 185 µg/L in the second semi-annual sample collected from ABC-1614.

5.4 Beryllium

Beryllium was detected at an estimated concentration above the laboratory MDL in the sample collected from upgradient well ABC-1602 during the first semi-annual sampling event. Beryllium was not detected at quantified concentrations above the laboratory RL in the 2020 samples.

5.5 Boron

Boron was detected at quantified concentrations above the laboratory RL in wells ABC-1607, ABC-1608, and ABC-1614 at concentrations ranging from 190 µg/L to 225 µg/L in the first and second semi-annual samples, respectively, collected from ABC-1607.

5.6 Cadmium

Cadmium was not detected in the 2020 samples.

5.7 Calcium

Calcium was detected at quantified concentrations above the laboratory RL with concentrations ranging from 6,480 µg/L in the second semi-annual sample collected from upgradient well ABC-1602 to 24,000 µg/L in the first semi-annual sample collected from ABC-1614.

5.8 Chloride

Chloride was detected at quantified concentrations above the laboratory RL with concentrations ranging from 2.9 milligrams per liter (mg/L) in the first semi-annual sample collected from upgradient well ABC-1602 to 54.7 mg/L in the second semi-annual sample collected from ABC-1608.

5.9 Chromium

Total chromium was detected at an estimated concentration above the laboratory MDL in the sample collected from upgradient well ABC-1602 during the first semi-annual sampling event. Chromium was not detected at quantified concentrations above the laboratory RL in the 2020 samples.

5.10 Chromium, Hexavalent

Hexavalent chromium was detected at a quantified concentration above the laboratory RL of 5.0 µg/L in the sample collected from ABC-1614 (14.0 µg/L) during the second semi-annual sampling event. However, this result was qualified as estimated due to presumed matrix interference since the total chromium result was reported as a non-detect, less than the laboratory MDL of 3.7 µg/L (see Table 2).

5.11 Cobalt

Cobalt was detected at quantified concentrations above the laboratory RL in each compliance well with concentrations ranging from 8.2 µg/L in the second semi-annual sample collected from ABC-1607 to 26.5 µg/L in the second semi-annual sample collected from ABC-1608. Verification sampling confirmed the cobalt result in the second semi-annual sample collected from ABC-1608 (25.4 µg/L).

5.12 Copper

Copper was detected at quantified concentrations above the laboratory RL in the first and second semi-annual samples collected from upgradient well ABC-1602 at concentrations of 7.7 µg/L to 8.7 µg/L, respectively.

5.13 Fluoride

Fluoride was detected at estimated concentrations above the laboratory MDL in one or both of the semi-annual samples collected from ABC-1607, ABC-1608, and ABC-1614. Fluoride was not detected at quantified concentrations above the laboratory RL in the 2020 samples.

5.14 Hardness

Hardness is a former VPDES constituent that is currently monitored under the SWP. Hardness was detected at quantified concentrations above the laboratory RL at each compliance well with concentrations ranging from 32.8 mg/L in the second semi-annual sample collected from upgradient well ABC-1602 to 97.0 mg/L in the first semi-annual sample collected from ABC-1614.

5.15 Iron

Iron is a former VPDES constituent that is currently monitored under the SWP. Iron was detected at quantified concentrations above the laboratory RL in each compliance well with concentrations ranging from 55.6 µg/L in the first semi-annual sample collected from upgradient well ABC-1602 to 31,600 µg/L in the second semi-annual sample collected from ABC-1614.

5.16 Lead

Lead was detected at estimated concentrations above the laboratory MDL in the first semi-annual samples collected at ABC-1607 and ABC-1608 and in the second semi-annual sample collected from upgradient well ABC-1602. Lead was detected at quantified concentrations above the laboratory RL in the first semi-annual samples collected from upgradient well upgradient well ABC-1602 (0.12 µg/L) and ABC-1614 (0.18 µg/L) and in the second semi-annual sample collected from ABC-1614 (0.20 µg/L).

5.17 Lithium

Lithium was detected at quantified concentrations above the laboratory RL at each compliance well with concentrations ranging from 3.1 µg/L in the second semi-annual sample collected from ABC-1607 to 15.7 µg/L in the first semi-annual sample collected from ABC-1614.

5.18 Manganese

Manganese is a former VPDES constituent that is currently monitored under the SWP. Manganese was detected at quantified concentrations above the laboratory RL at each compliance well with concentrations ranging from 164 µg/L in the first semi-annual sample collected from ABC-1608 to 312 µg/L in the first semi-annual sample collected from ABC-1614.

5.19 Mercury

Mercury was not detected in the 2020 samples.

5.20 Molybdenum

Molybdenum was detected at an estimated concentration above the laboratory MDL in the sample collected from ABC-1608 during the first semi-annual sampling event. Molybdenum was not detected at quantified concentrations above the laboratory RL in the 2020 samples.

5.21 Nickel

Nickel was detected at quantified concentrations above the laboratory RL at each compliance well with concentrations ranging from 7.1 µg/L in the second semi-annual sample collected from upgradient well ABC-1602 to 19.8 µg/L in the second semi-annual sample collected from ABC-1608.

5.22 pH

pH measurements ranged from 4.44 Standard Units (S.U.) in the second semi-annual sample collected from upgradient well ABC-1602 to 6.15 S.U. in the first semi-annual sample collected from ABC-1614.

5.23 Phenolics

Groundwater samples were analyzed for total phenolics which is a former VPDES permit required constituent that is now monitored under the SWP. Total phenolics were detected at an estimated concentration above the laboratory MDL in the first semi-annual sample collected from upgradient well ABC-1602. Total phenolics were detected at quantified concentrations above the laboratory RL with concentrations ranging from 12.0 µg/L to 120 µg/L in the first and second semi-annual samples, respectively, collected from ABC-1614. It is noted that the second semi-annual results for phenolics were qualified as estimated using EPA guidance based on similar detections in the associated field blank.

5.24 Potassium

Potassium is a former VPDES constituent that is currently monitored under the SWP. Potassium was detected at quantified concentrations above the laboratory RL with concentrations ranging from 2,060 µg/L in the first semi-annual sample collected from ABC-1607 to 6,450 µg/L in the first semi-annual sample collected from upgradient well ABC-1602.

5.25 Radium-226 and Radium-228 (combined)

Radium-226 and radium-228 (combined) were detected at concentrations above the Minimum Detectable Concentration (MDC) in samples collected at each compliance well during the first semi-annual sampling event with

concentrations ranging from 1.52 picoCuries per liter (pCi/L; ABC-1614) to 2.79 pCi/L (upgradient well ABC-1602). It is noted that the first semi-annual results for total radium are qualified as estimated using Department of Energy (DOE) guidance based on similar detections of radium-226 in the associated method blank.

For the second semi-annual samples, radium-226 and radium-228 (combined) were detected at a concentration above the MDC in the sample collected from upgradient well ABC-1602 (3.29 pCi/L).

5.26 Selenium

Selenium was not detected in the 2020 samples.

5.27 Silver

Silver was not detected in the 2020 samples.

5.28 Sodium

Sodium is a former VPDES constituent that is currently monitored under the SWP. Sodium was detected at quantified concentrations above the laboratory RL at each compliance well with concentrations ranging from 8,240 µg/L in the first semi-annual sample collected from upgradient well ABC-1602 to 33,400 µg/L in the first semi-annual sample collected from ABC-1608.

5.29 Sulfate

Sulfate was detected at quantified concentrations above the laboratory RL at each compliance well with concentrations ranging from 28.1 mg/L in the first semi-annual sample collected from ABC-1608 to 56.7 mg/L in the first semi-annual sample collected from upgradient well ABC-1602.

5.30 Thallium

Thallium was not detected in the 2020 samples.

5.31 Tin

Tin was detected at an estimated concentration above the laboratory MDL in the sample collected from ABC-1607 during the first semi-annual sampling event. Tin was not detected at quantified concentrations above the laboratory RL in the 2020 samples.

5.32 Total Dissolved Solids

Total dissolved solids (TDS) was detected at quantified concentrations above the laboratory RL in each compliance well with concentrations ranging from 123 mg/L in the first semi-annual sample collected from ABC-1607 to 244 mg/L in the second semi-annual sample collected from ABC-1614.

5.33 Total Organic Carbon

Groundwater samples were analyzed for total organic carbon (TOC) which is a former VPDES permit required constituent that is now monitored under the SWP. TOC was detected at estimated concentrations above the laboratory MDL in both semi-annual samples collected from ABC-1607. TOC was detected at quantified concentrations above the laboratory RL in samples collected from ABC-1608 and ABC-1614 ranging from 1.2 mg/L in the first semi-annual sample collected from ABC-1608 to 3.0 mg/L in the second semi-annual sample collected from ABC-1614.

5.34 Vanadium

Vanadium was detected at estimated concentrations above the laboratory MDL in the first semi-annual sample collected from ABC-1614. Vanadium was not detected at quantified concentrations above the laboratory RL in the 2020 samples.

5.35 Zinc

Zinc was detected at an estimated concentration above the laboratory MDL in the first semi-annual samples collected from upgradient well ABC-1602 and ABC-1608. Zinc was detected at quantified concentrations above the laboratory RL in the first and second semi-annual samples collected from ABC-1607 at concentrations of 21.3 µg/L to 19.8 µg/L, respectively, and in the second semi-annual sample collected from ABC-1608 (12.3 µg/L).

6.0 DATA QUALITY VALIDATION

The Quality Assurance (QA) and quality control (QC) data provided by the laboratory for the Modified AMP sampling events were reviewed to ensure that the analytical results met the project's data quality objectives as outlined in the Station's GMP. The review process was performed in general accordance with procedures outlined in the following EPA guidance documents:

- *National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017* (EPA, 2017);
- *National Functional Guidelines for Organic Superfund Methods Data Review, January 2017* (EPA, 2017); and
- *Evaluation of Radiochemical Data Usability*. 1997. Department of Energy (DOE; Paar, G. *et al.*, April 1997).

6.1 First Semi-Annual 2020 Compliance Event Findings

The laboratory and field QA/QC data for the initial DMP compliance monitoring event samples collected February 19, 2020, were reviewed in accordance with EPA/DOE protocol. The field QA/QC samples for this event included a field blank and a duplicate sample that were collected at the Unit on February 19, 2020. These samples were analyzed for the same constituents as the groundwater samples. A description of the laboratory QA/QC data associated with the February groundwater monitoring event is presented in Appendix G.1.

As presented in Appendix G.1, with the exception of fluoride, phenolics, potassium, sodium, and sulfate matrix spike and/or matrix spike duplicate recoveries that are outside of QC limits, laboratory QC results were within acceptable limits and interference free. The associated sample delivery group (analytical batch) and recoveries outside QC limits are detailed in the laboratory certificates of analysis presented in Appendix E.1 and data are accepted using professional judgement based on review of historical results and acceptable laboratory control sample (LCS) recoveries. It is noted that a reported sample results in one or more wells (manganese, sodium, and radium-226) were qualified as estimated per EPA/DOE protocol due to similar analyte detections in one or more sample-group associated QC samples (method blank). Per DOE guidance, qualified for results for radium-226 will result in qualified results for total radium (see Table 1). Based on review of the laboratory-provided QC data, EPA/DOE guidance recommendations, and Golder's professional judgement, the data for the February 2020 compliance event were determined to meet the data quality objectives for the project.

6.2 Second Semi-Annual 2020 Compliance Event Findings

The laboratory and field QA/QC data for the second semi-annual compliance monitoring event samples collected September 2, 2020, were reviewed in accordance with EPA and DOE Protocol. Field QA/QC samples for this event included a field blank and a duplicate sample that was collected at the Unit on September 2, 2020. These QA/QC

samples were analyzed for the same constituents as the groundwater samples. A description of the laboratory QA/QC data associated with the February groundwater monitoring event is presented in Appendix G.2.

As presented in Appendix G.2, with the exception of calcium, cobalt, iron, manganese, phenolics, potassium, and sodium matrix spike and/or matrix spike duplicate recoveries that are outside of QC limits, laboratory QC results were within acceptable limits and interference free. The associated sample delivery group (analytical batch) and recoveries outside QC limits are detailed in the laboratory certificates of analysis presented in Appendix E.2 and data are accepted using professional judgement based on review of historical results and acceptable laboratory control sample (LCS) recoveries. It is noted that a reported sample results in one or more wells (total phenolics) were qualified as estimated per EPA/DOE protocol due to similar analyte detections in one or more sample-group associated QC samples (field blank). It is noted that the reported sample result for total phenolics in the sample collected from upgradient well ABC-1602 was also qualified as estimated per EPA protocol due to duplicate imprecision; thus, the total phenolics results reported at upgradient well ABC-1602 and in the duplicate sample are qualified with a non-directionally biased qualifier (J) as it supersedes the directionally biased qualifier (J+). The reported sample result for hexavalent chromium in the sample collected from ABC-1614 was qualified as estimated per EPA guidance due to total chromium sample results reported as non-detect. Based on review of the laboratory-provided QC data, EPA/DOE guidance recommendations, and Golder's professional judgement, the data for the September 2020 compliance event were determined to meet the data quality objectives for the project.

6.2.1 Second Semi-Annual 2020 Verification Event Findings

The laboratory and field QA/QC data for the second semi-annual 2020 verification sampling event collected October 15, 2020, were reviewed in accordance with EPA protocol. Laboratory QC results were within acceptable limits and interference free. A description of the laboratory QA/QC data associated with the October groundwater monitoring event is presented in Appendix G.3. Based on review of the laboratory-provided QC data, EPA guidance recommendations, and Golder's professional judgement, the data for the October 2020 verification event were determined to meet the data quality objectives for the project.

7.0 STATISTICAL EVALUATION OF GROUNDWATER DATA

This section presents a statistical evaluation for the 2020 data according to the requirements of the CCR Rule and the SWP. Two types of statistical analyses have been conducted as follows:

- Data have been evaluated with respect to background data; this evaluation identifies statistically significant increases (SSIs) in downgradient wells over site-specific background using a value-to-value comparison; and
- Data have been evaluated with respect to GPS/GWPS using a value-to-standard comparison.

7.1 Site-Specific Background Evaluation

7.1.1 First Semi-Annual 2020 Modified Assessment Monitoring Program Event

Consistent with XI.H.2 of the Unit's SWP and §257.93(h) of the CCR Rule, Golder evaluated the DMP constituent detections against established site background concentrations. The evaluation was performed with the background concentrations submitted to the DEQ in the August 15, 2019, *Facility Background Determination Report*. The Unit's background concentrations were approved by the DEQ on April 2, 2020. Based on this evaluation, the following SSIs for DMP constituents (CCR Rule Appendix III constituents) over the Unit's background concentrations were identified during the 2020 first semi-annual groundwater monitoring event (see Table 1):

- Boron (ABC-1607, ABC-1608, ABC-1614)
- Calcium (ABC-1608, ABC-1614)
- Chloride (ABC-1607, ABC-1608, ABC-1614)
- Total Dissolved Solids (ABC-1602 [upgradient], ABC-1608, ABC-1614)

The following SSIs for AMP constituents (CCR Rule Appendix IV constituents) over the Unit's background concentrations were identified during the 2020 first semi-annual groundwater monitoring event (see Table 1):

- Arsenic (ABC-1614)
- Barium (ABC-1614)

A notification of these SSIs was submitted to the DEQ on May 1, 2014, pursuant to Section XI.H.4.a of the SWP.

7.1.2 Second Semi-Annual 2020 Modified Assessment Monitoring Program Event

Consistent with XI.H.2 of the Unit's SWP and §257.93(h) of the CCR Rule, Golder evaluated the DMP constituent detections against established site background concentrations. The evaluation was performed with the background concentrations submitted to the DEQ in the August 15, 2019, *Facility Background Determination Report*. The Unit's background concentrations were approved by the DEQ on April 2, 2020. Based on this evaluation, the following

SSIs for DMP constituents over the Unit's background concentrations were identified during the 2020 second semi-annual groundwater monitoring event (see Table 2):

- Boron (ABC-1607, ABC-1608, ABC-1614)
- Calcium (ABC-1607, ABC-1608, ABC-1614)
- Chloride (ABC-1607, ABC-1608, ABC-1614)
- Total Dissolved Solids (ABC-1602 [upgradient], ABC-1607, ABC-1608, ABC-1614)

The following SSIs for AMP constituents over the Unit's background concentrations were identified during the 2020 second semi-annual groundwater monitoring event (see Table 2):

- Arsenic (ABC-1614)
- Barium (ABC-1614)
- Cobalt (ABC-1608)

A notification of these SSIs was submitted to the DEQ on November 13, 2020, pursuant to Section XI.H.4.a of the SWP. As the Unit is already monitoring groundwater under the Modified AMP, no additional actions beyond reporting these background exceedances were required for the first and second semi-annual periods of 2020.

7.2 First Semi-Annual 2020 Modified Assessment Monitoring Program Event Groundwater Protection Standards

7.2.1 Solid Waste Permit Groundwater Protection Standard Exceedances

Consistent with XI.H.2 of the Unit's SWP, Golder evaluated the Modified AMP constituents (CCR Rule Appendix IV constituents, VSWMR metals, and boron) against SWP GPS. Based on this evaluation, the following SWP GPS exceedances were identified during the 2020 first semi-annual groundwater monitoring event. Background based SWP GPS were approved by the DEQ on April 2, 2020.

Constituent	Groundwater Protection Standard	Assessment Monitoring Well	1SA 2020 Concentration
Arsenic (µg/L)	10.0	ABC-1614 (ABC-1614 Duplicate)	44.4 (43.7)
Boron (µg/L)	94.5	ABC-1607	190
		ABC-1608	220
		ABC-1614 (ABC-1614 Duplicate)	200 (190)

Constituent	Groundwater Protection Standard	Assessment Monitoring Well	1SA 2020 Concentration
Nickel (µg/L)	11.3	ABC-1608	18.0
		ABC-1614 (ABC-1614 Duplicate)	14.8 (14.5)

Note: µg/L = Microgram per liter

A notification of these SWP GPS exceedances was submitted to the DEQ on May 1, 2020, pursuant to Section XI.H.4.a of the SWP. In response to these SWP GPS exceedances, Dominion Energy initiated an NES and an ACM in accordance with 9VAC-81-260 *et seq*. of the VSWMR. The ACM was completed and submitted to the DEQ on June 19, 2020.

7.2.2 CCR Groundwater Protection Standard Exceedances

Consistent with §257.95(h)(2) of the CCR Rule, Golder evaluated the AMP constituents (CCR Rule Appendix IV constituents) against the established federal Groundwater Protection Standards (GWPS). Based on this evaluation, the following federal CCR GWPS exceedances were identified during the 2020 first semi-annual groundwater monitoring event.

Constituent	Groundwater Protection Standard	Assessment Monitoring Well	1SA 2020 Concentration
Arsenic (µg/L)	10.0	ABC-1614 (ABC-1614 Duplicate)	44.4 (43.7)

Note: µg/L = Microgram per liter

A notification of these federal CCR GWPS exceedances was placed in the Unit's operating record on May 1, 2020, pursuant to §257.95(g) and §257.105(h)(8) of the CCR Rule. In response to a federal CCR GWPS exceedance of arsenic identified for the second semi-annual 2019 sampling event, Dominion Energy initiated an NES and an ACM in accordance with §257.96 and §257.105 of the CCR Rule. The ACM was completed and placed in the Unit's operating record on June 19, 2020.

7.3 Second Semi-Annual 2020 Modified Assessment Monitoring Program Event Groundwater Protection Standards

7.3.1 Solid Waste Permit Groundwater Protection Standard Exceedances

Consistent with XI.H.2 of the Unit's SWP, Golder evaluated the Modified AMP constituents against SWP GPS. Based on this evaluation, the following SWP GPS exceedances were identified during the 2020 second semi-annual groundwater monitoring event.

Constituent	Groundwater Protection Standard	Assessment Monitoring Well	2SA 2020 Concentration	2SA 2020 Verification Concentration
Arsenic (µg/L)	10.0	ABC-1614	44.1	--
Boron (µg/L)	94.5	ABC-1607	225	--
		ABC-1608	217	--
		ABC-1614	212	--
Cobalt (µg/L)	24.9	ABC-1608	26.5	25.4
Nickel (µg/L)	11.3	ABC-1608	19.8	--
		ABC-1614	15.1	--

Note: µg/L = Microgram per liter

A notification of these SWP GPS exceedances was submitted to the DEQ on November 13, 2020, pursuant to Section XI.H.4.a of the SWP. The arsenic, boron, and nickel exceedances were previously addressed in the June 2020 ACM. In response to the cobalt exceedance identified at ABC-1608, Dominion Energy will submit an alternate source demonstration (ASD) pursuant to 9VAC-81-250.A.5 of the VSWMR.

7.3.2 CCR Groundwater Protection Standard Exceedances

Consistent with §257.95(h)(2) of the CCR Rule, Golder evaluated the AMP constituents (CCR Rule Appendix IV constituents) against the established federal CCR GWPS. Based on this evaluation, the following federal CCR GWPS exceedances were identified during the 2020 second semi-annual groundwater monitoring event.

Constituent	Groundwater Protection Standard	Assessment Monitoring Well	2SA 2020 Concentration	2SA 2020 Verification Concentration
Arsenic (µg/L)	10.0	ABC-1614	44.1	--
Cobalt (µg/L)	24.9	ABC-1608	26.5	25.4

Note: µg/L = Microgram per liter

A notification of these federal CCR GWPS exceedances was placed in the Unit's operating record on November 13, 2020, pursuant to §257.95(g) and §257.105(h)(8) of the CCR Rule. The arsenic exceedance identified at ABC-1614 was previously addressed in the June 2020 ACM. In response to the cobalt exceedance identified at ABC-1608, Dominion Energy will submit an ASD pursuant to §257.94(e)(2) of the CCR Rule.

8.0 CONCLUSIONS

The following findings are presented based on the results of the groundwater sampling activities conducted for the Unit in 2020:

8.1 Summary of Findings

- The overall direction of groundwater flow at the Unit generally follows topography and flows at an estimated horizontal velocity of 25.6 to 27.1 feet/year;
- Downgradient wells are located close to the Unit boundary and are able to determine groundwater quality downgradient to the Unit;
- During 2020, the monitoring well network functioned as designed and had the ability to determine the Unit's impact on the quality of the groundwater in the uppermost aquifer;
- Review of the current potentiometric map indicates the monitoring wells network fulfills the requirements of 9VAC20-81-250.A.3;
- Review of the 2020 Modified AMP monitoring data did not indicate any significant changes in the groundwater quality with the exception of a new second semi-annual 2020 GPS/GWPS exceedance of cobalt at ABC-1608;
- Modified assessment monitoring identified SSIs over background for arsenic, barium, boron, calcium, chloride, cobalt, and total dissolved solids;
- Modified assessment monitoring identified SWP GPS exceedances of arsenic, boron, cobalt, and nickel in one or more downgradient compliance wells;
- Modified assessment monitoring identified a federal CCR GWPS exceedance of arsenic at well ABC-1614 during both the first and second semi-annual 2020 sampling events and a federal CCR GWPS exceedance of cobalt at well ABC-1608 during the second semi-annual 2020 sampling event; and
- An NES and ACM for arsenic, boron, and nickel were completed on June 16, 2020, in accordance with the timeframes in the VSWMR and the CCR Rule.

8.2 Planned Activities

Based on the results from the 2020 compliance sampling, Dominion Energy intends to continue with the Modified AMP in 2021 consistent with the provisions in the CCR Rule [part 257.95] and the Unit's SWP. Also, pending selection of the final remedy and consistent with the provisions of the CCR Rule [parts 257.95(a) and 257.105(h)(12)], Dominion Energy will begin to prepare the semi-annual progress reports for remedy design and selection in 2021. Based on the second semi-annual SWP GPS and federal CCR GWPS exceedances for cobalt at ABC-1608 Dominion Energy will submit an ASD in 2021 consistent with VSWMR and CCR Rule timeframes.

9.0 REFERENCES

Department of Environmental Quality (DEQ). 2019. Solid Waste Facility Permit Number 617. June 13.

EPA (United States Environmental Protection Agency). 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery – Program Implementation and Information Division. March.

EPA. 2015. Federal Register. Volume 80. No. 74. Friday April 17, 2015. Part II. Environmental Protection Agency. 40 CFR Parts 257and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA HQ RCRA–2009–0640; FRL–9919–44–OSWER]. RIN–2050–AE81. April.

EPA. 2016. Federal Register. Volume 81. No. 151. Friday August 5, 2016. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA HQ OLEM–2016–0274; FRL–9949–44–OLEM]. August.

EPA. 2017. National Functional Guidelines for Inorganic Superfund Methods Data Review. January.

EPA. 2017. National Functional Guidelines for Organic Superfund Methods Data Review. January.

EPA. 2018. Federal Register. Volume 83. No. 146. Monday July 30, 2018. Part II. Environmental Protection Agency. 40 CFR Parts 257 and 261. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule. [EPA HQ OLEM–2017–0286; FRL–9981–18–OLEM]. RIN–2050–AG88. July.

EPA. 2020a. Federal Register. Volume 85. No. 168. Friday, August 28, 2020. Environmental Protection Agency. *40 CFR Part 257. Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; A Holistic Approach to Closure Part A: Deadline To Initiate Closure.* [EPA-HQ-OLEM–2019-0172 and EPA-HQ-OLEM–2018-0524; FRL–10013–20–OLEM]. RIN–2050–AH10. August.

EPA. 2020b. Federal Register. Volume 85. No. 219. Thursday, November 12, 2020. Environmental Protection Agency. *40 CFR Part 257. Hazardous and Solid Waste Management System; Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments.* [EPA-HQ-OLEM–2019-0173; FRL-10015-88-OLEM]. RIN–2050–AH11. November.

Paar, J. & Porterfield, D. 1997. Evaluation of radiochemical data usability. DOE (Department of Energy) 10.2172/461261. April.

Golder Associates Inc. (Golder). 2017. *Groundwater Monitoring Plan*, Possum Point Power Station, Dumfries, Virginia. October.

Golder. 2018. *Groundwater Monitoring Plan*, Possum Point Power Station, Dumfries, Virginia. September.

Golder. 2019a. *Groundwater Monitoring Plan*, Possum Point Power Station, Dumfries, Virginia. August.

Golder. 2019b. *Pond ABC Facility Background Determination Report*, Possum Point Power Station, Dumfries, Virginia. August 15.

Golder. 2019c. *Assessment of Corrective Measures Report*, Possum Point Power Station – Pond D, Dumfries, Virginia. June 27.

Haley and Aldrich, Inc. 2020. *Assessment of Corrective Measures Report,* Ponds ABC, Solid Waste Permit No. 617, Possum Point Power Station, Dumfries, Virginia. June 19.

Virginia Waste Management Board (VWMB). 2019. Virginia Solid Waste Management Regulations – (9VAC20-81 *et seq*.). March.

10.0 SIGNATURE SECTION

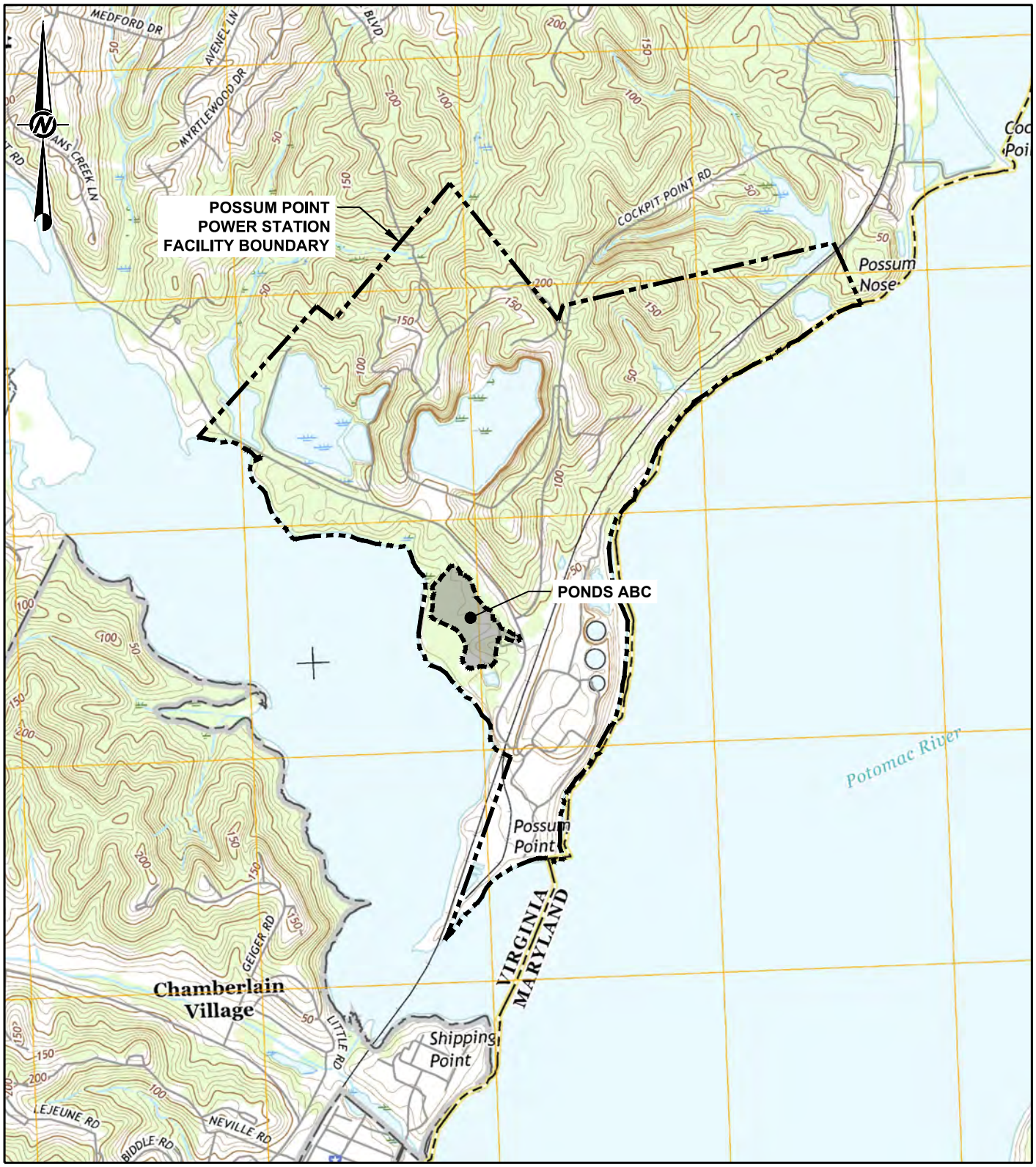
This *2020 CCR & VSWMR Annual CCR Groundwater Monitoring and Corrective Action Report* (Report) has been prepared by qualified groundwater scientists and engineers on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for Ponds ABC at the Possum Point Power Station in Dumfries, Virginia. This document was prepared by scientists and engineers who have received baccalaureate and/or post-graduate degrees in the natural sciences and/or engineering and who have sufficient training and experience in groundwater hydrology, engineering, statistical evaluations, and related fields as demonstrated by state professional registrations and completion of an accredited university program that enables sound professional judgments consistent with the industry standard of care for groundwater monitoring, contaminant fate and transport, environmental corrective actions, and cost estimate development. This Report also satisfies the reporting requirements specified in 9VAC20-81-250.E.2.a of the VSWMR (VWMB, 2019) and the DEQ SWP No. 617 (DEQ, 2019).

Signature

Name & Title

Michael G. Williams, C.P.G.
Principal, Senior Hydrogeologist

FIGURES



REFERENCE

BASE MAP CONSISTS OF USGS TOPOGRAPHIC QUADRANGLE QUANTICO, VIRGINIA DATED 2016.

2000 0 2000
SCALE FEET

CLIENT
DOMINION ENERGY

CONSULTANT
GOLDER

YYYY-MM-DD	2020-12-02
DESIGNED	ALR
PREPARED	SIB
REVIEWED	ALR
APPROVED	MGW

PROJECT
POSSUM POINT POWER STATION
PONDS ABC
PRINCE WILLIAM COUNTY, VIRGINIA

TITLE
SITE LOCATION MAP

PROJECT NO. 20-139775
REV. 0
FIGURE 1

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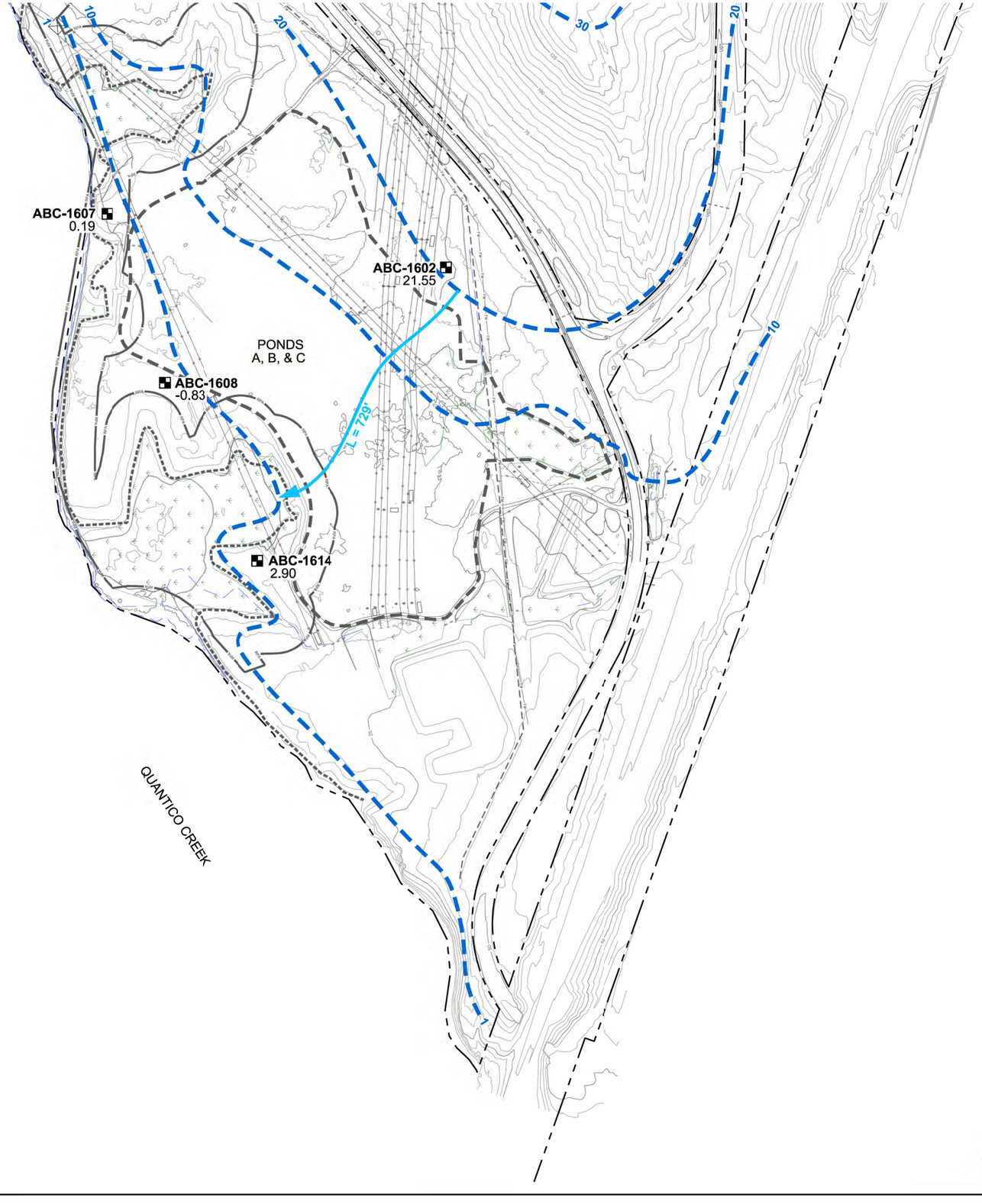

LEGEND

- PROPERTY BOUNDARY
- EX. TOPOGRAPHIC CONTOURS (5' INTERVALS)
- WETLAND
- STREAM OR SURFACE WATER BOUNDARY
- RESOURCE PROTECTION AREA BOUNDARY
- 100-YEAR FLOOD PLAIN
- ASH POND LIMITS
- **ABC-1602** — EX. COMPLIANCE GROUNDWATER MONITORING WELL
- 21.55 — STATIC GROUNDWATER LEVEL ELEVATION [FEET ABOVE MEAN SEA LEVEL (AMSL)]
- 50 — GROUNDWATER SURFACE CONTOUR (FEET AMSL)
- APPROXIMATE GROUNDWATER FLOW PATHWAY USED TO CALCULATE HYDRAULIC GRADIENT

NOTES

1. EXISTING CONDITIONS COMPILED BY KEDDAL AERIAL MAPPING USING PHOTOGRAMMETRIC METHODS, FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 13, 2015.
2. STATIC WATER LEVELS MEASURED ON FEBRUARY 19, 2020.
3. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, TOPOGRAPHIC CONTOURS, AND KNOWN FIELD CONDITIONS. THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS. GROUNDWATER CONTOUR(S) SHOWN IN GREEN ARE INFERRED.
4. GROUNDWATER CONTOUR LINES SHOW THE WATER TABLE SHAPE AND ELEVATION. THESE CONTOURS ARE INFERRED LINES FOLLOWING THE GROUNDWATER SURFACE AT A CONSTANT ELEVATION ABOVE SEA LEVEL. THE GROUNDWATER FLOW DIRECTION IS GENERALLY PERPENDICULAR TO THE GROUNDWATER SURFACE CONTOURS, SIMILAR TO THE RELATIONSHIP BETWEEN SURFACE WATER FLOW AND TOPOGRAPHIC CONTOURS.

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SCALE FEET

CLIENT
DOMINION
POSSUM POINT POWER STATION
PRINCE WILLIAM COUNTY, VIRGINIA

PRCJECT
GROUNDWATER MONITORING PROGRAM
PONDS ABC

TITLE
GROUNDWATER SURFACE CONTOUR MAP
FEBRUARY 19, 2020

CONSULTANT
GOLDER

YYYY-MM-DD	2020-12-02
DESIGNED	ALR
PREPARED	SIB
REVIEWED	ALR
APPROVED	MGW

PRCJECT NO. 20-139775 | REV. 0 | FIGURE 2

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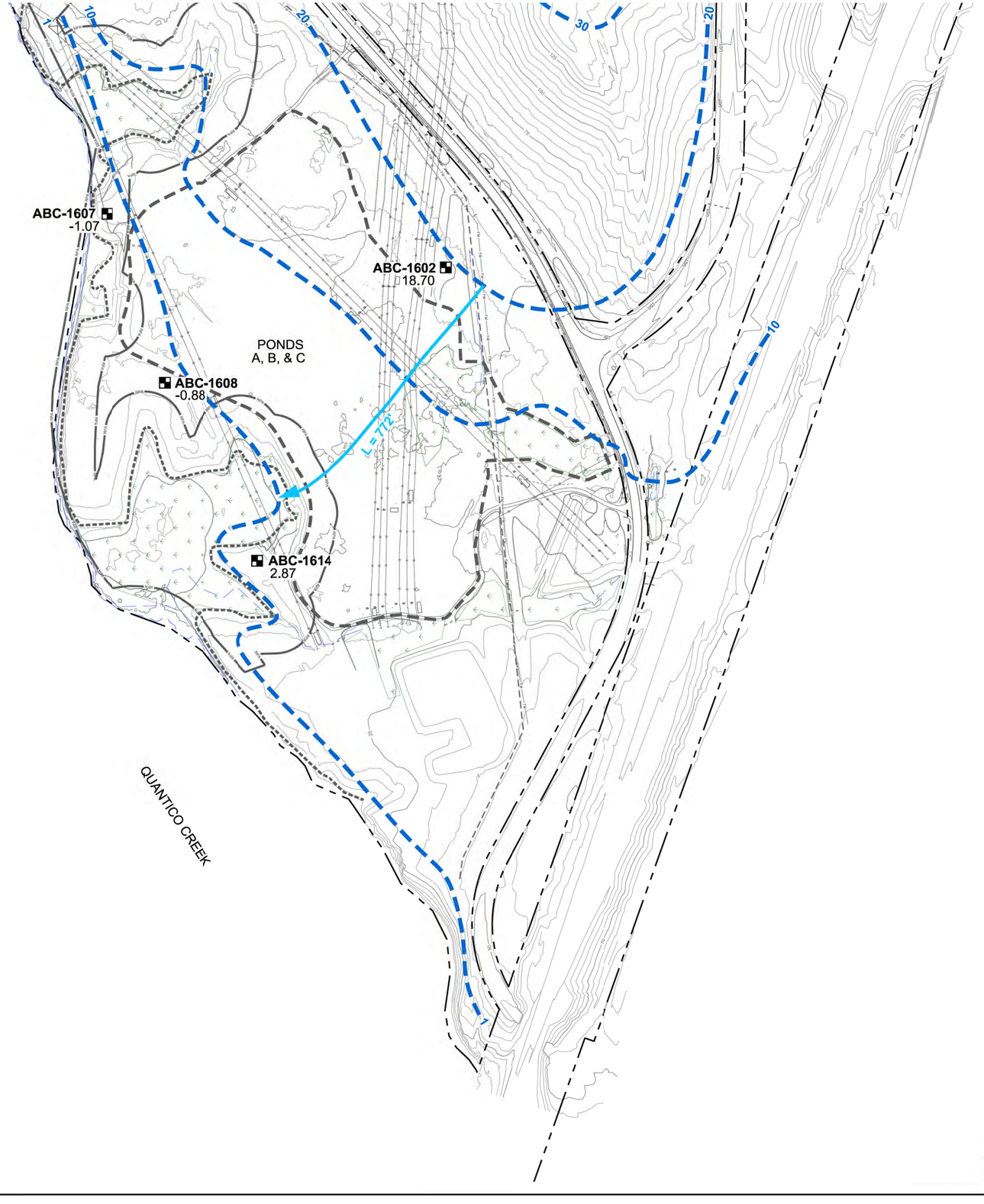

LEGEND

- PROPERTY BOUNDARY
- EX. TOPOGRAPHIC CONTOURS (5' INTERVALS)
- WETLAND
- STREAM OR SURFACE WATER BOUNDARY
- RESOURCE PROTECTION AREA BOUNDARY
- 100-YEAR FLOOD PLAIN
- ASH POND LIMITS
- **ABC-1602** — EX. COMPLIANCE GROUNDWATER MONITORING WELL
- 18.70 — STATIC GROUNDWATER LEVEL ELEVATION [FEET ABOVE MEAN SEA LEVEL (AMSL)]
- 50 — GROUNDWATER SURFACE CONTOUR (FEET AMSL)
- APPROXIMATE GROUNDWATER FLOW PATHWAY USED TO CALCULATE HYDRAULIC GRADIENT

NOTES

1. EXISTING CONDITIONS COMPILED BY KEDDAL AERIAL MAPPING USING PHOTOGRAMMETRIC METHODS, FROM AERIAL PHOTOGRAPHY DATED FEBRUARY 13, 2015.
2. STATIC WATER LEVELS MEASURED ON AUGUST 31, 2020.
3. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA, TOPOGRAPHIC CONTOURS, AND KNOWN FIELD CONDITIONS. THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS. GROUNDWATER CONTOUR(S) SHOWN IN GREEN ARE INFERRED.
4. GROUNDWATER CONTOUR LINES SHOW THE WATER TABLE SHAPE AND ELEVATION. THESE CONTOURS ARE INFERRED LINES FOLLOWING THE GROUNDWATER SURFACE AT A CONSTANT ELEVATION ABOVE SEA LEVEL. THE GROUNDWATER FLOW DIRECTION IS GENERALLY PERPENDICULAR TO THE GROUNDWATER SURFACE CONTOURS, SIMILAR TO THE RELATIONSHIP BETWEEN SURFACE WATER FLOW AND TOPOGRAPHIC CONTOURS.

150 0 150 300
SCALE FEET

CLIENT
DOMINION
POSSUM POINT POWER STATION
PRINCE WILLIAM COUNTY, VIRGINIA

PRCJECT
GROUNDWATER MONITORING PROGRAM
PONDS ABC

TITLE
GROUNDWATER SURFACE CONTOUR MAP
AUGUST 31, 2020

CONSULTANT
GOLDER

YYYY-MM-DD	2020-12-02
DESIGNED	ALR
PREPARED	SIB
REVIEWED	ALR
APPROVED	MGW

PRCJECT NO. 20-139775 | REV. 0 | FIGURE 3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

Path: C:\Users\SBrady\Desktop\20-139775\B - GW - MAP\Active Drawings\20139775B03.dwg

TABLES

Table 1
Summary of First Semi-Annual Modified Assessment Monitoring Program Sampling Event Data (February 2020)
Possum Point Power Station, Ponds ABC
Permit No. 617

					Upgradient Well				Downgradient Wells												Field QC							
				Sample ID:	ABC-1602				ABC-1607				ABC-1608				ABC-1614				ABC-1614 DUP				Field Blank			
				Sample Date:	2/19/2020				2/192020				2/19/2020				2/19/2020				2/19/2020				2/19/2020			
Parameter Name	**Units**	**Site-Specific Background**	**Federal GWPS**	**Virginia GPS**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**
CCR Appendix III Constituents																												
Boron	µg/L	94.5	--	94.5	< 6.6		6.6	50.0	**190**		6.6	50.0	**220**		6.6	50.0	**200**		6.6	50.0	**190**		6.6	50.0	< 6.6		6.6	50.0
Calcium	µg/L	7,222	--	--	**7100**		24.0	100	**7100**		24.0	100	**20600**		24.0	100	**24000**		24.0	100	**23400**		24.0	100	< 24.0		24.0	100
Chloride	mg/L	5.1	--	--	**2.9**		0.60	1.0	**18.7**		0.60	1.0	**53.2**		0.60	1.0	**15.0**		0.60	1.0	**15.0**		0.60	1.0	< 0.60		0.60	1.0
Fluoride	mg/L	QL (0.10)	4	4	< 0.050		0.050	0.10	**0.063**	J	0.050	0.10	**0.068**	J	0.050	0.10	**0.057**	J	0.050	0.10	**0.064**	J	0.050	0.10	< 0.050		0.050	0.10
pH	SU	3.45-6.23	--	--	4.62		0.01	0.01	5.09		0.01	0.01	5.89		0.01	0.01	6.15		0.01	0.01	--		--	--	--		--	--
Sulfate	mg/L	70.45	--	--	**56.7**		0.50	1.0	**33.5**		0.50	1.0	**28.1**		0.50	1.0	**39.3**		0.50	1.0	**39.8**		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	126	--	--	**131**		25.0	25.0	**123**		25.0	25.0	**241**		25.0	25.0	**242**		25.0	25.0	**246**		25.0	25.0	< 25.0		25.0	25.0
CCR Appendix IV Constituents																												
Antimony	µg/L	QL (5)	6	6	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0
Arsenic	µg/L	QL (10)	10	10	< 4.7		4.7	10.0	< 4.7		4.7	10.0	**5.8**	J	4.7	10.0	**44.4**		4.7	10.0	**43.7**		4.7	10.0	< 4.7		4.7	10.0
Barium	µg/L	100.6	2000	2,000	**67.9**		1.0	5.0	**50.6**		1.0	5.0	**64.2**		1.0	5.0	**175**		1.0	5.0	**167**		1.0	5.0	< 1.0		1.0	5.0
Beryllium	µg/L	QL (1)	4	4	**0.68**	J	0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0	< 0.20		0.20	1.0
Cadmium	µg/L	QL (1)	5	5	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0
Chromium	µg/L	QL (5)	100	100	**1.3**	J	1.0	5.0	< 1.0		1.0	5.0	< 1.0		1.0	5.0	< 1.0		1.0	5.0	< 1.0		1.0	5.0	< 1.0		1.0	5.0
Cobalt	µg/L	24.9	24.9	24.9	**15.0**		0.050	0.10	**8.7**		0.050	0.10	**23.5**		0.050	0.10	**19.9**		0.050	0.10	**19.8**		0.050	0.10	< 0.050		0.050	0.10
Fluoride	mg/L	QL (0.10)	4	4	< 0.050		0.050	0.10	**0.063**	J	0.050	0.10	**0.068**	J	0.050	0.10	**0.057**	J	0.050	0.10	**0.064**	J	0.050	0.10	< 0.050		0.050	0.10
Lead	µg/L	QL (5)	15*	5 (QL)	**0.12**		0.050	0.10	**0.088**	J	0.050	0.10	**0.071**	J	0.050	0.10	**0.18**		0.050	0.10	**0.13**		0.050	0.10	< 0.050		0.050	0.10
Lithium	µg/L	QL (25)	40	25 (QL)	**11.6**		0.42	2.5	**3.9**		0.42	2.5	**13.6**		0.42	2.5	**15.7**		0.42	2.5	**16.5**		0.42	2.5	< 0.42		0.42	2.5
Mercury	µg/L	QL (0.2)	2	2	< 0.10		0.10	0.20	< 0.10		0.10	0.20	< 0.10		0.10	0.20	< 0.10		0.10	0.20	< 0.10		0.10	0.20	< 0.10		0.10	0.20
Molybdenum	µg/L	QL (5)	100	5 (QL)	< 0.90		0.90	5.0	< 0.90		0.90	5.0	**2.0**	J	0.90	5.0	< 0.90		0.90	5.0	**0.99**	J	0.90	5.0	< 0.90		0.90	5.0
Selenium	µg/L	QL (10)	50	50	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0
Thallium	µg/L	QL (1)	2	2	< 0.060		0.060	0.10	< 0.060		0.060	0.10	< 0.060		0.060	0.10	< 0.060		0.060	0.10	< 0.060		0.060	0.10	< 0.060		0.060	0.10
Total Radium	pCi/L	3.727	5	5	**2.79**	J	1.53	1.53	**1.76**	J	1.41	1.41	**2.00**	J	1.62	1.62	**1.52**	J	1.41	1.41	**1.07**	U	1.21	1.21	**0.359**	U	1.37	1.37
Additional VSWMR Constituents																												
Copper	µg/L	25.3	--	1,300*	**7.7**		2.1	5.0	< 2.1		2.1	5.0	< 2.1		2.1	5.0	< 2.1		2.1	5.0	< 2.1		2.1	5.0	< 2.1		2.1	5.0
Nickel	µg/L	11.3	--	11.3	**7.8**		0.90	5.0	**10.7**		0.90	5.0	**18.0**		0.90	5.0	**14.8**		0.90	5.0	**14.5**		0.90	5.0	< 0.90		0.90	5.0
Silver	µg/L	QL (5)	--	5 (QL)	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0
Tin	µg/L	11.4	--	11.4	< 0.090		0.090	0.50	**0.091**	J	0.090	0.50	< 0.090		0.090	0.50	< 0.090		0.090	0.50	< 0.090		0.090	0.50	< 0.090		0.090	0.50
Vanadium	µg/L	QL (5)	--	5 (QL)	< 1.3		1.3	5.0	< 1.3		1.3	5.0	< 1.3		1.3	5.0	**1.4**	J	1.3	5.0	**1.3**	J	1.3	5.0	< 1.3		1.3	5.0
Zinc	µg/L	QL (50)	--	50 (QL)	**4.0**	J	3.9	10.0	**21.3**		3.9	10.0	**9.6**	J	3.9	10.0	< 3.9		3.9	10.0	< 3.9		3.9	10.0	< 3.9		3.9	10.0
Speciation of Chromium																												
Hexavalent Chromium	µg/L	QL (10)	--	--	< 5.0		5.0	5.0	< 5.0		5.0	5.0	< 5.0		5.0	5.0	< 5.0		5.0	5.0	< 5.0		5.0	5.0	< 5.0		5.0	5.0
Former VPDES Constituents																												
Hardness	mg/L	--	--	--	**36.3**		0.131	0.662	**33.1**		0.131	0.662	**90.4**		0.131	0.662	**97.0**		0.131	0.662	**94.2**		0.131	0.662	< 0.131		0.131	0.662
Iron	µg/L	--	--	--	**55.6**		7.5	50.0	**1740**		7.5	50.0	**5660**		7.5	50.0	**28300**		7.5	50.0	**28300**		7.5	50.0	< 7.5		7.5	50.0
Manganese	µg/L	--	--	--	**200**		0.14	0.50	**181**		0.14	0.50	**164**		0.14	0.50	**312**		0.14	0.50	**312**		0.14	0.50	**0.46**	J+	0.14	0.50
Phenolics, Total	µg/L	--	--	--	**6.4**	J	5.0	10.0	< 5.0		530	10.0	< 5.0		5.0	10.0	**12.0**		5.0	10.0	< 5.0		5.0	10.0	< 5.0		5.0	10.0
Potassium	µg/L	--	--	--	**6450**		6.2	50.0	**2060**		6.2	50.0	**3840**		6.2	50.0	**4240**		6.2	50.0	**4360**		6.2	50.0	< 6.2		6.2	50.0
Sodium	µg/L	--	--	--	**8240**		14.3	250	**14000**		285	5000	**33400**		285	5000	**22100**		285	5000	**22000**		285	5000	**41.0**	J+	14.3	250
Total Organic Carbon	mg/L	--	--	--	< 0.50		0.50	1.0	**0.63**	J	0.50	1.0	**1.2**		0.50	1.0	**2.8**		0.50	1.0	**2.5**		0.50	1.0	< 0.50		0.50	1.0
Field Parameters																												
Conductivity	µS/cm	--	--	--	165.2		0.1	0.1	171.6		0.1	0.1	378.4		0.1	0.1	400.4		0.1	0.1	--		--	--	--		--	--
Depth to Water**	ft btoc	--	--	--	12.53		0.01	0.01	23.44		0.01	0.01	21.96		0.01	0.01	12.72		0.01	0.01	--		--	--	--		--	--
Dissolved Oxygen	mg/L	--	--	--	2.69		0.01	0.01	2.46		0.01	0.01	1.77		0.01	0.01	1.01		0.01	0.01	--		--	--	--		--	--
Groundwater Elevation**	ft msl	--	--	--	21.55		0.01	0.01	0.19		0.01	0.01	-0.83		0.01	0.01	2.90		0.01	0.01	--		--	--	--		--	--
Oxidation Reduction Potential	millivolts	--	--	--	374.9		0.1	0.1	173.1		0.1	0.1	61.0		0.1	0.1	-13.9		0.1	0.1	--		--	--	--		--	--
Temperature	C	--	--	--	14.3		0.01	0.01	15.0		0.01	0.01	13.8		0.01	0.01	14.2		0.01	0.01	--		--	--	--		--	--
Turbidity	NTU	--	--	--	2.3		0.1	0.1	8.1		0.1	0.1	7.23		0.1	0.1	8.2		0.1	0.1	--		--	--	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
pCi/L = picoCurie per liter
µS/cm = MicroSiemen per centimeter
ft btoc = below top of casing
SU = Standard Units
ft msl = feet above mean sea level
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit

MDC = Minimum Detection Concentration
CCR = Coal Combustion Residuals
QL = Laboratory quantitation limit (value shown in parentheses is a recent QL and is subject to change)
GPS/GWPS = Groundwater Protection Standards
VSWMR = Virginia Solid Waste Management Regulations
VPDES = Virginia Pollutant Discharge Elimination System
Bold font = Detected constituent
* - EPA Action Level
** - Water levels gauged on February 19, 2020

Qualifiers:
J = Estimated Result
J+ = Potential Bias High
U = Not detected above the Minimum Detection Concentration
UJ = Estimated Non-Detect

= Concentration greater than site-specific background
= Concentration greater than Federal GWPS, Virginia GPS, and site-specific background
= Concentration greater than Virginia GPS and site-specific background

Table 2
Summary of Second Semi-Annual Modifed Assessment Monitoring Program Sampling Event Data (August-September 2020)
Possum Point Power Station, Ponds ABC
Permit No. 617

					Upgradient Well				Downgradient Wells												Field QC							
				Sample ID:	ABC-1602				ABC-1607				ABC-1608				ABC-1614				ABC-1602 DUP				Field Blank			
				Sample Date:	09/02/2020				09/02/2020				09/02/2020				09/02/2020				09/02/2020				09/02/2020			
Parameter Name	**Units**	**Site Specific Background**	**Federal GWPS**	**Virginia GPS**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**
CCR Appendix III Constituents																												
Boron	µg/L	94.5	--	94.5	< 32.4		32.4	50.0	**225**		32.4	50.0	**217**		32.4	50.0	**212**		32.4	50.0	< 32.4		32.4	50.0	< 32.4		32.4	50.0
Calcium	µg/L	7,222	--	--	**6480**		94.2	100	**8380**		94.2	100	**20600**		94.2	100	**21600**		94.2	100	**6670**		94.2	100	< 94.2		94.2	100
Chloride	mg/L	5.1	--	--	**3.1**		0.60	1.0	**16.2**		0.60	1.0	**54.7**		0.60	1.0	**17.2**		0.60	1.0	**3.1**		0.60	1.0	< 0.60		0.60	1.0
Fluoride	mg/L	QL (0.10)	4	4	< 0.050		0.050	0.10	< 0.050		0.050	0.10	**0.079**	J	0.050	0.10	**0.092**	J	0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
pH	SU	3.45-6.23	--	--	4.44		0.01	0.01	5.43		0.01	0.01	6.09		0.01	0.01	5.86		0.01	0.01	--		--	--	--		--	--
Sulfate	mg/L	70.45	--	--	**50.8**		0.50	1.0	**39.3**		0.50	1.0	**29.6**		0.50	1.0	**38.5**		0.50	1.0	**52.2**		0.50	1.0	**0.84**	J	0.50	1.0
Total Dissolved Solids	mg/L	126	--	--	**131**		25.0	25.0	**130**		25.0	25.0	**239**		25.0	25.0	**244**		25.0	25.0	**128**		25.0	25.0	< 25.0		25.0	25.0
CCR Appendix IV Constituents																												
Antimony	µg/L	QL (5)	6	6	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0	< 3.0		3.0	5.0
Arsenic	µg/L	QL (10)	10	10	< 4.7		4.7	10.0	< 4.7		4.7	10.0	**5.7**	J	4.7	10.0	**44.1**		4.7	10.0	**7.0**	J	4.7	10.0	< 4.7		4.7	10.0
Barium	µg/L	100.6	2000	2,000	**65.9**		3.5	5.0	**51.7**		3.5	5.0	**67.3**		3.5	5.0	**185**		3.5	5.0	**67.8**		3.5	5.0	< 3.5		3.5	5.0
Beryllium	µg/L	QL (1)	4	4	< 0.70		0.70	1.0	< 0.70		0.70	1.0	< 0.70		0.70	1.0	< 0.70		0.70	1.0	< 0.70		0.70	1.0	< 0.70		0.70	1.0
Cadmium	µg/L	QL (1)	5	5	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0
Chromium	µg/L	QL (5)	100	100	< 3.7		3.7	5.0	< 3.7		3.7	5.0	< 3.7		3.7	5.0	< 3.7		3.7	5.0	< 3.7		3.7	5.0	< 3.7		3.7	5.0
Cobalt	µg/L	24.9	24.9	24.9	**11.5**		0.050	0.10	**8.2**		0.050	0.10	**26.5**		0.50	1.0	**21.7**		0.50	1.0	**12.0**		0.050	0.10	< 0.050		0.050	0.10
Fluoride	mg/L	QL (0.10)	4	4	< 0.050		0.050	0.10	< 0.050		0.050	0.10	**0.079**	J	0.050	0.10	**0.092**	J	0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Lead	µg/L	QL (5)	15*	5 (QL)	**0.089**	J	0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	**0.20**		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10
Lithium	µg/L	QL (25)	40	25 (QL)	**10.1**		0.39	2.5	**3.1**		0.39	2.5	**12.3**		0.39	2.5	**14.6**		0.39	2.5	**8.7**		0.39	2.5	< 0.39		0.39	2.5
Mercury	µg/L	QL (0.2)	2	2	< 0.12		0.12	0.20	< 0.12		0.12	0.20	< 0.12		0.12	0.20	< 0.12		0.12	0.20	< 0.12		0.12	0.20	< 0.12		0.12	0.20
Molybdenum	µg/L	QL (5)	100	5 (QL)	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0
Selenium	µg/L	QL (10)	50	50	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0	< 4.7		4.7	10.0
Thallium	µg/L	QL (1)	2	2	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Total Radium	pCi/L	3.727	5	5	**3.29**		1.75	1.75	**1.31**	U	1.59	1.59	**0.836**	U	1.35	1.35	**0.252**	U	1.52	1.52	**1.64**	U	1.71	1.71	**0.981**	U	1.10	1.10
Additional VSWMR Constituents																												
Copper	µg/L	25.3	--	1,300*	**8.7**		4.3	5.0	< 4.3		4.3	5.0	< 4.3		4.3	5.0	< 4.3		4.3	5.0	**8.4**		4.3	5.0	< 4.3		4.3	5.0
Nickel	µg/L	11.3	--	11.3	**7.1**		3.5	5.0	**10.0**		3.5	5.0	**19.8**		3.5	5.0	**15.1**		3.5	5.0	**7.0**		3.5	5.0	< 3.5		3.5	5.0
Silver	µg/L	QL (5)	--	5 (QL)	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0	< 2.5		2.5	5.0
Tin	µg/L	11.4	--	11.4	< 0.24		0.24	0.50	< 0.24		0.24	0.50	< 0.24		0.24	0.50	< 0.24		0.24	0.50	< 0.24		0.24	0.50	< 0.24		0.24	0.50
Vanadium	µg/L	QL (5)	--	5 (QL)	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0	< 3.9		3.9	5.0
Zinc	µg/L	QL (50)	--	50 (QL)	< 9.5		9.5	10.0	**19.8**		9.5	10.0	**12.3**		9.5	10.0	< 9.5		9.5	10.0	< 9.5		9.5	10.0	< 9.5		9.5	10.0
Speciation of Chromium																												
Hexavalent Chromium	µg/L	QL (10)	--	--	< 5.0		5.0	5.0	< 5.0		5.0	5.0	< 5.0		5.0	5.0	**14.0**	J	5.0	5.0	< 5.0		5.0	5.0	< 5.0		5.0	5.0
Former VPDES Constituents																												
Hardness	mg/L	--	--	--	**32.8**		0.131	0.662	**35.9**		0.131	0.662	**89.6**		0.131	0.662	**87.8**		0.131	0.662	**33.6**		0.131	0.662	< 0.131		0.131	0.662
Iron	µg/L	--	--	--	**74.3**		20.9	50.0	**3230**		628	1500	**6090**		209	500	**31600**		1050	2500	**92.9**		20.9	50.0	< 20.9		20.9	50.0
Manganese	µg/L	--	--	--	**202**		9.5	10.0	**209**		14.2	15.0	**181**		4.7	5.0	**303**		4.7	5.0	**198**		9.5	10.0	< 0.47		0.47	0.50
Phenolics, Total[1]	µg/L	--	--	--	**50.0**	J	12.0	12.0	**29.0**	J+	12.0	12.0	**35.0**	J+	12.0	12.0	**120**	J+	12.0	12.0	**99.0**	J	12.0	12.0	**97.0**		12.0	12.0
Potassium	µg/L	--	--	--	**6310**		180	1000	**2640**		270	1500	**3790**		89.9	500	**4040**		89.9	500	**6080**		180	1000	< 9.0		9.0	50.0
Sodium	µg/L	--	--	--	**8570**		982	5000	**15900**		1470	7500	**32200**		2450	12500	**20900**		2450	12500	**8130**		982	5000	< 49.1		49.1	250
Total Organic Carbon	mg/L	--	--	--	< 0.50		0.50	1.0	**0.74**	J	0.50	1.0	**1.5**		0.50	1.0	**3.0**		0.50	1.0	< 0.50		0.50	1.0	< 0.50		0.50	1.0
Field Parameters																												
Conductivity	µS/cm	--	--	--	292.7		0.1	0.1	206.1		0.1	0.1	392.8		0.1	0.1	793		0.1	0.1	--		--	--	--		--	--
Depth to Water**	ft btoc	--	--	--	15.38		0.01	0.01	24.70		0.01	0.01	22.01		0.01	0.01	12.75		0.01	0.01	--		--	--	--		--	--
Dissolved Oxygen	mg/L	--	--	--	3.20		0.01	0.01	3.64		0.01	0.01	1.81		0.01	0.01	1.76		0.01	0.01	--		--	--	--		--	--
Groundwater Elevation**	ft msl	--	--	--	18.70		0.01	0.01	-1.07		0.01	0.01	-0.88		0.01	0.01	2.87		0.01	0.01	--		--	--	--		--	--
Oxidation Reduction Potential	millivolts	--	--	--	175.2		0.1	0.1	141.1		0.1	0.1	62.6		0.1	0.1	-8.4		0.1	0.1	--		--	--	--		--	--
Temperature	C	--	--	--	15.7		0.01	0.01	16.7		0.01	0.01	16.1		0.01	0.01	16.5		0.01	0.01	--		--	--	--		--	--
Turbidity	NTU	--	--	--	9.41		0.1	0.1	10.2		0.1	0.1	8.8		0.1	0.1	23.99		0.1	0.1	--		--	--	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
pCi/L = picoCurie per liter
µS/cm = MicroSiemen per centimeter
ft btoc = below top of casing
SU = Standard Units
ft msl = feet above mean sea level
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit

MDC = Minimum Detection Concentration
CCR = Coal Combustion Residuals
QL = Laboratory quantitation limit (value shown in parentheses is a recent QL and is subject to change)
GPS/GWPS = Groundwater Protection Standards
VSWMR = Virginia Solid Waste Management Regulations
VPDES = Virginia Pollutant Discharge Elimination System
Bold font = Detected constituent
* - EPA Action Level
** - Water levels gauged on August 31, 2020
[1]Due to field duplicate imprecision, following qualification guidance, the parent and duplicate samples for ABC-1602 are qualified as estimated (J); this non-directionally biased qualifier supercedes the directionally biased qualifier (J+).

Qualifiers:
J = Estimated Result
J+ = Potential Bias High
U = Not detected above the Minimum Detection Concentration
UJ = Estimated Non-Detect

= Concentration greater than site-specific background
= Concentration greater than Federal GWPS, Virginia GPS, and site-specific background
= Concentration greater than Virginia GPS and site-specific background

Table 3
Summary of Second Semi-Annual Modified Assessment Monitoring Program Verification Sampling Event Data (October 2020)
Possum Point Power Station, Ponds ABC
Permit No. 617

					Downgradient Well				Field QC			
				Sample ID:	**ABC-1608**				**Field Blank**			
				Sample Date:	**10/15/2020**				**10/15/2020**			
Parameter Name	**Units**	**Site-Specific Background**	**Federal GWPS**	**Virginia GPS**	**Result**	**Qualifier**	**MDL**	**RL**	**Result**	**Qualifier**	**MDL**	**RL**
CCR Appendix IV Constituents												
Cobalt	µg/L	24.9	24.9	24.9	**25.4**		0.50	1.0	< 0.050		0.050	0.10
Field Parameters												
Conductivity	µS/cm	--	--	--	388.8		0.1	0.1	--		--	--
Depth to Water*	ft btoc	--	--	--	21.95		0.01	0.01	--		--	--
Dissolved Oxygen	mg/L	--	--	--	1.06		0.01	0.01	--		--	--
Groundwater Elevation	ft msl	--	--	--	-0.82		0.01	0.01	--		--	--
Oxidation Reduction Potential	millivolts	--	--	--	94.5		0.1	0.1	--		--	--
pH	SU	3.45-6.23	--	--	5.68		0.01	0.01	--		--	--
Temperature	C	--	--	--	15.1		0.01	0.01	--		--	--
Turbidity	NTU	--	--	--	9.84		0.1	0.1	--		--	--

Notes:
MDL = Method Detection Limit
RL = Reporting Limit
mg/L = Milligram per liter
µg/L = Microgram per liter
µS/cm = MicroSiemen per centimeter
SU = Standard Units
C = Degrees Celsius
NTU = Nephelometric Turbidity Unit
ft btoc = feet below top of casing
ft msl = feet above mean sea level
CCR = Coal Combustion Residuals
VPDES = Virginia Pollutant Discharge Elimination System
GPS/GWPS = Groundwater Protection Standards
* - Water level gauged on October 15, 2020
Bold font = Detected constituent

= Concentration greater than site-specific background

= Concentration greater than Federal GWPS, Virginia GPS, and site-specific background

= Concentration greater than Virginia GPS and site-specific background

APPENDIX A
DEQ ARSC-01 FORM

Annual Report QA/QC Submission Checklist
(DEQ Form ARSC-01)

INCLUDED IN FINAL REPORT?	YES	NO
Signature of a qualified groundwater professional	X	
Solid waste facility permit number & facility name	X	
Name of current owner/operator & type of facility	X	
Dates LF began operations and was deemed closed (if applicable)	X	
Date of last waste receipt (if applicable) [2.b]	X	
Identified if site is lined or unlined [2.b]	X	
Identified waste disposal method (trench fill/area fill/etc.) [2.b]	X	
Total site acreage, and acreage used for waste disposal [2.b]	X	
Adjoining land use described including any aquifer users [2.c]	X	
Topographic map included as *Figure 1* [2.a]	X	
Figure 1 shows facility location, includes a bar scale, and north arrow	X	
Discuss the type, name & age of the geologic unit(s) on site [2.d]	X	
Description of general site topography [2.d]	X	
Name of nearest permanent water body, perennial stream, etc. [2.d]	X	
Description of the uppermost aquifer [2.d]	X	
Description of the aquifer type (confined vs unconfined) [2.d]	X	
Date facility entered detection or phase I monitoring [2.b]	X	
Date facility entered assessment or phase II monitoring [2.b]	X	
Identified if the facility monitors groundwater under a variance	X	
Identified the dates of any groundwater variance approvals	N/A	
Approval date for wetlands demonstration (if applicable)	N/A	
Identified all upgradient and downgradient monitoring wells [2.e]	X	
Identified if all monitoring wells were sampled during the year [2.e]	X	
Identified reasons for failure to sample (if applicable) [2.e]	N/A	
Identified if any monitoring wells have been abandoned [2.e]	X	
Identified if any wells require replacement [2.e]	X	
Included network performance certification statement [2.e]	X	
Identified groundwater sampling dates during past year [2.f]	X	
Included site plan drawing as *Figure 2* [2.h]	X	
Figure 2 contains current topographic contours	X	
Figure 2 contains facility and waste management unit boundaries	X	
Figure 2 includes all monitoring wells	X	
Figure 2 includes potentiometric surface contours	X	
Figure 2 includes groundwater flow direction arrows	X	
Figure 2 includes all surface water bodies	X	

Annual Report Submission Checklist, DEQ Form ARSC-01 (11/01 – Revised 07/11)

Annual Report QA/QC Submission Checklist
(DEQ Form ARSC-01)

INCLUDED IN FINAL REPORT?	YES	NO
Figure 2 includes all structures on site, a bar scale, and north arrow	X	
Listing of groundwater elevation readings in past year [2.h]	X	
Table of historical groundwater elevation data as *Appendix B*	X	
Calculated rate of groundwater flow (distance/year) [2.h]	X	
Flow rate calculations included as *Appendix C*	X	
Identified the name of the analytical laboratory [2.h]	X	
Identified whether lab was DCLS certified	X	
Identified type of analytical methods used [2.h]	X	
Identified those constituents found above the LOD and LOQ	X	
Identified if verification sampling was used during any event	X	
Identified statistical methods used to analyze groundwater data as Section 7.0	X(1)	
Identified any SSI's noted during prior year of monitoring	X	
Table of prior detected constituent concentrations in each well [2.g] as *Appendix F*	X	
Field data sheet copies included as *Appendix D*	X	
Laboratory results & certificates of analysis as CDROM in *Appendix E*	X	
Included historical summary of laboratory results in *Appendix F*	X	
Full list of References	X	
Copy of this QA/QC checklist	X	

Notes:
(1) Statistical methods used to analyze groundwater data for the Facility are summarized in Section 7.0 and presented in the *Ash Pond ABC Facility Background Determination Report* that was submitted to the DEQ on August 15, 2019.
(2) N/A = Not Applicable

APPENDIX B
SUMMARY OF HISTORICAL CCR AND VSWMR STATIC WATER LEVEL DATA

Appendix B
Summary of Historical CCR and VSWMR Static Water Level Data
Possum Point Power Station, Ponds ABC
Permit No. 617

Well Identification	Top of Casing Elevation (feet AMSL)	Measurement Date	Depth to Water (feet below top of casing)	Groundwater Elevation (feet AMSL)
ABC-1602	34.08	11/02/2016	16.51	17.57
		12/13/2016	17.35	16.73
		01/25/2017	15.26	18.82
		03/06/2017	16.20	17.88
		04/19/2017	14.65	19.43
		05/30/2017	13.13	20.95
		07/10/2017	15.44	18.64
		08/21/2017	16.76	17.32
		06/27/2018	12.80	21.28
		09/19/2018	14.08	20.00
		12/13/2018	14.31	19.77
		03/11/2019	13.04	21.04
		08/26/2019	16.82	17.26
		02/19/2020	12.53	21.55
		08/31/2020	15.38	18.70
ABC-1607	23.90	11/02/2016	23.27	0.63
		12/13/2016	23.61	0.29
		01/25/2017	22.46	1.44
		03/06/2017	23.97	-0.07
	23.63	04/19/2017	24.16	-0.53
		05/30/2017	22.50	1.13
		07/10/2017	23.21	0.42
		08/21/2017	24.12	-0.49
		06/27/2018	22.21	1.42
		09/19/2018	23.05	0.58
		12/12/2018	23.40	0.23
		03/11/2019	22.80	0.83
		08/26/2019	22.49	1.14
		02/19/2020	23.44	0.19
		08/31/2020	24.70	-1.07
ABC-1608	21.13	11/02/2016	19.22	1.91
		12/13/2016	20.72	0.41
		01/25/2017	20.86	0.27
		03/06/2017	21.36	-0.23
		04/19/2017	21.28	-0.15
		05/30/2017	20.94	0.19
		07/10/2017	21.15	-0.02
		08/21/2017	21.12	0.01
		06/27/2018	20.46	0.67
		09/19/2018	21.52	-0.39
		12/12/2018	22.16	-1.03
		03/11/2019	21.10	0.03
		08/26/2019	22.09	-0.96
		02/19/2020	21.96	-0.83
		08/31/2020	22.01	-0.88
		10/15/2020	21.95	-0.82
ABC-1614	15.62	11/02/2016	12.68	2.94
		12/12/2016	12.73	2.89
		01/25/2017	12.50	3.12
		03/06/2017	13.10	2.52
		04/19/2017	12.61	3.01
		05/30/2017	11.99	3.63
		07/10/2017	12.39	3.23
		08/21/2017	12.40	3.22
		06/27/2018	12.74	2.88
		09/19/2018	12.82	2.80
		12/12/2018	12.98	2.64
		03/11/2019	12.31	3.31
		08/26/2019	13.40	2.22
		02/19/2020	12.72	2.90
		08/31/2020	12.75	2.87

Notes:
VSWMR = Virginia Solid Waste Management Regulations
CCR = Coal Combustion Residuals
AMSL = Above Mean Sea Level

APPENDIX C
GROUNDWATER FLOW RATE CALCULATIONS

Appendix C.1

Groundwater Flow Rate Calculations
Possum Point Power Station, Ponds ABC
Solid Waste Permit #617

First Semi-Annual Groundwater Monitoring Event (February 2020)

The average hydraulic gradient for the Unit along the ideal flow line beneath the Unit was calculated using the following equation:

$$i = {}^{h_L}/_{L}$$

Where: i = hydraulic gradient (unitless)
h_L = head loss (elevation difference in feet)
L = length (horizontal distance in feet)

The groundwater flow rate was calculated using the following formula:

$$V = {}^{ki}/_{\theta}$$

Where: V = Groundwater Velocity (cm/s)
k = hydraulic conductivity (cm/s)
i = hydraulic gradient (unitless)
θ = assumed porosity (unitless)

Area	Hydraulic Conductivity (k, cm/s)	Contour lines (feet amsl)	Flow Length (feet)	Average Gradient (i)	Assumed Porosity (Ø)	Estimated Groundwater Velocity	
						(cm/s)	(feet/year)
Unit	2.01E-04	20-1	729	2.61E-02	0.20	2.62E-05	27.1

Notes:
cm/s = centimeter per second
amsl = above mean sea level
θ = estimated value based on properties of the lithologies comprising the uppermost aquifer

Appendix C.2

Groundwater Flow Rate Calculations
Possum Point Power Station, Ponds ABC
Solid Waste Permit #617

Second Semi-Annual Groundwater Monitoring Event (August-September 2020)

The average hydraulic gradient for the Unit along the ideal flow line beneath the Unit was calculated using the following equation:

$$i = {}^{h_L}/_{L}$$

Where: i = hydraulic gradient (unitless)
h_L = head loss (elevation difference in feet)
L = length (horizontal distance in feet)

The groundwater flow rate was calculated using the following formula:

$$V = {}^{ki}/_{\theta}$$

Where: V = Groundwater Velocity (cm/s)
k = hydraulic conductivity (cm/s)
i = hydraulic gradient (unitless)
θ = assumed porosity (unitless)

Area	Hydraulic Conductivity (k, cm/s)	Contour lines (feet amsl)	Flow Length (feet)	Average Gradient (i)	Assumed Porosity (Ø)	Estimated Groundwater Velocity	
						(cm/s)	(feet/year)
Unit	2.01E-04	20-1	772	2.46E-02	0.20	2.47E-05	25.6

Notes:
cm/s = centimeter per second
amsl = above mean sea level
θ = estimated value based on properties of the lithologies comprising the uppermost aquifer

APPENDIX D
FIELD DATA SHEETS

APPENDIX D.1
FIELD DATA SHEETS
FIRST SEMI-ANNUAL GROUNDWATER MONITORING EVENT
(FEBRUARY 2020)

Date: 2-19-2020

GOLDER

WELL GAUGING LOG

Project Name: Possum Point Power Station - Pond ABC Project No./Task No.: 20139775.220A.1

Sampler(s): C. Joyner, M. Antal

Equipment: Water Level Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
ABC-1602	MA	0834	12.53	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
ABC-1607	MA	1030	23.44	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
ABC-1608	CJ	1221	21.96	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
ABC-1614	MA	1137	12.72	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged

Observations/Notes:

Signature: [signature] Date: 2-19-2020

QA/QC Signature: [signature] Date: 2/20/2020

Page 1 of 1

GOLDER

MICROPURGE SAMPLING LOG

Date: 2/19/2020
Weather: cloudy, 40s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: ISA2020 GW-Pond ABC
Sampler(s): M. Antal
Well ID: ABC-1602
Field Calibration Completed: 0800 on 2/19/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 12.53 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- ☑ WL Indicator
- ☐ Turbidity Meter
- ☐ Air Tank
- ☑ Dedicated Bladder Pump
- ☑ YSI ProDSS 19K104420
- ☐ Peristaltic Pump
- ☐ Compressor
- ☐ Non-dedicated BP
- ☐ In-Situ —
- ☐ MP-10 Controller Box
- ☑ MP-15 Controller Box
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0841	4.61	165.4	11.1	4.24	14.3	298.5	12.80	200
0846	4.60	169.0	18.6	3.67	14.2	334.8	12.61	200
0851	4.60	168.3	11.4	3.26	14.3	356.3	12.69	300
0856	4.60	167.9	5.3	2.91	14.3	366.4	12.74	300
0901	4.61	167.7	2.2	2.86	14.3	370.8	12.77	300
0906	4.62	165.2	2.3	2.69	14.3	374.9	12.88	300
0908	—	—	—	SAMPLE	—	—	—	—
0953	4.63	162.5	5.2	3.85	14.0	240.0	12.75	300

Purge Cycle (End): 10/5 sec @ 20 psi
Flow Rate (ml/min End): ~300
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.16
Total Purge Volume (Gallons): ~5.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 0836 MS/MSD sampled at ABC-1602 DTP = 26.45'
Sample Time: 0908
Field Filtered (0.45um): ☐ Yes ☑ No

Sample Parameters/Analyte(s):
- ☐ VSWMR Table 3.1 Column A VOCs
- ☐ VSWMR Table 3.1 Column A Metals
- ☐ VSWMR Table 3.1 Column B
- ☑ Other: 6010/6020 metals, Hg, Chloride, fluoride, sulfate, TDS, hardness, phenolics, radium 226/228, total radium, TOC, hex chrome

Other Observations / Equipment Operation Problems:

Sampler Signature: Date: 2/19/2020
QA/QC Signature: Date: 2-19-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 2/19/2020

Weather: cloudy, 40s

Project Name: Possum Point P.S.

Project No./Task No.: 20139775.220A.1

Event: ISA2020 GW-PondABC

Sampler(s): M. Antal

Well ID: ABC-1607

Field Calibration Completed: 0800 on 2/19/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 23.44 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- ☑ WL Indicator
- ☐ Turbidity Meter
- ☐ Air Tank
- ☑ Dedicated Bladder Pump
- ☑ YSI ProDSS 19K101420
- ☐ Peristaltic Pump
- ☐ Compressor
- ☐ Non-dedicated BP
- ☐ In-Situ —
- ☐ MP-10 Controller Box
- ☑ MP-15 Controller Box
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1037	5.05	173.5	85.6	3.74	14.9	174.7	24.60	400
1040	5.06	171.2	23.1	3.30	15.0	177.4	26.17	400
1043	5.09	171.2	10.6	2.74	15.0	173.8	26.59	400
1046	5.09	171.6	8.1	2.46	15.0	173.1	26.75	400
1048	—	—	—	SAMPLE	—	—	—	—
1109	5.15	170.4	5.8	4.24	14.7	169.5	26.21	400

Purge Cycle (End): 10/5 sec @ 20 psi

Flow Rate (ml/min End): ~400

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.18

Total Purge Volume (Gallons): ~2.0

Purge Water Management: onsite containment

Purge Observations (color, odor, turbidity, sheen): clear grab sample

Purge time: 1032 DTP= 29.25'

Sample Time: 1048

Field Filtered (0.45um): ☐ Yes ☑ No

Sample Parameters/Analyte(s):
- ☐ VSWMR Table 3.1 Column A VOCs
- ☐ VSWMR Table 3.1 Column A Metals
- ☐ VSWMR Table 3.1 Column B
- ☑ Other: 6010/6020 metals, ~~Hg, mm~~, Hg, chloride, fluoride, sulfate, TDS, hardness, phenolics, radium 226/228, total radium, TOC, hex chrome

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 2/19/2020

QA/QC Signature: [signature] Date: 2-19-2020

GOLDER MICROPURGE SAMPLING LOG

Date: 2-14-2020
Weather: clear, 50s

Project Name: Possum Point P.S. Project No./Task No.: 2613977 5.220A.1
Event: ISA20 CCR/VSWMR ABC Pond Sampler(s): C. Joyner
Well ID: ABC-1608 Field Calibration Completed: 2-14-2020 @ 0800
Well Diameter: 2.0 inches Initial Depth to Water: 21.96 feet
Depth to Bottom: — feet Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI PRO DSS 16K101784
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1226	5.92	364.9	63.47	2.57	13.6	102.4	22.97	200
1231	5.86	374.6	27.55	2.11	13.7	70.2	22.98	200
1236	5.89	377.6	10.35	1.70	13.8	63.3	22.99	200
1241	5.89	378.4	7.23	1.77	13.8	61.0	23.10	200
1243	—	—	SAMPLE	—	—	—	—	—
1300	5.95	379.4	3.18	1.46	13.7	56.1	23.05	200

Purge Cycle (End): 24 sec / 16 sec @ 25 psi Flow Rate (ml/min End): 200
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.16
Total Purge Volume (Gallons): ~1.5 Purge Water Management: on-site containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
purge time 1223
Sample Time: 1243 Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [ ] VSWMR Table 3.1 Column A VOCs
- [ ] VSWMR Table 3.1 Column A Metals
- [ ] VSWMR Table 3.1 Column B
- [x] Other: 6010/6020 metals, Chloride, Sulfate, Fluoride, TDS, Phenolics, Radium 226-228 Total, Radium, phenolics, TOC, Hg, hexchrome

Other Observations / Equipment Operation Problems:

Sampler Signature: Caitlyn Joyner Date: 2-14-2020 Page 1 of 1
QA/QC Signature: [signature] Date: 2/19/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 2/19/2020
Weather: cloudy, 40s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: ISA2020 GW - Pond ABC
Sampler(s): M. Antal
Well ID: ABC-1614
Field Calibration Completed: 0800 on 2/19/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 12.72 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- ☑ WL Indicator
- ☐ Turbidity Meter
- ☐ Air Tank
- ☑ Dedicated Bladder Pump
- ☑ YSI ProDSS 19K101420
- ☐ Peristaltic Pump
- ☐ Compressor
- ☐ Non-dedicated BP
- ☐ In-Situ —
- ☐ MP-10 Controller Box
- ☑ MP-15 Controller Box
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1144	6.27	433.7	28.4	6.77	14.2	28.3	15.61	450
1147	6.18	449.0	30.9	4.17	14.2	-2.2	16.35	450
1150	6.19	446.6	39.2	3.30	14.1	-10.8	16.00	200
1155	6.15	432.4	43.7	2.51	14.3	-13.2	16.48	200
1200	6.15	422.0	42.8	1.76	14.2	-15.4	15.90	200
1205	6.14	412.3	31.9	1.17	14.2	-15.3	15.64	200
1210	6.15	406.9	17.2	1.81	14.3	-15.4	15.41	200
1215	6.15	404.2	13.1	1.01	14.2	-15.1	15.35	200
1220	6.15	400.4	8.2	1.01	14.2	-13.9	15.31	200
1222	—	—	—	SAMPLE	—	—	—	—
1320	6.17	377.6	12.8	3.64	13.8	-18.7	14.99	200

Purge Cycle (End): 27/3 sec @ 30 psi
Flow Rate (ml/min End): ~200
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.13
Total Purge Volume (Gallons): ~4.5
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 1139 DTP=21.25' 1150 switch to 5 minute readings
Sample Time: 1222
Field Filtered (0.45um): ☐ Yes ☑ No

Sample Parameters/Analyte(s):
- ☐ VSWMR Table 3.1 Column A VOCs
- ☐ VSWMR Table 3.1 Column A Metals
- ☐ VSWMR Table 3.1 Column B
- ☑ Other: 6010/6020 metals, Hg, chloride, fluoride, sulfate,

Other Observations / Equipment Operation Problems: TDS, hardness, phenolics, radium 226/228, total radium, TOC, hex chrome

Sampler Signature: [signature] Date: 2/19/2020
QA/QC Signature: [signature] Date: 2-19-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 2/19/2020
Weather: cloudy, 40s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: LSA2020 GW-Pond ABC
Sampler(s): M. Antal
Well ID: Duplicate-Pond ABC
Field Calibration Completed: 0800 on 2/19/2020
Well Diameter: — inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- ☑ WL Indicator
- ☐ Turbidity Meter
- ☐ Air Tank
- ☑ Dedicated Bladder Pump
- ☑ YSI ProDSS 19K101420
- ☐ Peristaltic Pump
- ☐ Compressor
- ☐ Non-dedicated BP
- ☐ In-Situ —
- ☐ MP-10 Controller Box
- ☑ MP-15 Controller Box
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (^{o}C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1^{o}C	+/- 10 mV	<0.3 feet	<500
1300				SAMPLE				

Purge Cycle (End): — @ — psi
Flow Rate (ml/min End): —
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —
Total Purge Volume (Gallons): —
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample taken at ABC-1614
See ABC-1614 sampling log for sampling details

Sample Time: 1300
Field Filtered (0.45um): ☐ Yes ☑ No

Sample Parameters/Analyte(s):
- ☐ VSWMR Table 3.1 Column A VOCs
- ☐ VSWMR Table 3.1 Column A Metals
- ☐ VSWMR Table 3.1 Column B
- ☑ Other: 6010/6020 metals, Hg, chloride, fluoride, sulfate,

Other Observations / Equipment Operation Problems: TDS, hardness, phenolics, radium 226/228, total radium, TOC, hex chrome

Sampler Signature: [signature] Date: 2/19/2020 Page 1 of 1

QA/QC Signature: [signature] Date: 2-19-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 2/19/2020
Weather: sun, 40s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: ISA2020GW - Pond ABC
Sampler(s): M. Antal
Well ID: Field Blank - ABC
Field Calibration Completed: 0800 on 2/19/2020
Well Diameter: — inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
☐ WL Indicator ☐ Turbidity Meter ☐ Air Tank ☐ Dedicated Bladder Pump
☐ YSI — ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ — ☐ MP-10 Controller Box ☐ MP-15 Controller Box ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1000	—	—	—	SAMPLE	—	—	—	—

Purge Cycle (End): — @ — psi
Flow Rate (ml/min End): —
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —
Total Purge Volume (Gallons): —
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample taken near ABC-1602 with laboratory provided DI water
Sample Time: 1000
Field Filtered (0.45um): ☐ Yes ☑ No

Sample Parameters/Analyte(s):
☐ VSWMR Table 3.1 Column A VOCs ☐ VSWMR Table 3.1 Column A Metals
☐ VSWMR Table 3.1 Column B
☑ Other: 6010/6020 metals, Hg, chloride, fluoride, sulfate, TDS, hardness, phenolics, radium 226/228, total radium, TOC, hex chrome

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 2/19/2020
QA/QC Signature: [signature] Date: 2-19-2020

APPENDIX D.2
FIELD DATA SHEETS
SECOND SEMI-ANNUAL GROUNDWATER MONITORING EVENT
(AUGUST-SEPTEMBER 2020)

Date: 8/31/2020

GOLDER

WELL GAUGING LOG

Project Name: Possum Point – 2SA2020 ABC Compliance Project No./Task No.: 20139775.220A

Sampler(s): M. Antal

Equipment: Water Level Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary: Protective Casing	Well Casing	Label	Lock	Pad Condition
ABC-1602	MA	1209	15.38	—	✓ OK / Damaged	✓ OK / Damaged	✓ OK / Inadequate	✓ Yes / No	✓ OK / Damaged
ABC-1607	MA	1146	24.70	—	✓ OK / Damaged	✓ OK / Damaged	✓ OK / Inadequate	✓ Yes / No	✓ OK / Damaged
ABC-1608	MA	1142	22.01	—	✓ OK / Damaged	✓ OK / Damaged	✓ OK / Inadequate	✓ Yes / No	✓ OK / Damaged
ABC-1614	MA	1137	12.75	—	✓ OK / Damaged	✓ OK / Damaged	✓ OK / Inadequate	✓ Yes / No	✓ OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged
					OK / Damaged	OK / Damaged	OK / Inadequate	Yes / No	OK / Damaged

Observations/Notes:

Signature: [signature] Date: 8/31/2020

QA/QC Signature: [signature] Date: 8-31-2020

Page 1 of 1

GOLDER

MICROPURGE SAMPLING LOG

Date: 9/2/2020
Weather: cloudy, 70s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: 2SA2020 Gw-ABC Pond
Sampler(s): M. Antal
Well ID: ABC-1602
Field Calibration Completed: 0745 on 9/2/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 15.02 feet
Depth to Bottom: 31.70 feet
Water Column Thickness: 16.68 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 18L104692
- [ ] In-Situ
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ]

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1020	4.53	286.7	9.80	3.41	15.7	148.2	15.16	400
1023	4.48	289.5	8.79	3.51	15.7	158.5	15.21	400
1026	4.46	291.5	8.54	3.17	15.6	167.9	15.20	400
1029	4.44	292.7	9.41	3.20	15.7	175.2	15.24	400
1031					SAMPLE			
1105	4.43	307.2	3.59	2.75	16.0	213.6	15.20	400

Purge Cycle (End): 10/5 sec @ 20 psi
Flow Rate (ml/min End): ~400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (26.50')(0.006) = ~0.16
Total Purge Volume (Gallons): ~4.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 1015 DTP = 26.50'

Sample Time: 1031
Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [x] CCR Appendix III & IV Constituents
- [x] Hexavalent Chromium
- [x] Additional VSWMR: Cu, Ni, Ag, Sn, V, Zn
- [x] Former VPDES: Hardness, Na, K, TOC, Fe, Mn, Phenolics

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 9/2/2020
QA/QC Signature: [signature] Date: 9-2-2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 9-2-2020

Weather: cloudy 70s

Project Name: Possum Point P.S. | Project No./Task No.: 20134775

Event: 2SA2020 CCR | Sampler(s): C. Joyner

Well ID: ABC-1607 | Field Calibration Completed: 9-2-2020 @ 0745

Well Diameter: 2 inches | Initial Depth to Water: 23.31 feet

Depth to Bottom: 34.59 feet | Water Column Thickness: 11.28 feet

Equipment Used:
- [x] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [x] Dedicated Bladder Pump
- [x] YSI ProDSS 16D 19437
- [ ] Peristaltic Pump
- [ ] Compressor
- [ ] Non-dedicated BP
- [ ] In-Situ ____
- [ ] MP-10 Controller Box
- [x] MP-15 Controller Box
- [ ] pcTestr 50 2790687

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0842	5.34	214.0	65.4	4.34	17.3	153.5	24.12	400
0845	5.39	209.6	23.8	3.66	16.9	150.5	24.38	400
0848	5.40	207.8	14.9	3.82	16.7	145.6	24.40	400
0851	5.43	206.1	10.2	3.64	16.7	141.1	24.51	400
0853					SAMPLE			
0925	5.49	189.8	6.9	3.61	17.6	136.5	25.20	400

Purge Cycle (End): 24/6 @ 38 psi | Flow Rate (ml/min End): 400

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 20.17

Total Purge Volume (Gallons): N/ | Purge Water Management: onsite containment

Purge Observations (color, odor, turbidity, sheen): Clear grab sample

Purge time 0840

Sample Time: 0853 | Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [x] CCR Appendix III & IV Constituents
- [x] Hexavalent Chromium
- [x] Additional VSWMR: Cu, Ni, Ag, Sn, V, Zn
- [x] Former VPDES: Hardness, Na, K, TOC, Fe, Mn, Phenolics

Other Observations / Equipment Operation Problems: DTP=79.21

MS/MSD sampled here

Sampler Signature: [signature] | Date: 9-2-2020 | Page 1 of 1

QA/QC Signature: M. Joyner | Date: 9-3-2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 9-2-2020
Weather: Sun 80s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775
Event: 2SA2020 CCR/VSWMR/Hex
Sampler(s): C. Joyner
Well ID: ABL-1608
Field Calibration Completed: 9-2-2020 @ 0745
Well Diameter: 2 inches
Initial Depth to Water: 21.97 feet
Depth to Bottom: 32.67 feet
Water Column Thickness: 10.70 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] pc tester 50279068

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1002	6.37	390.3	9.8	3.56	17.1	65.4	22.20	300
1005	6.08	390.8	12.8	2.28	16.4	58.8	22.05	300
1008	6.13	391.5	12.6	2.02	16.2	60.6	22.02	300
1011	6.09	392.8	8.8	1.81	16.1	62.6	22.00	300
1013	SAMPLE							
1033	~~397.2~~ 6.245	397.2	5.6	3.68	17.5	52.0	22.32	300

Purge Cycle (End): 24/6 @ 20 psi
Flow Rate (ml/min End): 300
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.15
Total Purge Volume (Gallons): ~1
Purge Water Management: Onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
purge time 1000
Sample Time: 1013
Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [x] CCR Appendix III & IV Constituents
- [x] Hexavalent Chromium
- [x] Additional VSWMR: Cu, Ni, Ag, Sn, V, Zn
- [x] Former VPDES: Hardness, Na, K, TOC, Fe, Mn, Phenolics

Other Observations / Equipment Operation Problems: DTP=26.39

Sampler Signature: [signature] Date: 9-2-2020 Page 1 of 1
QA/QC Signature: M. Taylor Date: 9-3-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 9/2/2020
Weather: Cloudy, 70s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: 2SA2020 GW - ABC Pond
Sampler(s): M. Antal
Well ID: ABC-1614
Field Calibration Completed: 0745 on 9/2/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 12.54 feet
Depth to Bottom: 28.15 feet
Water Column Thickness: 15.61 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 18L104692
- [ ] In-Situ _____
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] _____

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0848	5.93	806	17.66	5.07	15.9	25.8	15.90	400
0851	5.91	830	17.23	3.94	15.9	8.8	16.49	400
0854	5.87	836	17.44	2.96	15.7	0.1	17.22	400
0857	5.88	833	44.22	2.53	15.7	-3.6	17.60	400
0900	5.87	833	73.90	2.16	16.2	-6.5	17.22	400
0903	5.89	835	74.22	2.02	15.7	-9.3	17.45	400
0908	5.87	804	25.83	1.58	16.4	-9.4	16.87	200
0913	5.86	801	24.77	1.78	16.6	-9.0	16.23	200
0918	5.86	793	23.99	1.76	16.5	-8.4	15.98	200
0920	SAMPLE							
0945	5.95	764	13.40	1.68	16.5	-12.7	15.73	200
	27/3 sec							

Purge Cycle (End): ~~27/3 sec~~ MA @ 30 psi
Flow Rate (ml/min End): ~ 400
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (21.25')(0.006) = ~0.13
Total Purge Volume (Gallons): ~ 3.5
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 0843 DTP = 21.25' 0903 → switch to 5 min. readings
Sample Time: 0920
Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [x] CCR Appendix III & IV Constituents
- [x] Hexavalent Chromium
- [x] Additional VSWMR: Cu, Ni, Ag, Sn, V, Zn
- [x] Former VPDES: Hardness, Na, K, TOC, Fe, Mn, Phenolics

Other Observations / Equipment Operation Problems:

Sampler Signature: _____ Date: 9/2/2020
QA/QC Signature: _____ Date: 9-3-2020

MICROPURGE SAMPLING LOG

GOLDER

Date: 9-2-2020
Weather: Cloudy 70s

Project Name: Possum Point P.S. Project No./Task No.: 20139775
Event: 2SA2020 CCR/VSWMR/HexCr Sampler(s): C. Joyner
Well ID: ABC-Field Blank Field Calibration Completed: 9-2-2020 @ 0945
Well Diameter: — inches Initial Depth to Water: — feet
Depth to Bottom: — feet Water Column Thickness: — feet
Equipment Used: ☐ WL Indicator ☐ Turbidity Meter ☐ Air Tank ☐ Dedicated Bladder Pump
☐ YSI — ☐ Peristaltic Pump ☐ Compressor ☐ Non-dedicated BP
☐ In-Situ — ☐ MP-10 Controller Box ☐ MP-15 Controller Box ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0945	—	—	—	SAMPLE	—	—	—	—

Purge Cycle (End): — @ — psi Flow Rate (ml/min End): —
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —
Total Purge Volume (Gallons): — Purge Water Management: —
Purge Observations (color, odor, turbidity, sheen): Clear grab sample taken near ABC-160. using lab provided DI Water
Sample Time: 0945 Field Filtered (0.45um): ☐ Yes ☒ No
Sample Parameters/Analyte(s): ☒ CCR Appendix III & IV Constituents ☒ Hexavalent Chromium
☒ Additional VSWMR: Cu, Ni, Ag, Sn, V, Zn
☒ Former VPDES: Hardness, Na, K, TOC, Fe, Mn, Phenolics

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 9-2-2020 Page 1 of 1
QA/QC Signature: M. Jaylen Date: 9-3-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 9/2/2020
Weather: cloudy, 70s

Project Name: Possum Point P.S.
Project No./Task No.: 20139775.220A.1
Event: 2SA2020 GW-ABC Pond
Sampler(s): M. Antal
Well ID: ABC-Duplicate
Field Calibration Completed: 0745 on 9/2/2020
Well Diameter: 2.0 inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 18L104692
- [ ] In-Situ —
- [ ] Turbidity Meter
- [ ] Peristaltic Pump
- [ ] MP-10 Controller Box
- [ ] Air Tank
- [ ] Compressor
- [x] MP-15 Controller Box
- [x] Dedicated Bladder Pump
- [ ] Non-dedicated BP
- [ ] —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)°C	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1045	—	—	—	—	SAMPLE	—	—	—

Purge Cycle (End): — @ — psi
Flow Rate (ml/min End): —
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —
Total Purge Volume (Gallons): —
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample taken at ABC-1602
Sampled ABC-Duplicate at ABC-1602. See ABC-1602 sampling log for details.
Sample Time: 1045
Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [x] CCR Appendix III & IV Constituents
- [x] Hexavalent Chromium
- [x] Additional VSWMR: Cu, Ni, Ag, Sn, V, Zn
- [x] Former VPDES: Hardness, Na, K, TOC, Fe, Mn, Phenolics

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 9/2/2020
QA/QC Signature: [signature] Date: 9-3-2020

APPENDIX D.3
FIELD DATA SHEETS
SECOND SEMI-ANNUAL VERIFICATION GROUNDWATER MONITORING EVENT
(OCTOBER 2020)

GOLDER

MICROPURGE SAMPLING LOG

Date: 10/15/2020

Weather: Sun, 60s

Project Name: Possum Point PS

Project No./Task No.: 20139775 ~~20139454~~ 05

Event: 2SA20 CCR+VSWMR verification

Sampler(s): D. Steele

Well ID: ABC-1608

Field Calibration Completed: 10/15/2020 @ 0930

Well Diameter: 2.0 inches

Initial Depth to Water: 21.95 feet

Depth to Bottom: 32.68 feet

Water Column Thickness: 10.73 feet

Equipment Used:
- [X] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [X] Dedicated Bladder Pump
- [X] YSI ProDSS19E104104
- [ ] Peristaltic Pump
- [ ] Compressor
- [ ] Non-dedicated BP
- [ ] In-Situ ———
- [ ] MP-10 Controller Box
- [X] MP-15 Controller Box
- [ ] ———

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
1100	5.64	382.5	33.74	~~2.36~~ 2.66	15.6	127.3	22.45	300
1103	5.66	387.5	15.97	1.30	15.2	102.7	22.80	300
1106	5.67	388.4	13.44	1.20	15.1	98.8	22.85	300
1109	5.68	388.8	9.84	1.06	15.1	94.5	22.91	300
1112	—	—	SAMPLE	—	—	—	—	—
1115	5.86	393.3	8.77	1.86	15.2	82.5	22.93	300

Purge Cycle (End): 24/6 seconds @ 20 psi Flow Rate (ml/min End): 300

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.15

Total Purge Volume (Gallons): ~1.0 Purge Water Management: onsite containment

Purge Observations (color, odor, turbidity, sheen): clear grab sample

purge time: 1058

Sample Time: 1112 Field Filtered (0.45um): [X] Yes [ ] No

Sample Parameters/Analyte(s):
- [ ] VSWMR Table 3.1 Column A VOCs
- [ ] VSWMR Table 3.1 Column A Metals
- [ ] VSWMR Table 3.1 Column B
- [X] Other: Cobalt (total + dissolved)

Other Observations / Equipment Operation Problems: DTP=26.39'

Sampler Signature: [signature] Date: 10/15/2020 Page 1 of 1

QA/QC Signature: M. Fayh Date: 10/16/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 10/15/2020

Weather: Sun, 60s

Project Name: Possum Point PS

Project No./Task No.: 20139775

Event: 2SA20 CCR+VSWMR Verification

Sampler(s): O. Steele

Well ID: Field Blank - Arsenic + Cobalt

Field Calibration Completed: 10/15/2020 @ 0930

Well Diameter: — inches

Initial Depth to Water: — feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- ☐ WL Indicator
- ☐ Turbidity Meter
- ☐ Air Tank
- ☐ Dedicated Bladder Pump
- ☐ YSI —
- ☐ Peristaltic Pump
- ☐ Compressor
- ☐ Non-dedicated BP
- ☐ In-Situ —
- ☐ MP-10 Controller Box
- ☐ MP-15 Controller Box
- ☐ —

Time (5 minute int.)	pH (S.U.)	Sp. Cond. (uS/cm)^{oC}	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0935	—	—	SAMPLE	—	—	—	—	—

Purge Cycle (End): — seconds @ — psi

Flow Rate (ml/min End): —

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): —

Total Purge Volume (Gallons): —

Purge Water Management: —

Purge Observations (color, odor, turbidity, sheen): — clear grab sample taken with laboratory supplied DI water. Sample taken near ED-1612

Sample Time: —

Field Filtered (0.45um): ☐ Yes ☒ No

Sample Parameters/Analyte(s):
- ☐ VSWMR Table 3.1 Column A VOCs
- ☐ VSWMR Table 3.1 Column A Metals
- ☐ VSWMR Table 3.1 Column B
- ☒ Other: Arsenic (total), Cobalt (total)

Other Observations / Equipment Operation Problems: —

Sampler Signature: [signature] Date: 10/15/2020

QA/QC Signature: M. Taylor Date: 10-16-2020

APPENDIX E
LABORATORY ANALYTICAL RESULTS

APPENDIX E.1
LABORATORY ANALYTICAL RESULTS
FIRST SEMI-ANNUAL GROUNDWATER MONITORING EVENT
(FEBRUARY 2020)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

April 10, 2020

Mike Williams
Golder Associates
2108 W Laburnum Ave
Suite 200
Richmond, VA 23227

RE: Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory on February 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 - Ormond Beach
- Pace Analytical Services - Greensburg

This revision was issued on 4/10/20 to remove magnesium from sample ABC-1602.

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

Sincerely,

Nicole Gasiorowski

Nicole Gasiorowski
nicole.gasiorowski@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Craig LaCosse, Golder Associates Inc.
Rachel Powell, Golder Associates
Amanda Reynolds, Golder Associates
Martha Smith, Golder Associates Inc.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

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

Pace Analytical Services Ormond Beach
8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92466164001	**ABC-1602**	Water	02/19/20 09:08	02/19/20 15:20
92466164002	**ABC-1607**	Water	02/19/20 10:48	02/19/20 15:20
92466164003	**ABC-1608**	Water	02/19/20 12:43	02/19/20 15:20
92466164004	**ABC-1614**	Water	02/19/20 12:22	02/19/20 15:20
92466164005	**ABC-Duplicate**	Water	02/19/20 13:00	02/19/20 15:20
92466164006	**ABC-Field Blank**	Water	02/19/20 10:00	02/19/20 15:20

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92466164001	**ABC-1602**	EPA 6010D	DS, RDT	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C-2011	CJL	1	PASI-A
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	ECH	5	PASI-A
		EPA 9066	KLT	1	PASI-O
92466164002	**ABC-1607**	EPA 6010D	DS, RDT	16	PASI-A
		EPA 6020B	BG2, JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C-2011	CJL	1	PASI-A
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	ECH	5	PASI-A
		EPA 9066	KLT	1	PASI-O
92466164003	**ABC-1608**	EPA 6010D	DS, RDT	16	PASI-A
		EPA 6020B	BG2, JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C-2011	CJL	1	PASI-A
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	ECH	5	PASI-A
		EPA 9066	KLT	1	PASI-O
92466164004	**ABC-1614**	EPA 6010D	DS, RDT	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C-2011	CJL	1	PASI-A

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	ECH	5	PASI-A
		EPA 9066	KLT	1	PASI-O
92466164005	**ABC-Duplicate**	EPA 6010D	DS, RDT	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C-2011	CJL	1	PASI-A
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	ECH	5	PASI-A
		EPA 9066	KLT	1	PASI-O
92466164006	**ABC-Field Blank**	EPA 6010D	DS, RDT	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		SM 2540C-2011	MJP	1	PASI-A
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	ECH	5	PASI-A
		EPA 9066	KLT	1	PASI-O

PASI-A = Pace Analytical Services - Asheville
PASI-O = Pace Analytical Services - Ormond Beach
PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466164001	**ABC-1602**					
EPA 6010D	Barium	67.9	ug/L	5.0	03/03/20 19:18	
EPA 6010D	Beryllium	0.68J	ug/L	1.0	03/03/20 19:18	
EPA 6010D	Calcium	7.1	mg/L	0.10	03/03/20 19:18	
EPA 6010D	Chromium	1.3J	ug/L	5.0	03/03/20 19:18	
EPA 6010D	Copper	7.7	ug/L	5.0	03/03/20 19:18	
EPA 6010D	Nickel	7.8	ug/L	5.0	03/03/20 19:18	
EPA 6010D	Hardness, Total(SM 2340B)	36300	ug/L	662	03/03/20 19:18	
EPA 6010D	Zinc	4.0J	ug/L	10.0	03/03/20 19:18	
EPA 6020B	Cobalt	15.0	ug/L	0.10	03/05/20 05:07	
EPA 6020B	Iron	55.6	ug/L	50.0	03/05/20 05:07	
EPA 6020B	Lead	0.12	ug/L	0.10	03/05/20 05:07	B,BC
EPA 6020B	Lithium	11.6	ug/L	2.5	03/05/20 05:07	
EPA 6020B	Manganese	200	ug/L	0.50	03/05/20 05:07	
EPA 6020B	Potassium	6450	ug/L	50.0	03/05/20 05:07	M1
EPA 6020B	Sodium	8240	ug/L	250	03/05/20 05:07	M1
EPA 9315	Radium-226	1.91 ± 0.635 (0.617) C:76% T:NA	pCi/L		02/27/20 07:53	
EPA 9320	Radium-228	0.884 ± 0.500 (0.915) C:77% T:78%	pCi/L		03/06/20 14:57	
Total Radium Calculation	Total Radium	2.79 ± 1.14 (1.53)	pCi/L		03/09/20 10:17	
SM 2540C-2011	Total Dissolved Solids	131	mg/L	25.0	02/24/20 16:54	
EPA 9056A	Chloride	2.9	mg/L	1.0	02/25/20 07:35	
EPA 9056A	Sulfate	56.7	mg/L	1.0	02/25/20 07:35	M1
EPA 9066	Phenolics, Total Recoverable	0.0064J	mg/L	0.010	03/05/20 17:29	M1
92466164002	**ABC-1607**					
EPA 6010D	Barium	50.6	ug/L	5.0	03/03/20 19:36	
EPA 6010D	Boron	0.19	mg/L	0.050	03/03/20 19:36	
EPA 6010D	Calcium	7.1	mg/L	0.10	03/03/20 19:36	
EPA 6010D	Nickel	10.7	ug/L	5.0	03/03/20 19:36	
EPA 6010D	Hardness, Total(SM 2340B)	33100	ug/L	662	03/03/20 19:36	
EPA 6010D	Zinc	21.3	ug/L	10.0	03/03/20 19:36	
EPA 6020B	Cobalt	8.7	ug/L	0.10	03/07/20 02:01	
EPA 6020B	Iron	1740	ug/L	50.0	03/07/20 02:01	
EPA 6020B	Lead	0.088J	ug/L	0.10	03/07/20 02:01	B,BC
EPA 6020B	Lithium	3.9	ug/L	2.5	03/07/20 02:01	
EPA 6020B	Manganese	181	ug/L	0.50	03/07/20 02:01	
EPA 6020B	Potassium	2060	ug/L	50.0	03/07/20 02:01	
EPA 6020B	Sodium	14000	ug/L	5000	03/09/20 12:42	
EPA 6020B	Tin	0.091J	ug/L	0.50	03/07/20 02:01	
EPA 9315	Radium-226	0.726 ± 0.356 (0.448) C:90% T:NA	pCi/L		02/27/20 07:53	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466164002	**ABC-1607**					
EPA 9320	Radium-228	1.03 ± 0.544 (0.964) C:75% T:76%	pCi/L		03/06/20 14:57	
Total Radium Calculation	Total Radium	1.76 ± 0.900 (1.41)	pCi/L		03/09/20 10:17	
SM 2540C-2011	Total Dissolved Solids	123	mg/L	25.0	02/24/20 16:54	
EPA 9056A	Chloride	18.7	mg/L	1.0	02/25/20 09:18	
EPA 9056A	Fluoride	0.063J	mg/L	0.10	02/25/20 09:18	
EPA 9056A	Sulfate	33.5	mg/L	1.0	02/25/20 09:18	
EPA 9060A	Total Organic Carbon	0.71J	mg/L	1.0	02/25/20 18:30	
EPA 9060A	Total Organic Carbon	0.63J	mg/L	1.0	02/25/20 18:30	
EPA 9060A	Total Organic Carbon	0.62J	mg/L	1.0	02/25/20 18:30	
EPA 9060A	Total Organic Carbon	0.57J	mg/L	1.0	02/25/20 18:30	
EPA 9060A	Mean Total Organic Carbon	0.63J	mg/L	1.0	02/25/20 18:30	
92466164003	**ABC-1608**					
EPA 6010D	Arsenic	5.8J	ug/L	10.0	03/05/20 00:38	
EPA 6010D	Barium	64.2	ug/L	5.0	03/03/20 19:39	
EPA 6010D	Boron	0.22	mg/L	0.050	03/03/20 19:39	
EPA 6010D	Calcium	20.6	mg/L	0.10	03/03/20 19:39	
EPA 6010D	Molybdenum	2.0J	ug/L	5.0	03/03/20 19:39	
EPA 6010D	Nickel	18.0	ug/L	5.0	03/03/20 19:39	
EPA 6010D	Hardness, Total(SM 2340B)	90400	ug/L	662	03/03/20 19:39	
EPA 6010D	Zinc	9.6J	ug/L	10.0	03/03/20 19:39	
EPA 6020B	Cobalt	23.5	ug/L	0.10	03/07/20 02:06	
EPA 6020B	Iron	5660	ug/L	50.0	03/07/20 02:06	
EPA 6020B	Lead	0.071J	ug/L	0.10	03/07/20 02:06	B,BC
EPA 6020B	Lithium	13.6	ug/L	2.5	03/07/20 02:06	
EPA 6020B	Manganese	164	ug/L	0.50	03/07/20 02:06	
EPA 6020B	Potassium	3840	ug/L	50.0	03/07/20 02:06	
EPA 6020B	Sodium	33400	ug/L	5000	03/09/20 12:46	
EPA 9315	Radium-226	0.983 ± 0.442 (0.608) C:92% T:NA	pCi/L		02/27/20 07:53	
EPA 9320	Radium-228	1.02 ± 0.560 (1.01) C:73% T:73%	pCi/L		03/06/20 14:57	
Total Radium Calculation	Total Radium	2.00 ± 1.00 (1.62)	pCi/L		03/09/20 10:17	
SM 2540C-2011	Total Dissolved Solids	241	mg/L	25.0	02/24/20 16:54	
EPA 9056A	Chloride	53.2	mg/L	1.0	02/25/20 09:33	
EPA 9056A	Fluoride	0.068J	mg/L	0.10	02/25/20 09:33	
EPA 9056A	Sulfate	28.1	mg/L	1.0	02/25/20 09:33	
EPA 9060A	Total Organic Carbon	1.2	mg/L	1.0	02/25/20 18:47	
EPA 9060A	Total Organic Carbon	1.3	mg/L	1.0	02/25/20 18:47	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466164003	**ABC-1608**					
EPA 9060A	Total Organic Carbon	1.3	mg/L	1.0	02/25/20 18:47	
EPA 9060A	Total Organic Carbon	1.2	mg/L	1.0	02/25/20 18:47	
EPA 9060A	Mean Total Organic Carbon	1.2	mg/L	1.0	02/25/20 18:47	
92466164004	**ABC-1614**					
EPA 6010D	Arsenic	44.4	ug/L	10.0	03/05/20 00:41	
EPA 6010D	Barium	175	ug/L	5.0	03/03/20 19:42	
EPA 6010D	Boron	0.20	mg/L	0.050	03/03/20 19:42	
EPA 6010D	Calcium	24.0	mg/L	0.10	03/03/20 19:42	
EPA 6010D	Nickel	14.8	ug/L	5.0	03/03/20 19:42	
EPA 6010D	Hardness, Total(SM 2340B)	97000	ug/L	662	03/03/20 19:42	
EPA 6010D	Vanadium	1.4J	ug/L	5.0	03/03/20 19:42	
EPA 6020B	Cobalt	19.9	ug/L	0.10	03/07/20 02:10	
EPA 6020B	Iron	28300	ug/L	50.0	03/07/20 02:10	
EPA 6020B	Lead	0.18	ug/L	0.10	03/07/20 02:10	B,BC
EPA 6020B	Lithium	15.7	ug/L	2.5	03/07/20 02:10	
EPA 6020B	Manganese	312	ug/L	0.50	03/07/20 02:10	
EPA 6020B	Potassium	4240	ug/L	50.0	03/07/20 02:10	
EPA 6020B	Sodium	22100	ug/L	5000	03/11/20 15:07	
EPA 9315	Radium-226	1.22 ± 0.446 (0.399) C:90% T:NA	pCi/L		02/27/20 07:54	
EPA 9320	Radium-228	0.299 ± 0.468 (1.01) C:73% T:77%	pCi/L		03/06/20 14:57	
Total Radium Calculation	Total Radium	1.52 ± 0.914 (1.41)	pCi/L		03/09/20 10:17	
SM 2540C-2011	Total Dissolved Solids	242	mg/L	25.0	02/24/20 16:54	
EPA 9056A	Chloride	15.0	mg/L	1.0	02/25/20 09:48	
EPA 9056A	Fluoride	0.057J	mg/L	0.10	02/25/20 09:48	
EPA 9056A	Sulfate	39.3	mg/L	1.0	02/25/20 09:48	
EPA 9060A	Total Organic Carbon	2.7	mg/L	1.0	02/25/20 19:04	
EPA 9060A	Total Organic Carbon	2.7	mg/L	1.0	02/25/20 19:04	
EPA 9060A	Total Organic Carbon	2.9	mg/L	1.0	02/25/20 19:04	
EPA 9060A	Total Organic Carbon	2.8	mg/L	1.0	02/25/20 19:04	
EPA 9060A	Mean Total Organic Carbon	2.8	mg/L	1.0	02/25/20 19:04	
EPA 9066	Phenolics, Total Recoverable	0.012	mg/L	0.010	03/05/20 17:40	
92466164005	**ABC-Duplicate**					
EPA 6010D	Arsenic	43.7	ug/L	10.0	03/05/20 00:44	
EPA 6010D	Barium	167	ug/L	5.0	03/03/20 19:45	
EPA 6010D	Boron	0.19	mg/L	0.050	03/03/20 19:45	
EPA 6010D	Calcium	23.4	mg/L	0.10	03/03/20 19:45	
EPA 6010D	Molybdenum	0.99J	ug/L	5.0	03/03/20 19:45	
EPA 6010D	Nickel	14.5	ug/L	5.0	03/03/20 19:45	
EPA 6010D	Hardness, Total(SM 2340B)	94200	ug/L	662	03/03/20 19:45	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92466164005	**ABC-Duplicate**					
EPA 6010D	Vanadium	1.3J	ug/L	5.0	03/03/20 19:45	
EPA 6020B	Cobalt	19.8	ug/L	0.10	03/07/20 02:15	
EPA 6020B	Iron	28300	ug/L	50.0	03/07/20 02:15	
EPA 6020B	Lead	0.13	ug/L	0.10	03/07/20 02:15	B,BC
EPA 6020B	Lithium	16.5	ug/L	2.5	03/07/20 02:15	
EPA 6020B	Manganese	312	ug/L	0.50	03/07/20 02:15	
EPA 6020B	Potassium	4360	ug/L	50.0	03/07/20 02:15	
EPA 6020B	Sodium	22000	ug/L	5000	03/11/20 15:11	
EPA 9315	Radium-226	0.696 ± 0.332 (0.373) C:93% T:NA	pCi/L		02/27/20 07:54	
EPA 9320	Radium-228	0.375 ± 0.403 (0.839) C:74% T:81%	pCi/L		03/06/20 14:57	
Total Radium Calculation	Total Radium	1.07 ± 0.735 (1.21)	pCi/L		03/09/20 10:17	
SM 2540C-2011	Total Dissolved Solids	246	mg/L	25.0	02/24/20 16:54	
EPA 9056A	Chloride	15.0	mg/L	1.0	02/25/20 10:03	
EPA 9056A	Fluoride	0.064J	mg/L	0.10	02/25/20 10:03	
EPA 9056A	Sulfate	39.8	mg/L	1.0	02/25/20 10:03	
EPA 9060A	Total Organic Carbon	2.4	mg/L	1.0	02/25/20 19:58	
EPA 9060A	Total Organic Carbon	2.4	mg/L	1.0	02/25/20 19:58	
EPA 9060A	Total Organic Carbon	2.6	mg/L	1.0	02/25/20 19:58	
EPA 9060A	Total Organic Carbon	2.5	mg/L	1.0	02/25/20 19:58	
EPA 9060A	Mean Total Organic Carbon	2.5	mg/L	1.0	02/25/20 19:58	
92466164006	**ABC-Field Blank**					
EPA 6020B	Manganese	0.46J	ug/L	0.50	03/07/20 02:19	B
EPA 6020B	Sodium	41.0J	ug/L	250	03/07/20 02:19	B
EPA 9315	Radium-226	0.359 ± 0.269 (0.449) C:93% T:NA	pCi/L		02/27/20 07:54	
EPA 9320	Radium-228	-0.109 ± 0.383 (0.923) C:76% T:72%	pCi/L		03/06/20 14:57	
Total Radium Calculation	Total Radium	0.359 ± 0.652 (1.37)	pCi/L		03/09/20 10:17	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1602 **Lab ID: 92466164001** Collected: 02/19/20 09:08 Received: 02/19/20 15:20 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								
Antimony	ND	ug/L	5.0	3.0	1	02/28/20 00:55	03/03/20 19:18	7440-36-0	
Arsenic	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/05/20 00:10	7440-38-2	
Barium	**67.9**	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:18	7440-39-3	
Beryllium	**0.68J**	ug/L	1.0	0.20	1	02/28/20 00:55	03/03/20 19:18	7440-41-7	
Boron	ND	mg/L	0.050	0.0066	1	02/28/20 00:55	03/03/20 19:18	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	02/28/20 00:55	03/03/20 19:18	7440-43-9	
Calcium	**7.1**	mg/L	0.10	0.024	1	02/28/20 00:55	03/03/20 19:18	7440-70-2	
Chromium	**1.3J**	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:18	7440-47-3	
Copper	**7.7**	ug/L	5.0	2.1	1	02/28/20 00:55	03/03/20 19:18	7440-50-8	
Molybdenum	ND	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:18	7439-98-7	
Nickel	**7.8**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:18	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/03/20 19:18	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	02/28/20 00:55	03/03/20 19:18	7440-22-4	
Hardness, Total(SM 2340B)	**36300**	ug/L	662	131	1	02/28/20 00:55	03/03/20 19:18		
Vanadium	ND	ug/L	5.0	1.3	1	02/28/20 00:55	03/03/20 19:18	7440-62-2	
Zinc	**4.0J**	ug/L	10.0	3.9	1	02/28/20 00:55	03/03/20 19:18	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**15.0**	ug/L	0.10	0.050	1	02/28/20 01:57	03/05/20 05:07	7440-48-4	
Iron	**55.6**	ug/L	50.0	7.5	1	02/28/20 01:57	03/05/20 05:07	7439-89-6	
Lead	**0.12**	ug/L	0.10	0.050	1	02/28/20 01:57	03/05/20 05:07	7439-92-1	B,BC
Lithium	**11.6**	ug/L	2.5	0.42	1	02/28/20 01:57	03/05/20 05:07	7439-93-2	
Manganese	**200**	ug/L	0.50	0.14	1	02/28/20 01:57	03/05/20 05:07	7439-96-5	
Potassium	**6450**	ug/L	50.0	6.2	1	02/28/20 01:57	03/05/20 05:07	7440-09-7	M1
Sodium	**8240**	ug/L	250	14.3	1	02/28/20 01:57	03/05/20 05:07	7440-23-5	M1
Thallium	ND	ug/L	0.10	0.060	1	02/28/20 01:57	03/05/20 05:07	7440-28-0	
Tin	ND	ug/L	0.50	0.090	1	02/28/20 01:57	03/05/20 05:07	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.10	1	02/26/20 14:37	02/28/20 11:41	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**131**	mg/L	25.0	25.0	1		02/24/20 16:54		
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**2.9**	mg/L	1.0	0.60	1		02/25/20 07:35	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/25/20 07:35	16984-48-8	M1,R1
Sulfate	**56.7**	mg/L	1.0	0.50	1		02/25/20 07:35	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1602 **Lab ID: 92466164001** Collected: 02/19/20 09:08 Received: 02/19/20 15:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 13:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 13:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 13:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 13:57	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 13:57	7440-44-0	
9066 Phenolics, Total	Analytical Method: EPA 9066 Preparation Method: EPA 9066 Pace Analytical Services - Ormond Beach								
Phenolics, Total Recoverable	**0.0064J**	mg/L	0.010	0.0050	1	03/04/20 11:15	03/05/20 17:29	64743-03-9	M1

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1607 **Lab ID: 92466164002** Collected: 02/19/20 10:48 Received: 02/19/20 15:20 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								
Antimony	ND	ug/L	5.0	3.0	1	02/28/20 00:55	03/03/20 19:36	7440-36-0	
Arsenic	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/05/20 00:35	7440-38-2	
Barium	**50.6**	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:36	7440-39-3	
Beryllium	ND	ug/L	1.0	0.20	1	02/28/20 00:55	03/03/20 19:36	7440-41-7	
Boron	**0.19**	mg/L	0.050	0.0066	1	02/28/20 00:55	03/03/20 19:36	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	02/28/20 00:55	03/03/20 19:36	7440-43-9	
Calcium	**7.1**	mg/L	0.10	0.024	1	02/28/20 00:55	03/03/20 19:36	7440-70-2	
Chromium	ND	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:36	7440-47-3	
Copper	ND	ug/L	5.0	2.1	1	02/28/20 00:55	03/03/20 19:36	7440-50-8	
Molybdenum	ND	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:36	7439-98-7	
Nickel	**10.7**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:36	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/03/20 19:36	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	02/28/20 00:55	03/03/20 19:36	7440-22-4	
Hardness, Total(SM 2340B)	**33100**	ug/L	662	131	1	02/28/20 00:55	03/03/20 19:36		
Vanadium	ND	ug/L	5.0	1.3	1	02/28/20 00:55	03/03/20 19:36	7440-62-2	
Zinc	**21.3**	ug/L	10.0	3.9	1	02/28/20 00:55	03/03/20 19:36	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**8.7**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:01	7440-48-4	
Iron	**1740**	ug/L	50.0	7.5	1	02/28/20 01:57	03/07/20 02:01	7439-89-6	
Lead	**0.088J**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:01	7439-92-1	B,BC
Lithium	**3.9**	ug/L	2.5	0.42	1	02/28/20 01:57	03/07/20 02:01	7439-93-2	
Manganese	**181**	ug/L	0.50	0.14	1	02/28/20 01:57	03/07/20 02:01	7439-96-5	
Potassium	**2060**	ug/L	50.0	6.2	1	02/28/20 01:57	03/07/20 02:01	7440-09-7	
Sodium	**14000**	ug/L	5000	285	20	02/28/20 01:57	03/09/20 12:42	7440-23-5	
Thallium	ND	ug/L	0.10	0.060	1	02/28/20 01:57	03/07/20 02:01	7440-28-0	
Tin	**0.091J**	ug/L	0.50	0.090	1	02/28/20 01:57	03/07/20 02:01	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.10	1	02/26/20 14:37	02/28/20 12:25	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**123**	mg/L	25.0	25.0	1		02/24/20 16:54		
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**18.7**	mg/L	1.0	0.60	1		02/25/20 09:18	16887-00-6	
Fluoride	**0.063J**	mg/L	0.10	0.050	1		02/25/20 09:18	16984-48-8	
Sulfate	**33.5**	mg/L	1.0	0.50	1		02/25/20 09:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1607 **Lab ID: 92466164002** Collected: 02/19/20 10:48 Received: 02/19/20 15:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**0.71J**	mg/L	1.0	0.50	1		02/25/20 18:30	7440-44-0	
Total Organic Carbon	**0.63J**	mg/L	1.0	0.50	1		02/25/20 18:30	7440-44-0	
Total Organic Carbon	**0.62J**	mg/L	1.0	0.50	1		02/25/20 18:30	7440-44-0	
Total Organic Carbon	**0.57J**	mg/L	1.0	0.50	1		02/25/20 18:30	7440-44-0	
Mean Total Organic Carbon	**0.63J**	mg/L	1.0	0.50	1		02/25/20 18:30	7440-44-0	
9066 Phenolics, Total	Analytical Method: EPA 9066 Preparation Method: EPA 9066 Pace Analytical Services - Ormond Beach								
Phenolics, Total Recoverable	ND	mg/L	0.010	0.0050	1	03/04/20 11:15	03/05/20 17:39	64743-03-9	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1608 **Lab ID: 92466164003** Collected: 02/19/20 12:43 Received: 02/19/20 15:20 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								
Antimony	ND	ug/L	5.0	3.0	1	02/28/20 00:55	03/03/20 19:39	7440-36-0	
Arsenic	**5.8J**	ug/L	10.0	4.7	1	02/28/20 00:55	03/05/20 00:38	7440-38-2	
Barium	**64.2**	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:39	7440-39-3	
Beryllium	ND	ug/L	1.0	0.20	1	02/28/20 00:55	03/03/20 19:39	7440-41-7	
Boron	**0.22**	mg/L	0.050	0.0066	1	02/28/20 00:55	03/03/20 19:39	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	02/28/20 00:55	03/03/20 19:39	7440-43-9	
Calcium	**20.6**	mg/L	0.10	0.024	1	02/28/20 00:55	03/03/20 19:39	7440-70-2	
Chromium	ND	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:39	7440-47-3	
Copper	ND	ug/L	5.0	2.1	1	02/28/20 00:55	03/03/20 19:39	7440-50-8	
Molybdenum	**2.0J**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:39	7439-98-7	
Nickel	**18.0**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:39	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/03/20 19:39	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	02/28/20 00:55	03/03/20 19:39	7440-22-4	
Hardness, Total(SM 2340B)	**90400**	ug/L	662	131	1	02/28/20 00:55	03/03/20 19:39		
Vanadium	ND	ug/L	5.0	1.3	1	02/28/20 00:55	03/03/20 19:39	7440-62-2	
Zinc	**9.6J**	ug/L	10.0	3.9	1	02/28/20 00:55	03/03/20 19:39	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**23.5**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:06	7440-48-4	
Iron	**5660**	ug/L	50.0	7.5	1	02/28/20 01:57	03/07/20 02:06	7439-89-6	
Lead	**0.071J**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:06	7439-92-1	B,BC
Lithium	**13.6**	ug/L	2.5	0.42	1	02/28/20 01:57	03/07/20 02:06	7439-93-2	
Manganese	**164**	ug/L	0.50	0.14	1	02/28/20 01:57	03/07/20 02:06	7439-96-5	
Potassium	**3840**	ug/L	50.0	6.2	1	02/28/20 01:57	03/07/20 02:06	7440-09-7	
Sodium	**33400**	ug/L	5000	285	20	02/28/20 01:57	03/09/20 12:46	7440-23-5	
Thallium	ND	ug/L	0.10	0.060	1	02/28/20 01:57	03/07/20 02:06	7440-28-0	
Tin	ND	ug/L	0.50	0.090	1	02/28/20 01:57	03/07/20 02:06	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.10	1	02/26/20 14:37	02/28/20 12:27	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**241**	mg/L	25.0	25.0	1		02/24/20 16:54		
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**53.2**	mg/L	1.0	0.60	1		02/25/20 09:33	16887-00-6	
Fluoride	**0.068J**	mg/L	0.10	0.050	1		02/25/20 09:33	16984-48-8	
Sulfate	**28.1**	mg/L	1.0	0.50	1		02/25/20 09:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1608 **Lab ID: 92466164003** Collected: 02/19/20 12:43 Received: 02/19/20 15:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**1.2**	mg/L	1.0	0.50	1		02/25/20 18:47	7440-44-0	
Total Organic Carbon	**1.3**	mg/L	1.0	0.50	1		02/25/20 18:47	7440-44-0	
Total Organic Carbon	**1.3**	mg/L	1.0	0.50	1		02/25/20 18:47	7440-44-0	
Total Organic Carbon	**1.2**	mg/L	1.0	0.50	1		02/25/20 18:47	7440-44-0	
Mean Total Organic Carbon	**1.2**	mg/L	1.0	0.50	1		02/25/20 18:47	7440-44-0	
9066 Phenolics, Total	Analytical Method: EPA 9066 Preparation Method: EPA 9066 Pace Analytical Services - Ormond Beach								
Phenolics, Total Recoverable	ND	mg/L	0.010	0.0050	1	03/04/20 11:15	03/05/20 17:42	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1614 **Lab ID: 92466164004** Collected: 02/19/20 12:22 Received: 02/19/20 15:20 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								
Antimony	ND	ug/L	5.0	3.0	1	02/28/20 00:55	03/03/20 19:42	7440-36-0	
Arsenic	**44.4**	ug/L	10.0	4.7	1	02/28/20 00:55	03/05/20 00:41	7440-38-2	
Barium	**175**	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:42	7440-39-3	
Beryllium	ND	ug/L	1.0	0.20	1	02/28/20 00:55	03/03/20 19:42	7440-41-7	
Boron	**0.20**	mg/L	0.050	0.0066	1	02/28/20 00:55	03/03/20 19:42	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	02/28/20 00:55	03/03/20 19:42	7440-43-9	
Calcium	**24.0**	mg/L	0.10	0.024	1	02/28/20 00:55	03/03/20 19:42	7440-70-2	
Chromium	ND	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:42	7440-47-3	
Copper	ND	ug/L	5.0	2.1	1	02/28/20 00:55	03/03/20 19:42	7440-50-8	
Molybdenum	ND	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:42	7439-98-7	
Nickel	**14.8**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:42	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/03/20 19:42	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	02/28/20 00:55	03/03/20 19:42	7440-22-4	
Hardness, Total(SM 2340B)	**97000**	ug/L	662	131	1	02/28/20 00:55	03/03/20 19:42		
Vanadium	**1.4J**	ug/L	5.0	1.3	1	02/28/20 00:55	03/03/20 19:42	7440-62-2	
Zinc	ND	ug/L	10.0	3.9	1	02/28/20 00:55	03/03/20 19:42	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**19.9**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:10	7440-48-4	
Iron	**28300**	ug/L	50.0	7.5	1	02/28/20 01:57	03/07/20 02:10	7439-89-6	
Lead	**0.18**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:10	7439-92-1	B,BC
Lithium	**15.7**	ug/L	2.5	0.42	1	02/28/20 01:57	03/07/20 02:10	7439-93-2	
Manganese	**312**	ug/L	0.50	0.14	1	02/28/20 01:57	03/07/20 02:10	7439-96-5	
Potassium	**4240**	ug/L	50.0	6.2	1	02/28/20 01:57	03/07/20 02:10	7440-09-7	
Sodium	**22100**	ug/L	5000	285	20	02/28/20 01:57	03/11/20 15:07	7440-23-5	
Thallium	ND	ug/L	0.10	0.060	1	02/28/20 01:57	03/07/20 02:10	7440-28-0	
Tin	ND	ug/L	0.50	0.090	1	02/28/20 01:57	03/07/20 02:10	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.10	1	02/26/20 14:37	02/28/20 12:30	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**242**	mg/L	25.0	25.0	1		02/24/20 16:54		
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**15.0**	mg/L	1.0	0.60	1		02/25/20 09:48	16887-00-6	
Fluoride	**0.057J**	mg/L	0.10	0.050	1		02/25/20 09:48	16984-48-8	
Sulfate	**39.3**	mg/L	1.0	0.50	1		02/25/20 09:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1614 **Lab ID: 92466164004** Collected: 02/19/20 12:22 Received: 02/19/20 15:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**2.7**	mg/L	1.0	0.50	1		02/25/20 19:04	7440-44-0	
Total Organic Carbon	**2.7**	mg/L	1.0	0.50	1		02/25/20 19:04	7440-44-0	
Total Organic Carbon	**2.9**	mg/L	1.0	0.50	1		02/25/20 19:04	7440-44-0	
Total Organic Carbon	**2.8**	mg/L	1.0	0.50	1		02/25/20 19:04	7440-44-0	
Mean Total Organic Carbon	**2.8**	mg/L	1.0	0.50	1		02/25/20 19:04	7440-44-0	
9066 Phenolics, Total	Analytical Method: EPA 9066 Preparation Method: EPA 9066 Pace Analytical Services - Ormond Beach								
Phenolics, Total Recoverable	**0.012**	mg/L	0.010	0.0050	1	03/04/20 11:15	03/05/20 17:40	64743-03-9	

REPORT OF LABORATORY ANALYSIS

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-Duplicate **Lab ID: 92466164005** Collected: 02/19/20 13:00 Received: 02/19/20 15:20 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								
Antimony	ND	ug/L	5.0	3.0	1	02/28/20 00:55	03/03/20 19:45	7440-36-0	
Arsenic	**43.7**	ug/L	10.0	4.7	1	02/28/20 00:55	03/05/20 00:44	7440-38-2	
Barium	**167**	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:45	7440-39-3	
Beryllium	ND	ug/L	1.0	0.20	1	02/28/20 00:55	03/03/20 19:45	7440-41-7	
Boron	**0.19**	mg/L	0.050	0.0066	1	02/28/20 00:55	03/03/20 19:45	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	02/28/20 00:55	03/03/20 19:45	7440-43-9	
Calcium	**23.4**	mg/L	0.10	0.024	1	02/28/20 00:55	03/03/20 19:45	7440-70-2	
Chromium	ND	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:45	7440-47-3	
Copper	ND	ug/L	5.0	2.1	1	02/28/20 00:55	03/03/20 19:45	7440-50-8	
Molybdenum	**0.99J**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:45	7439-98-7	
Nickel	**14.5**	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:45	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/03/20 19:45	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	02/28/20 00:55	03/03/20 19:45	7440-22-4	
Hardness, Total(SM 2340B)	**94200**	ug/L	662	131	1	02/28/20 00:55	03/03/20 19:45		
Vanadium	**1.3J**	ug/L	5.0	1.3	1	02/28/20 00:55	03/03/20 19:45	7440-62-2	
Zinc	ND	ug/L	10.0	3.9	1	02/28/20 00:55	03/03/20 19:45	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**19.8**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:15	7440-48-4	
Iron	**28300**	ug/L	50.0	7.5	1	02/28/20 01:57	03/07/20 02:15	7439-89-6	
Lead	**0.13**	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:15	7439-92-1	B,BC
Lithium	**16.5**	ug/L	2.5	0.42	1	02/28/20 01:57	03/07/20 02:15	7439-93-2	
Manganese	**312**	ug/L	0.50	0.14	1	02/28/20 01:57	03/07/20 02:15	7439-96-5	
Potassium	**4360**	ug/L	50.0	6.2	1	02/28/20 01:57	03/07/20 02:15	7440-09-7	
Sodium	**22000**	ug/L	5000	285	20	02/28/20 01:57	03/11/20 15:11	7440-23-5	
Thallium	ND	ug/L	0.10	0.060	1	02/28/20 01:57	03/07/20 02:15	7440-28-0	
Tin	ND	ug/L	0.50	0.090	1	02/28/20 01:57	03/07/20 02:15	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.10	1	02/26/20 14:37	02/28/20 12:42	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Asheville								
Total Dissolved Solids	**246**	mg/L	25.0	25.0	1		02/24/20 16:54		
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**15.0**	mg/L	1.0	0.60	1		02/25/20 10:03	16887-00-6	
Fluoride	**0.064J**	mg/L	0.10	0.050	1		02/25/20 10:03	16984-48-8	
Sulfate	**39.8**	mg/L	1.0	0.50	1		02/25/20 10:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-Duplicate **Lab ID: 92466164005** Collected: 02/19/20 13:00 Received: 02/19/20 15:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**2.4**	mg/L	1.0	0.50	1		02/25/20 19:58	7440-44-0	
Total Organic Carbon	**2.4**	mg/L	1.0	0.50	1		02/25/20 19:58	7440-44-0	
Total Organic Carbon	**2.6**	mg/L	1.0	0.50	1		02/25/20 19:58	7440-44-0	
Total Organic Carbon	**2.5**	mg/L	1.0	0.50	1		02/25/20 19:58	7440-44-0	
Mean Total Organic Carbon	**2.5**	mg/L	1.0	0.50	1		02/25/20 19:58	7440-44-0	
9066 Phenolics, Total	Analytical Method: EPA 9066 Preparation Method: EPA 9066 Pace Analytical Services - Ormond Beach								
Phenolics, Total Recoverable	ND	mg/L	0.010	0.0050	1	03/04/20 11:15	03/05/20 17:44	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-Field Blank **Lab ID: 92466164006** Collected: 02/19/20 10:00 Received: 02/19/20 15:20 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								
Antimony	ND	ug/L	5.0	3.0	1	02/28/20 00:55	03/03/20 19:48	7440-36-0	
Arsenic	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/05/20 00:47	7440-38-2	
Barium	ND	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:48	7440-39-3	
Beryllium	ND	ug/L	1.0	0.20	1	02/28/20 00:55	03/03/20 19:48	7440-41-7	
Boron	ND	mg/L	0.050	0.0066	1	02/28/20 00:55	03/03/20 19:48	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	02/28/20 00:55	03/03/20 19:48	7440-43-9	
Calcium	ND	mg/L	0.10	0.024	1	02/28/20 00:55	03/03/20 19:48	7440-70-2	
Chromium	ND	ug/L	5.0	1.0	1	02/28/20 00:55	03/03/20 19:48	7440-47-3	
Copper	ND	ug/L	5.0	2.1	1	02/28/20 00:55	03/03/20 19:48	7440-50-8	
Molybdenum	ND	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:48	7439-98-7	
Nickel	ND	ug/L	5.0	0.90	1	02/28/20 00:55	03/03/20 19:48	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	02/28/20 00:55	03/03/20 19:48	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	02/28/20 00:55	03/03/20 19:48	7440-22-4	
Hardness, Total(SM 2340B)	ND	ug/L	662	131	1	02/28/20 00:55	03/03/20 19:48		
Vanadium	ND	ug/L	5.0	1.3	1	02/28/20 00:55	03/03/20 19:48	7440-62-2	
Zinc	ND	ug/L	10.0	3.9	1	02/28/20 00:55	03/03/20 19:48	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	ND	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:19	7440-48-4	
Iron	ND	ug/L	50.0	7.5	1	02/28/20 01:57	03/07/20 02:19	7439-89-6	
Lead	ND	ug/L	0.10	0.050	1	02/28/20 01:57	03/07/20 02:19	7439-92-1	BC
Lithium	ND	ug/L	2.5	0.42	1	02/28/20 01:57	03/07/20 02:19	7439-93-2	
Manganese	**0.46J**	ug/L	0.50	0.14	1	02/28/20 01:57	03/07/20 02:19	7439-96-5	B
Potassium	ND	ug/L	50.0	6.2	1	02/28/20 01:57	03/07/20 02:19	7440-09-7	
Sodium	**41.0J**	ug/L	250	14.3	1	02/28/20 01:57	03/07/20 02:19	7440-23-5	B
Thallium	ND	ug/L	0.10	0.060	1	02/28/20 01:57	03/07/20 02:19	7440-28-0	
Tin	ND	ug/L	0.50	0.090	1	02/28/20 01:57	03/07/20 02:19	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.10	1	02/26/20 14:37	02/28/20 12:44	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		02/26/20 12:55		
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		02/25/20 10:17	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		02/25/20 10:17	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		02/25/20 10:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-Field Blank **Lab ID: 92466164006** Collected: 02/19/20 10:00 Received: 02/19/20 15:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 20:15	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 20:15	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 20:15	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 20:15	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		02/25/20 20:15	7440-44-0	
9066 Phenolics, Total	Analytical Method: EPA 9066 Preparation Method: EPA 9066 Pace Analytical Services - Ormond Beach								
Phenolics, Total Recoverable	ND	mg/L	0.010	0.0050	1	03/04/20 11:15	03/05/20 17:37	64743-03-9	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 527172
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 2816677 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.10	02/28/20 11:36	

LABORATORY CONTROL SAMPLE: 2816678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.6	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2816679 2816680

Parameter	Units	92466164001 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	2.6	2.7	106	108	75-125	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 527587
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 2818849 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	3.0	03/03/20 19:12	
Arsenic	ug/L	ND	10.0	4.7	03/05/20 00:04	
Barium	ug/L	ND	5.0	1.0	03/03/20 19:12	
Beryllium	ug/L	ND	1.0	0.20	03/03/20 19:12	
Boron	mg/L	ND	0.050	0.0066	03/03/20 19:12	
Cadmium	ug/L	ND	1.0	0.40	03/03/20 19:12	
Calcium	mg/L	ND	0.10	0.024	03/03/20 19:12	
Chromium	ug/L	ND	5.0	1.0	03/03/20 19:12	
Copper	ug/L	ND	5.0	2.1	03/03/20 19:12	
Hardness, Total(SM 2340B)	ug/L	ND	662	131	03/03/20 19:12	
Molybdenum	ug/L	ND	5.0	0.90	03/03/20 19:12	
Nickel	ug/L	ND	5.0	0.90	03/03/20 19:12	
Selenium	ug/L	ND	10.0	4.7	03/03/20 19:12	
Silver	ug/L	ND	5.0	2.5	03/03/20 19:12	
Vanadium	ug/L	ND	5.0	1.3	03/03/20 19:12	
Zinc	ug/L	ND	10.0	3.9	03/03/20 19:12	

LABORATORY CONTROL SAMPLE: 2818850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	484	97	80-120	
Arsenic	ug/L	500	489	98	80-120	
Barium	ug/L	500	474	95	80-120	
Beryllium	ug/L	500	474	95	80-120	
Boron	mg/L	0.5	0.48	96	80-120	
Cadmium	ug/L	500	472	94	80-120	
Calcium	mg/L	5	4.8	97	80-120	
Chromium	ug/L	500	472	94	80-120	
Copper	ug/L	500	481	96	80-120	
Hardness, Total(SM 2340B)	ug/L	33100	31700	96	80-120	
Molybdenum	ug/L	500	447	89	80-120	
Nickel	ug/L	500	477	95	80-120	
Selenium	ug/L	500	469	94	80-120	
Silver	ug/L	250	238	95	80-120	
Vanadium	ug/L	500	471	94	80-120	
Zinc	ug/L	500	463	93	80-120	

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REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2818851 2818852

Parameter	Units	92466164001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	518	504	104	101	75-125	3	20	
Arsenic	ug/L	ND	500	500	520	512	104	102	75-125	2	20	
Barium	ug/L	67.9	500	500	560	551	98	97	75-125	1	20	
Beryllium	ug/L	0.68J	500	500	508	498	101	99	75-125	2	20	
Boron	mg/L	ND	0.5	0.5	0.52	0.51	102	100	75-125	2	20	
Cadmium	ug/L	ND	500	500	495	484	99	97	75-125	2	20	
Calcium	mg/L	7.1	5	5	11.9	11.9	96	97	75-125	0	20	
Chromium	ug/L	1.3J	500	500	487	478	97	95	75-125	2	20	
Copper	ug/L	7.7	500	500	507	498	100	98	75-125	2	20	
Hardness, Total(SM 2340B)	ug/L	36300	33100	33100	68900	68900	99	99	75-125	0		
Molybdenum	ug/L	ND	500	500	461	452	92	90	75-125	2	20	
Nickel	ug/L	7.8	500	500	500	489	98	96	75-125	2	20	
Selenium	ug/L	ND	500	500	522	519	104	104	75-125	1	20	
Silver	ug/L	ND	250	250	248	243	99	97	75-125	2	20	
Vanadium	ug/L	ND	500	500	493	483	99	97	75-125	2	20	
Zinc	ug/L	4.0J	500	500	488	480	97	95	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2818853 2818854

Parameter	Units	92466171002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	525	505	105	101	75-125	4	20	
Arsenic	ug/L	9.1J	500	500	493	476	97	93	75-125	3	20	
Barium	ug/L	33.4	500	500	531	514	100	96	75-125	3	20	
Beryllium	ug/L	ND	500	500	511	494	102	99	75-125	3	20	
Boron	mg/L	0.033J	0.5	0.5	0.55	0.53	103	100	75-125	3	20	
Cadmium	ug/L	ND	500	500	497	484	99	97	75-125	3	20	
Calcium	mg/L	11.2	5	5	15.9	15.4	94	83	75-125	4	20	
Chromium	ug/L	ND	500	500	499	483	100	97	75-125	3	20	
Copper	ug/L	ND	500	500	510	493	102	98	75-125	3	20	
Hardness, Total(SM 2340B)	ug/L	44100	33100	33100	76500	73800	98	90	75-125	4		
Molybdenum	ug/L	5.3	500	500	471	456	93	90	75-125	3	20	
Nickel	ug/L	1.8J	500	500	497	483	99	96	75-125	3	20	
Selenium	ug/L	ND	500	500	522	515	104	103	75-125	1	20	
Silver	ug/L	ND	250	250	253	244	101	98	75-125	3	20	
Vanadium	ug/L	ND	500	500	501	485	100	97	75-125	3	20	
Zinc	ug/L	ND	500	500	492	475	98	95	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 527589
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 2818859 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	0.10	0.050	03/05/20 04:59	
Iron	ug/L	ND	50.0	7.5	03/05/20 04:59	
Lead	ug/L	0.051J	0.10	0.050	03/05/20 04:59	BC
Lithium	ug/L	ND	2.5	0.42	03/05/20 04:59	
Manganese	ug/L	0.19J	0.50	0.14	03/05/20 04:59	
Potassium	ug/L	ND	50.0	6.2	03/05/20 04:59	
Sodium	ug/L	21.5J	250	14.3	03/05/20 04:59	
Thallium	ug/L	ND	0.10	0.060	03/05/20 04:59	
Tin	ug/L	ND	0.50	0.090	03/05/20 04:59	

LABORATORY CONTROL SAMPLE: 2818860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	10	9.9	99	80-120	
Iron	ug/L	625	608	97	80-120	
Lead	ug/L	50	53.5	107	80-120	BC
Lithium	ug/L	50	51.1	102	80-120	
Manganese	ug/L	50	49.0	98	80-120	
Potassium	ug/L	625	636	102	80-120	
Sodium	ug/L	625	627	100	80-120	
Thallium	ug/L	10	10.6	106	80-120	
Tin	ug/L	50	54.3	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2818861 2818862

Parameter	Units	92466164001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	15.0	10	10	24.6	25.1	96	101	75-125	2	20	
Iron	ug/L	55.6	625	625	648	661	95	97	75-125	2	20	
Lead	ug/L	0.12	50	50	51.8	50.9	103	101	75-125	2	20	
Lithium	ug/L	11.6	50	50	61.5	53.8	100	84	75-125	13	20	
Manganese	ug/L	200	50	50	244	251	87	102	75-125	3	20	
Potassium	ug/L	6450	625	625	6830	6830	61	61	75-125	0	20	M1
Sodium	ug/L	8240	625	625	8650	9620	64	220	75-125	11	20	M1
Thallium	ug/L	ND	10	10	10.3	10.1	103	101	75-125	2	20	
Tin	ug/L	ND	50	50	52.0	51.2	104	102	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2818863 2818864

Parameter	Units	92466171002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	0.34	10	10	10.6	10.3	102	99	75-125	3	20	
Iron	ug/L	1700	625	625	2340	2250	104	90	75-125	4	20	
Lead	ug/L	0.064J	50	50	52.6	51.5	105	103	75-125	2	20	
Lithium	ug/L	10.5	50	50	58.5	57.0	96	93	75-125	3	20	
Manganese	ug/L	179	50	50	233	224	108	90	75-125	4	20	
Potassium	ug/L	6820	625	625	7720	7360	143	86	75-125	5	20	M1
Sodium	ug/L	19300	625	625	19100	18800	-26	-80	75-125	2	20	M6
Thallium	ug/L	ND	10	10	10.4	10.1	104	101	75-125	3	20	
Tin	ug/L	ND	50	50	53.6	51.8	107	104	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 526729 | 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: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005

METHOD BLANK: 2814773 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/24/20 16:52	

LABORATORY CONTROL SAMPLE: 2814774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	248	99	90-110	

SAMPLE DUPLICATE: 2814777

Parameter	Units	92465785006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	83.0	88.0	6	25	

SAMPLE DUPLICATE: 2814778

Parameter	Units	92466164001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	131	144	9	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 527200
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92466164006

METHOD BLANK: 2816796 Matrix: Water
Associated Lab Samples: 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	02/26/20 12:55	

LABORATORY CONTROL SAMPLE: 2816797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	248	99	90-110	

SAMPLE DUPLICATE: 2816798

Parameter	Units	92466164006 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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(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 526599
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 2814062 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	02/25/20 05:06	
Fluoride	mg/L	ND	0.10	0.050	02/25/20 05:06	
Sulfate	mg/L	ND	1.0	0.50	02/25/20 05:06	

LABORATORY CONTROL SAMPLE: 2814063

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	2.5	2.3	92	90-110	
Sulfate	mg/L	50	49.6	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2814064 2814065

Parameter	Units	92466164001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.9	50	50	53.4	54.2	101	102	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.0	2.4	81	95	90-110	16	10	M1,R1
Sulfate	mg/L	56.7	50	50	99.9	101	86	88	90-110	1	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2814066 2814067

Parameter	Units	92466171002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.6	50	50	53.1	53.5	101	102	90-110	1	10	
Fluoride	mg/L	0.26	2.5	2.5	2.4	2.4	84	85	90-110	1	10	M1
Sulfate	mg/L	11.7	50	50	61.2	61.5	99	99	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 526751 | Analysis Method: EPA 9060A
QC Batch Method: EPA 9060A | Analysis Description: 9060 TOC, AVL
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 2814895 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	02/25/20 13:21	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/25/20 13:21	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/25/20 13:21	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/25/20 13:21	
Total Organic Carbon	mg/L	ND	1.0	0.50	02/25/20 13:21	

LABORATORY CONTROL SAMPLE: 2814896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	25.2	101	75-125	
Total Organic Carbon	mg/L	25	25.1	100	75-125	
Total Organic Carbon	mg/L	25	25.6	103	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	
Total Organic Carbon	mg/L	25	25.9	103	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2814897 2814898

Parameter	Units	92466164001 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	ND	25	25	25.1	25.1	99	99	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	25.1	25.0	99	99	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	25.2	25.2	100	100	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	24.5	24.7	96	97	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	25.5	25.4	101	101	75-125	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2814899 2814900

Parameter	Units	92466171002 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	0.70J	25	25	24.9	25.0	97	97	75-125	0	25	
Total Organic Carbon	mg/L	0.67J	25	25	24.7	24.8	96	96	75-125	0	25	
Total Organic Carbon	mg/L	0.61J	25	25	25.2	25.2	98	98	75-125	0	25	
Total Organic Carbon	mg/L	0.86J	25	25	24.3	24.7	94	95	75-125	2	25	
Total Organic Carbon	mg/L	0.66J	25	25	25.4	25.3	99	99	75-125	0	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 614847 | Analysis Method: EPA 9066
QC Batch Method: EPA 9066 | Analysis Description: 9066 Total Phenolics
Laboratory: Pace Analytical Services - Ormond Beach
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 3340670 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/L	ND	0.010	0.0050	03/05/20 17:21	

LABORATORY CONTROL SAMPLE: 3340671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/L	0.4	0.41	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3340672 3340673

Parameter	Units	92466164001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	0.0064J	0.4	0.4	0.31	0.31	76	75	80-120	0	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3340674 3340675

Parameter	Units	92466186001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	ND	0.4	0.4	0.38	0.36	94	91	80-120	3	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1602 **Lab ID: 92466164001** Collected: 02/19/20 09:08 Received: 02/19/20 15:20 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	**1.91 ± 0.635 (0.617) C:76% T:NA**	pCi/L	02/27/20 07:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.884 ± 0.500 (0.915) C:77% T:78%**	pCi/L	03/06/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.79 ± 1.14 (1.53)**	pCi/L	03/09/20 10:17	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1607 **Lab ID: 92466164002** Collected: 02/19/20 10:48 Received: 02/19/20 15:20 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	**0.726 ± 0.356 (0.448) C:90% T:NA**	pCi/L	02/27/20 07:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.03 ± 0.544 (0.964) C:75% T:76%**	pCi/L	03/06/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.76 ± 0.900 (1.41)**	pCi/L	03/09/20 10:17	7440-14-4	

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(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1608 **Lab ID: 92466164003** Collected: 02/19/20 12:43 Received: 02/19/20 15:20 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	**0.983 ± 0.442 (0.608) C:92% T:NA**	pCi/L	02/27/20 07:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.02 ± 0.560 (1.01) C:73% T:73%**	pCi/L	03/06/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.00 ± 1.00 (1.62)**	pCi/L	03/09/20 10:17	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-1614 **Lab ID: 92466164004** Collected: 02/19/20 12:22 Received: 02/19/20 15:20 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	**1.22 ± 0.446 (0.399) C:90% T:NA**	pCi/L	02/27/20 07:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.299 ± 0.468 (1.01) C:73% T:77%**	pCi/L	03/06/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.52 ± 0.914 (1.41)**	pCi/L	03/09/20 10:17	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-Duplicate **Lab ID: 92466164005** Collected: 02/19/20 13:00 Received: 02/19/20 15:20 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	**0.696 ± 0.332 (0.373) C:93% T:NA**	pCi/L	02/27/20 07:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.375 ± 0.403 (0.839) C:74% T:81%**	pCi/L	03/06/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.07 ± 0.735 (1.21)**	pCi/L	03/09/20 10:17	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Sample: ABC-Field Blank **Lab ID: 92466164006** Collected: 02/19/20 10:00 Received: 02/19/20 15:20 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	**0.359 ± 0.269 (0.449) C:93% T:NA**	pCi/L	02/27/20 07:54	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.109 ± 0.383 (0.923) C:76% T:72%**	pCi/L	03/06/20 14:57	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.359 ± 0.652 (1.37)**	pCi/L	03/09/20 10:17	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 385163 Analysis Method: EPA 9320
QC Batch Method: EPA 9320 Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 1866200 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.266 ± 0.358 (0.764) C:73% T:84%	pCi/L	03/06/20 14:58	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

QC Batch: 385164 Analysis Method: EPA 9315
QC Batch Method: EPA 9315 Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

METHOD BLANK: 1866202 Matrix: Water
Associated Lab Samples: 92466164001, 92466164002, 92466164003, 92466164004, 92466164005, 92466164006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.526 ± 0.287 (0.348) C:97% T:NA	pCi/L	02/27/20 07:52	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
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.
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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(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92466164001	**ABC-1602**	EPA 3010A	527587	EPA 6010D	527610
92466164002	**ABC-1607**	EPA 3010A	527587	EPA 6010D	527610
92466164003	**ABC-1608**	EPA 3010A	527587	EPA 6010D	527610
92466164004	**ABC-1614**	EPA 3010A	527587	EPA 6010D	527610
92466164005	**ABC-Duplicate**	EPA 3010A	527587	EPA 6010D	527610
92466164006	**ABC-Field Blank**	EPA 3010A	527587	EPA 6010D	527610
92466164001	**ABC-1602**	EPA 3010A	527589	EPA 6020B	527614
92466164002	**ABC-1607**	EPA 3010A	527589	EPA 6020B	527614
92466164003	**ABC-1608**	EPA 3010A	527589	EPA 6020B	527614
92466164004	**ABC-1614**	EPA 3010A	527589	EPA 6020B	527614
92466164005	**ABC-Duplicate**	EPA 3010A	527589	EPA 6020B	527614
92466164006	**ABC-Field Blank**	EPA 3010A	527589	EPA 6020B	527614
92466164001	**ABC-1602**	EPA 7470A	527172	EPA 7470A	527241
92466164002	**ABC-1607**	EPA 7470A	527172	EPA 7470A	527241
92466164003	**ABC-1608**	EPA 7470A	527172	EPA 7470A	527241
92466164004	**ABC-1614**	EPA 7470A	527172	EPA 7470A	527241
92466164005	**ABC-Duplicate**	EPA 7470A	527172	EPA 7470A	527241
92466164006	**ABC-Field Blank**	EPA 7470A	527172	EPA 7470A	527241
92466164001	**ABC-1602**	EPA 9315	385164		
92466164002	**ABC-1607**	EPA 9315	385164		
92466164003	**ABC-1608**	EPA 9315	385164		
92466164004	**ABC-1614**	EPA 9315	385164		
92466164005	**ABC-Duplicate**	EPA 9315	385164		
92466164006	**ABC-Field Blank**	EPA 9315	385164		
92466164001	**ABC-1602**	EPA 9320	385163		
92466164002	**ABC-1607**	EPA 9320	385163		
92466164003	**ABC-1608**	EPA 9320	385163		
92466164004	**ABC-1614**	EPA 9320	385163		
92466164005	**ABC-Duplicate**	EPA 9320	385163		
92466164006	**ABC-Field Blank**	EPA 9320	385163		
92466164001	**ABC-1602**	Total Radium Calculation	387019		
92466164002	**ABC-1607**	Total Radium Calculation	387019		
92466164003	**ABC-1608**	Total Radium Calculation	387019		
92466164004	**ABC-1614**	Total Radium Calculation	387019		
92466164005	**ABC-Duplicate**	Total Radium Calculation	387019		
92466164006	**ABC-Field Blank**	Total Radium Calculation	387019		
92466164001	**ABC-1602**	SM 2540C-2011	526729		
92466164002	**ABC-1607**	SM 2540C-2011	526729		
92466164003	**ABC-1608**	SM 2540C-2011	526729		
92466164004	**ABC-1614**	SM 2540C-2011	526729		
92466164005	**ABC-Duplicate**	SM 2540C-2011	526729		
92466164006	**ABC-Field Blank**	SM 2540C-2011	527200		
92466164001	**ABC-1602**	EPA 9056A	526599		
92466164002	**ABC-1607**	EPA 9056A	526599		
92466164003	**ABC-1608**	EPA 9056A	526599		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PP - Pond ABC (A)-Revised Report
Pace Project No.: 92466164

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92466164004	**ABC-1614**	EPA 9056A	526599		
92466164005	**ABC-Duplicate**	EPA 9056A	526599		
92466164006	**ABC-Field Blank**	EPA 9056A	526599		
92466164001	**ABC-1602**	EPA 9060A	526751		
92466164002	**ABC-1607**	EPA 9060A	526751		
92466164003	**ABC-1608**	EPA 9060A	526751		
92466164004	**ABC-1614**	EPA 9060A	526751		
92466164005	**ABC-Duplicate**	EPA 9060A	526751		
92466164006	**ABC-Field Blank**	EPA 9060A	526751		
92466164001	**ABC-1602**	EPA 9066	614847	EPA 9066	615260
92466164002	**ABC-1607**	EPA 9066	614847	EPA 9066	615260
92466164003	**ABC-1608**	EPA 9066	614847	EPA 9066	615260
92466164004	**ABC-1614**	EPA 9066	614847	EPA 9066	615260
92466164005	**ABC-Duplicate**	EPA 9066	614847	EPA 9066	615260
92466164006	**ABC-Field Blank**	EPA 9066	614847	EPA 9066	615260

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐

Sample Condition Upon Receipt

Client Name: [illegible] **Project #:** **WO# : 92466164**

92466164

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

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

Date/Initials Person Examining Contents: 2/2-2/20

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

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

Thermometer: ☑ IR Gun ID: 92T060 **Type of Ice:** ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 0.7, 2.3, 4.9 **Correction Factor:** Add/Subtract (°C) 0.0

Cooler Temp Corrected (°C): 0.7, 2.3, 4.9

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

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

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

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: _____ Date/Time: _____

Project Manager SCURF Review: NMG **Date:** 2/21/20

Project Manager SRF Review: ACP **Date:** 2/24/20

Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

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

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

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

Project # **WO# : 92466164**

PM: NMG Due Date: 03/12/20

CLIENT: 92-Golder

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)	Rads	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1		3	3			6								3					9										
2		1	1			2								1					3										
3		1	1			2								1					3										
4		1	1			2								1					3										
5		1	1			2								1					3										
6		1	1			2								1					3										
7																													
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11																													
12																													

pH Adjustment Log for Preserved Samples

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

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

Pace Analytical
WWW.PACELABS.COM

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:	Golder Associates
Address:	2108 W. Laburnum Ave.
	Suite 200, Richmond, VA 23227
Email:	greynolds@golder.com
Phone: (804)358-7100	Fax: (804)358-2900
Requested Due Date:	Standard TAT

Section B — Required Project Information:

Report To:	Mike Williams
Copy To:	Amanda Reynolds
Purchase Order #:	
Project Name:	Possum Point - Pond ABC (A)
Project #:	20139775

Section C — Invoice Information:

Attention:	Accounts Payable
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	nicole.gasiorowski@pacelabs.com
Pace Profile #:	7295-50

Regulatory Agency:

State / Location: VA

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	6010/6020 metals	7470 Mercury	9056 Anions (Cl, F, SO4)	TDS	9060 TOC	9065 Phenolics	Radium 226/228	Residual Chlorine (Y/N)	92461164
1	ABC-1602	WT	G	2/19/2020	0905	—	—	1.3	10	✓	✓	✓					✓		x	x	x	x	x	x	x		001
2	ABC-1607	WT	G	2/19/2020	1045	—	—	5.0	10	✓	✓	✓					✓		x	x	x	x	x	x	x		002
3	ABC-1608	WT	G	2/19/2020	1243	—	—	3.8	10	✓	✓	✓					✓		x	x	x	x	x	x	x		003
4	ABC-1614	WT	G	2/19/2020	1222	—	—	1.2	10	✓	✓	✓					✓		x	x	x	x	x	x	x		004
5	ABC-Duplicate	WT	G	2/19/2020	1300	—	—	—	10	✓	✓	✓					✓		x	x	x	x	x	x	x		005
6	ABC-MS	WT	G	2/19/2020	0908	—	—	—	8	✓	✓	✓					✓		x	x	x	x	x	x			006
7	ABC-MSD	WT	G	2/19/2020	0908	—	—	—	8	✓	✓	✓					✓		x	x	x	x	x	x			007
8	ABC-Field Blank	WT	G	2/19/2020	1000	—	—	—	10	✓	✓	✓					✓		x	x	x	x	x	x	x		0006
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
all Samples preserved on ice	Golder	2/19/2020	1345	Paul Jones	2/19/20	1345				
Level II Data Package	Paul Jones	2-19-20	15:20		2-19-20	15:20				
		2-20-20	17:00	M&C Poca	2-21-20	9:40	1.7 2.3 1.9	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: M. Antal/C. Joyner

SIGNATURE of SAMPLER: [signature] DATE Signed: 2/19/2020

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Date Issued:

Client Name:

Client Site ID:

Submitted To:

Laboratory Sample ID: **Client Sample ID:**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units

There are no reportable results for target analytes in this report.

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".

AIR WATER & SOIL
an Enthalpy Analytical Laboratory
1941 Reymet Road ● Richmond, Virginia 23237 ● Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 20B0838

Client Name:	Golder Associates, Inc. 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227	Date Received:	February 19, 2020 15:52
		Date Issued:	February 26, 2020 11:28
		Project Number:	20139775
Submitted To:	Amanda Reynolds	Purchase Order:	
Client Site I.D.:	Possum Point Power Station		

Enclosed are the results of analyses for samples received by the laboratory on 02/19/2020 15:52. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars
Technical Director

End Notes:
The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

ACCREDITED IN ACCORDANCE WITH nelac
Commonwealth of Virginia, DCLS
Accreditation # 460021

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ABC-1602	20B0838-01	Ground Water	02/19/2020 09:08	02/19/2020 15:52
ABC-1607	20B0838-02	Ground Water	02/19/2020 10:48	02/19/2020 15:52
ABC-1608	20B0838-03	Ground Water	02/19/2020 12:43	02/19/2020 15:52
ABC-1614	20B0838-04	Ground Water	02/19/2020 12:22	02/19/2020 15:52
ABC-Duplicate	20B0838-05	Ground Water	02/19/2020 13:00	02/19/2020 15:52
ABC-Field Blank	20B0838-06	Ground Water	02/19/2020 10:00	02/19/2020 15:52

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Client Sample ID: **ABC-1602** **Laboratory Sample ID:** **20B0838-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	01	18540-29-9	SW7196A	02/20/2020 08:10	02/20/2020 09:56	BLOD		0.005	0.005	1	mg/L	MWL

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Client Sample ID: **ABC-1607** **Laboratory Sample ID:** **20B0838-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	02	18540-29-9	SW7196A	02/20/2020 08:10	02/20/2020 09:56	BLOD		0.005	0.005	1	mg/L	MWL

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Client Sample ID: **ABC-1608** **Laboratory Sample ID:** **20B0838-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	03	18540-29-9	SW7196A	02/20/2020 08:10	02/20/2020 09:56	BLOD		0.005	0.005	1	mg/L	MWL

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Client Sample ID: **ABC-1614** **Laboratory Sample ID:** **20B0838-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	04	18540-29-9	SW7196A	02/20/2020 08:10	02/20/2020 09:56	BLOD		0.005	0.005	1	mg/L	MWL

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Client Sample ID: **ABC-Duplicate** **Laboratory Sample ID:** **20B0838-05**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	05	18540-29-9	SW7196A	02/20/2020 08:10	02/20/2020 09:56	BLOD		0.005	0.005	1	mg/L	MWL

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Client Sample ID: **ABC-Field Blank** **Laboratory Sample ID:** **20B0838-06**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	06	18540-29-9	SW7196A	02/20/2020 08:10	02/20/2020 09:56	BLOD		0.005	0.005	1	mg/L	MWL

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDB0602 - No Prep Wet Chem										
Blank (BDB0602-BLK1)				Prepared & Analyzed: 02/20/2020						
Chromium, Hexavalent	ND	0.005	mg/L							
LCS (BDB0602-BS1)				Prepared & Analyzed: 02/20/2020						
Chromium, Hexavalent	0.101	0.005	mg/L	0.100		101	80-120			
Matrix Spike (BDB0602-MS1)	**Source: 20B0838-01**			Prepared & Analyzed: 02/20/2020						
Chromium, Hexavalent	0.111	0.005	mg/L	0.100	BLOD	111	80-120			
Matrix Spike Dup (BDB0602-MSD1)	**Source: 20B0838-01**			Prepared & Analyzed: 02/20/2020						
Chromium, Hexavalent	0.111	0.005	mg/L	0.100	BLOD	111	80-120	0.00	20	

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
20B0838-01	100 mL / 100 mL	SW7196A	BDB0602	SDB0534	AB00092
20B0838-02	100 mL / 100 mL	SW7196A	BDB0602	SDB0534	AB00092
20B0838-03	100 mL / 100 mL	SW7196A	BDB0602	SDB0534	AB00092
20B0838-04	100 mL / 100 mL	SW7196A	BDB0602	SDB0534	AB00092
20B0838-05	100 mL / 100 mL	SW7196A	BDB0602	SDB0534	AB00092
20B0838-06	100 mL / 100 mL	SW7196A	BDB0602	SDB0534	AB00092

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Certified Analyses included in this Report

Analyte	Certifications
SW7196A in Non-Potable Water	
Chromium, Hexavalent	VELAP

Code	Description	Cert Number	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2020
NC	North Carolina DENR	495	12/31/2020
PADEP	NELAC-Pennsylvania #005	005	10/31/2020
VELAP Certificate #4337	NELAC-Virginia Certificate #10637	460021	06/14/2020
WVDEP	West Virginia DEP	350	11/30/2020

Air Water & Soil Laboratories, Inc.
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Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

AIR WATER & SOIL LABORATORIES, INC.

1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Effective: Nov 15, 2018

CHAIN OF CUSTODY

PAGE 1 OF 1

COMPANY NAME: Golder Associates	INVOICE TO: Accounts Payable	PROJECT NAME/Quote #: ISA2020 GW-Pond ABC
CONTACT: Amanda Reynolds	INVOICE CONTACT:	SITE NAME: Possum Point Power Station
ADDRESS: 2108 W. Laburnum Ave #200 Richmond, VA 23227	INVOICE ADDRESS:	PROJECT NUMBER: 20139775
PHONE #: (804) 358-7900	INVOICE PHONE #:	P.O. #:
FAX #: (804) 358-2900 EMAIL: areynolds@golder.com		Pretreatment Program:
Is sample for compliance reporting? (YES) NO	Regulatory State: VA	Is sample from a chlorinated supply? YES (NO) PWS I.D. #:
SAMPLER NAME (PRINT): M. Antal / C. Joyner	SAMPLER SIGNATURE:	Turn Around Time: Circle: (10) 5 Days or __ Day(s)

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE): Hexavalent Chromium (by 7196)							COMMENTS
1) ABC-1602	✓			—	—	2/19/2020	0908	0908	GW	1	X							*all samples preserved
2) ABC-1607	✓			—	—	2/19/2020	1048	1048	GW	1	X							on ice*
3) ABC-1608	✓			—	—	2/19/2020	1243	1243	GW	1	X							
4) ABC-1614	✓			—	—	2/19/2020	1222	1222	GW	1	X							
5) ABC-Duplicate	✓			—	—	2/19/2020	1300	1300	GW	1	X							
6) ABC-Field Blank	✓			—	—	2/19/2020	1000	1000	GW	1	X							
7)																		
8)																		
9)																		
10)																		

Preservative Codes: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
	2/19/2020 1400		2/19/20 2:00
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
	2/19 3:50		2/19/20 1552
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level III ☐
Level IV ☐
Level II

LAB USE ONLY Therm ID: 271 COOLER TEMP 1.3 °C
Custody Seals used and intact? (Y / N) Received on ice? (Y / N)

GA 20B0838
Possum Point PS- Bill to Golder
Recd: 02/19/2020 Due: 03/04/2020

v130325002

v181115.xls

Air Water & Soil Laboratories, Inc.
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point Power Station
Submitted To: Amanda Reynolds

Date Issued: 2/26/2020 11:28:39AM

Sample Conditions Checklist

Samples Received at:	**1.30°C**
How were samples received?	Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

APPENDIX E.2
LABORATORY ANALYTICAL RESULTS
SECOND SEMI-ANNUAL GROUNDWATER MONITORING EVENT
(AUGUST-SEPTEMBER 2020)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 13, 2020

Mike Williams
Golder Associates
2108 W Laburnum Ave
Suite 200
Richmond, VA 23227

RE: Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory on September 03, 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 Gulf Coast
- Pace Analytical Services - Asheville
- Pace Analytical Services - Eden
- Pace Analytical Services - Greensburg

This revision was issued on 10/13/20 to update reporting units, per client request.

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

Sincerely,

Nicole Gasiorowski

Nicole Gasiorowski
nicole.gasiorowski@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Craig LaCosse, Golder Associates Inc.
Rachel Powell, Golder Associates
Amanda Reynolds, Golder Associates
Martha Smith, Golder Associates Inc.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

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

Pace Analytical Gulf Coast
7979 Innovation Park Drive, Baton Rouge, LA 70820
Arkansas Certification #: 88-0655
DoD ELAP Certification #: L18-597
Florida Certification #: E87854
Illinois Certification #: 004585
Kansas Certification #: E-10354
Louisiana/LELAP Certification #: 01955
North Carolina Certification #: 618
North Dakota Certification #: R-195
Oklahoma Certification #: 2019-101
South Carolina Certification #: 73006001
Texas Certification #: T104704178-19-11
USDA Soil Permit # P330-19-00209
Virginia Certification #: 460215
Washington Certification #: C929

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

Pace Analytical Services Eden
205 East Meadow Road Suite A, Eden, NC 27288
North Carolina Drinking Water Certification #: 37738
North Carolina Wastewater Certification #: 633
Virginia/VELAP Certification #: 460025

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92493784001	**ABC-1602**	Water	09/02/20 10:31	09/03/20 10:35
92493784002	**ABC-1607**	Water	09/02/20 08:53	09/03/20 10:35
92493784003	**ABC-1608**	Water	09/02/20 10:13	09/03/20 10:35
92493784004	**ABC-1614**	Water	09/02/20 09:20	09/03/20 10:35
92493784005	**ABC-Duplicate**	Water	09/02/20 10:45	09/03/20 10:35
92493784006	**ABC-Field Blank**	Water	09/02/20 09:45	09/03/20 10:35

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92493784001	**ABC-1602**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9066	MOS	1	GCLA
92493784002	**ABC-1607**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9066	MOS	1	GCLA
92493784003	**ABC-1608**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9066	MOS	1	GCLA
92493784004	**ABC-1614**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA

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Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9066	MOS	1	GCLA
92493784005	**ABC-Duplicate**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9066	MOS	1	GCLA
92493784006	**ABC-Field Blank**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	16	PASI-A
		EPA 6020B	JOR	9	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	JAL	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
		EPA 9060A	MDW	5	PASI-A
		EPA 9066	MOS	1	GCLA

GCLA = Pace Analytical Gulf Coast
PASI-A = Pace Analytical Services - Asheville
PASI-E = Pace Analytical Services - Eden
PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493784001	**ABC-1602**					
SM 2540C-2011	Total Dissolved Solids	131	mg/L	25.0	09/08/20 10:47	
EPA 6010D	Barium	65.9	ug/L	5.0	09/10/20 05:11	
EPA 6010D	Calcium	6480	ug/L	100	09/10/20 05:11	
EPA 6010D	Copper	8.7	ug/L	5.0	09/10/20 05:11	
EPA 6010D	Nickel	7.1	ug/L	5.0	09/10/20 05:11	
EPA 6010D	Hardness, Total(SM 2340B)	32800	ug/L	662	09/10/20 05:11	
EPA 6020B	Cobalt	11.5	ug/L	0.10	09/10/20 12:48	
EPA 6020B	Iron	74.3	ug/L	50.0	09/10/20 12:48	
EPA 6020B	Lead	0.089J	ug/L	0.10	09/10/20 12:48	
EPA 6020B	Lithium	10.1	ug/L	2.5	09/10/20 12:48	
EPA 6020B	Manganese	202	ug/L	10.0	09/10/20 12:52	
EPA 6020B	Potassium	6310	ug/L	1000	09/10/20 12:52	
EPA 6020B	Sodium	8570	ug/L	5000	09/10/20 12:52	
EPA 9315	Radium-226	0.948 ± 0.401 (0.349) C:75% T:NA	pCi/L		09/23/20 06:11	
EPA 9320	Radium-228	2.34 ± 0.898 (1.40) C:53% T:70%	pCi/L		09/25/20 11:48	
Total Radium Calculation	Total Radium	3.29 ± 1.30 (1.75)	pCi/L		09/28/20 13:12	
EPA 9056A	Chloride	3.1	mg/L	1.0	09/05/20 13:27	
EPA 9056A	Sulfate	50.8	mg/L	1.0	09/05/20 13:27	
EPA 9066	Phenolics, Total Recoverable	0.050	mg/L	0.012	09/13/20 06:06	
92493784002	**ABC-1607**					
SM 2540C-2011	Total Dissolved Solids	130	mg/L	25.0	09/08/20 10:47	
EPA 6010D	Barium	51.7	ug/L	5.0	09/10/20 05:15	
EPA 6010D	Boron	225	ug/L	50.0	09/10/20 05:15	
EPA 6010D	Calcium	8380	ug/L	100	09/10/20 05:15	
EPA 6010D	Nickel	10.0	ug/L	5.0	09/10/20 05:15	
EPA 6010D	Hardness, Total(SM 2340B)	35900	ug/L	662	09/10/20 05:15	
EPA 6010D	Zinc	19.8	ug/L	10.0	09/10/20 05:15	
EPA 6020B	Cobalt	8.2	ug/L	0.10	09/09/20 23:45	
EPA 6020B	Iron	3230	ug/L	1500	09/10/20 12:56	M6
EPA 6020B	Lithium	3.1	ug/L	2.5	09/09/20 23:45	
EPA 6020B	Manganese	209	ug/L	15.0	09/10/20 12:56	M6
EPA 6020B	Potassium	2640	ug/L	1500	09/10/20 12:56	M6
EPA 6020B	Sodium	15900	ug/L	7500	09/10/20 12:56	M6
EPA 9315	Radium-226	0.260 ± 0.255 (0.493) C:86% T:NA	pCi/L		09/23/20 06:09	
EPA 9320	Radium-228	1.05 ± 0.595 (1.10) C:62% T:76%	pCi/L		09/25/20 11:47	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493784002	**ABC-1607**					
Total Radium Calculation	Total Radium	1.31 ± 0.850 (1.59)	pCi/L		09/28/20 13:12	
EPA 9056A	Chloride	16.2	mg/L	1.0	09/05/20 13:42	
EPA 9056A	Sulfate	39.3	mg/L	1.0	09/05/20 13:42	
EPA 9060A	Total Organic Carbon	0.82J	mg/L	1.0	09/18/20 13:29	
EPA 9060A	Total Organic Carbon	0.69J	mg/L	1.0	09/18/20 13:29	
EPA 9060A	Total Organic Carbon	0.71J	mg/L	1.0	09/18/20 13:29	
EPA 9060A	Total Organic Carbon	0.73J	mg/L	1.0	09/18/20 13:29	
EPA 9060A	Mean Total Organic Carbon	0.74J	mg/L	1.0	09/18/20 13:29	
EPA 9066	Phenolics, Total Recoverable	0.029	mg/L	0.012	09/14/20 13:50	
92493784003	**ABC-1608**					
SM 2540C-2011	Total Dissolved Solids	239	mg/L	25.0	09/08/20 10:47	
EPA 6010D	Arsenic	5.7J	ug/L	10.0	09/10/20 05:34	
EPA 6010D	Barium	67.3	ug/L	5.0	09/10/20 05:34	
EPA 6010D	Boron	217	ug/L	50.0	09/10/20 05:34	
EPA 6010D	Calcium	20600	ug/L	100	09/10/20 05:34	
EPA 6010D	Nickel	19.8	ug/L	5.0	09/10/20 05:34	
EPA 6010D	Hardness, Total(SM 2340B)	89600	ug/L	662	09/10/20 05:34	
EPA 6010D	Zinc	12.3	ug/L	10.0	09/10/20 05:34	
EPA 6020B	Cobalt	26.5	ug/L	1.0	09/10/20 13:00	
EPA 6020B	Iron	6090	ug/L	500	09/10/20 13:00	
EPA 6020B	Lithium	12.3	ug/L	2.5	09/10/20 00:27	
EPA 6020B	Manganese	181	ug/L	5.0	09/10/20 13:00	
EPA 6020B	Potassium	3790	ug/L	500	09/10/20 13:00	
EPA 6020B	Sodium	32200	ug/L	12500	09/10/20 13:04	
EPA 9315	Radium-226	0.230 ± 0.215 (0.386) C:86% T:NA	pCi/L		09/23/20 06:11	
EPA 9320	Radium-228	0.606 ± 0.480 (0.964) C:65% T:89%	pCi/L		09/25/20 11:48	
Total Radium Calculation	Total Radium	0.836 ± 0.695 (1.35)	pCi/L		09/28/20 13:12	
EPA 9056A	Chloride	54.7	mg/L	1.0	09/05/20 14:27	
EPA 9056A	Fluoride	0.079J	mg/L	0.10	09/05/20 14:27	
EPA 9056A	Sulfate	29.6	mg/L	1.0	09/05/20 14:27	
EPA 9060A	Total Organic Carbon	1.5	mg/L	1.0	09/18/20 17:26	
EPA 9060A	Total Organic Carbon	1.4	mg/L	1.0	09/18/20 17:26	
EPA 9060A	Total Organic Carbon	1.4	mg/L	1.0	09/18/20 17:26	
EPA 9060A	Total Organic Carbon	1.4	mg/L	1.0	09/18/20 17:26	
EPA 9060A	Mean Total Organic Carbon	1.5	mg/L	1.0	09/18/20 17:26	
EPA 9066	Phenolics, Total Recoverable	0.035	mg/L	0.012	09/13/20 06:10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493784004	**ABC-1614**					
SM 2540C-2011	Total Dissolved Solids	244	mg/L	25.0	09/08/20 10:47	
EPA 6010D	Arsenic	44.1	ug/L	10.0	09/10/20 05:37	
EPA 6010D	Barium	185	ug/L	5.0	09/10/20 05:37	
EPA 6010D	Boron	212	ug/L	50.0	09/10/20 05:37	
EPA 6010D	Calcium	21600	ug/L	100	09/10/20 05:37	
EPA 6010D	Nickel	15.1	ug/L	5.0	09/10/20 05:37	
EPA 6010D	Hardness, Total(SM 2340B)	87800	ug/L	662	09/10/20 05:37	
EPA 6020B	Cobalt	21.7	ug/L	1.0	09/10/20 13:07	
EPA 6020B	Iron	31600	ug/L	2500	09/10/20 13:11	
EPA 6020B	Lead	0.20	ug/L	0.10	09/10/20 00:30	
EPA 6020B	Lithium	14.6	ug/L	2.5	09/10/20 00:30	
EPA 6020B	Manganese	303	ug/L	5.0	09/10/20 13:07	
EPA 6020B	Potassium	4040	ug/L	500	09/10/20 13:07	
EPA 6020B	Sodium	20900	ug/L	12500	09/10/20 13:11	
EPA 9315	Radium-226	0.221 ± 0.285 (0.610) C:88% T:NA	pCi/L		09/23/20 06:09	
EPA 9320	Radium-228	0.0309 ± 0.392 (0.906) C:64% T:78%	pCi/L		09/25/20 11:47	
Total Radium Calculation	Total Radium	0.252 ± 0.677 (1.52)	pCi/L		09/28/20 13:12	
EPA 9056A	Chloride	17.2	mg/L	1.0	09/05/20 14:42	
EPA 9056A	Fluoride	0.092J	mg/L	0.10	09/05/20 14:42	
EPA 9056A	Sulfate	38.5	mg/L	1.0	09/05/20 14:42	
EPA 9060A	Total Organic Carbon	3.0	mg/L	1.0	09/18/20 17:43	
EPA 9060A	Total Organic Carbon	3.0	mg/L	1.0	09/18/20 17:43	
EPA 9060A	Total Organic Carbon	2.9	mg/L	1.0	09/18/20 17:43	
EPA 9060A	Total Organic Carbon	3.1	mg/L	1.0	09/18/20 17:43	
EPA 9060A	Mean Total Organic Carbon	3.0	mg/L	1.0	09/18/20 17:43	
EPA 9066	Phenolics, Total Recoverable	0.12	mg/L	0.012	09/13/20 06:10	
92493784005	**ABC-Duplicate**					
SM 2540C-2011	Total Dissolved Solids	128	mg/L	25.0	09/08/20 10:48	
EPA 6010D	Arsenic	7.0J	ug/L	10.0	09/10/20 05:41	
EPA 6010D	Barium	67.8	ug/L	5.0	09/10/20 05:41	
EPA 6010D	Calcium	6670	ug/L	100	09/10/20 05:41	
EPA 6010D	Copper	8.4	ug/L	5.0	09/10/20 05:41	
EPA 6010D	Nickel	7.0	ug/L	5.0	09/10/20 05:41	
EPA 6010D	Hardness, Total(SM 2340B)	33600	ug/L	662	09/10/20 05:41	
EPA 6020B	Cobalt	12.0	ug/L	0.10	09/10/20 00:34	
EPA 6020B	Iron	92.9	ug/L	50.0	09/10/20 00:34	
EPA 6020B	Lithium	8.7	ug/L	2.5	09/10/20 00:34	
EPA 6020B	Manganese	198	ug/L	10.0	09/10/20 13:15	
EPA 6020B	Potassium	6080	ug/L	1000	09/10/20 13:15	
EPA 6020B	Sodium	8130	ug/L	5000	09/10/20 13:15	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92493784005	**ABC-Duplicate**					
EPA 9315	Radium-226	0.721 ± 0.409 (0.646) C:80% T:NA	pCi/L		09/23/20 06:11	
EPA 9320	Radium-228	0.915 ± 0.562 (1.06) C:61% T:75%	pCi/L		09/25/20 11:48	
Total Radium Calculation	Total Radium	1.64 ± 0.971 (1.71)	pCi/L		09/28/20 13:12	
EPA 9056A	Chloride	3.1	mg/L	1.0	09/05/20 14:56	
EPA 9056A	Sulfate	52.2	mg/L	1.0	09/05/20 14:56	
EPA 9060A	Total Organic Carbon	0.50J	mg/L	1.0	09/18/20 18:01	
EPA 9066	Phenolics, Total Recoverable	0.099	mg/L	0.012	09/13/20 06:13	
92493784006	**ABC-Field Blank**					
EPA 9315	Radium-226	0.231 ± 0.204 (0.345) C:86% T:NA	pCi/L		09/23/20 06:10	
EPA 9320	Radium-228	0.750 ± 0.417 (0.751) C:69% T:88%	pCi/L		09/25/20 11:48	
Total Radium Calculation	Total Radium	0.981 ± 0.621 (1.10)	pCi/L		09/28/20 13:12	
EPA 9056A	Sulfate	0.84J	mg/L	1.0	09/08/20 22:59	
EPA 9066	Phenolics, Total Recoverable	0.097	mg/L	0.012	09/13/20 06:14	

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1602 **Lab ID: 92493784001** Collected: 09/02/20 10:31 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	**131**	mg/L	25.0	25.0	1		09/08/20 10:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	5.0	3.0	1	09/09/20 01:47	09/10/20 05:11	7440-36-0	
Arsenic	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:11	7440-38-2	
Barium	**65.9**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:11	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	09/09/20 01:47	09/10/20 05:11	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	09/09/20 01:47	09/10/20 05:11	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	09/09/20 01:47	09/10/20 05:11	7440-43-9	
Calcium	**6480**	ug/L	100	94.2	1	09/09/20 01:47	09/10/20 05:11	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	09/09/20 01:47	09/10/20 05:11	7440-47-3	
Copper	**8.7**	ug/L	5.0	4.3	1	09/09/20 01:47	09/10/20 05:11	7440-50-8	
Molybdenum	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:11	7439-98-7	
Nickel	**7.1**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:11	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:11	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	09/09/20 01:47	09/10/20 05:11	7440-22-4	
Hardness, Total(SM 2340B)	**32800**	ug/L	662	131	1	09/09/20 01:47	09/10/20 05:11		
Vanadium	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:11	7440-62-2	
Zinc	ND	ug/L	10.0	9.5	1	09/09/20 01:47	09/10/20 05:11	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**11.5**	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 12:48	7440-48-4	
Iron	**74.3**	ug/L	50.0	20.9	1	09/09/20 16:11	09/10/20 12:48	7439-89-6	
Lead	**0.089J**	ug/L	0.10	0.077	1	09/09/20 16:11	09/10/20 12:48	7439-92-1	
Lithium	**10.1**	ug/L	2.5	0.39	1	09/09/20 16:11	09/10/20 12:48	7439-93-2	
Manganese	**202**	ug/L	10.0	9.5	20	09/09/20 16:11	09/10/20 12:52	7439-96-5	
Potassium	**6310**	ug/L	1000	180	20	09/09/20 16:11	09/10/20 12:52	7440-09-7	
Sodium	**8570**	ug/L	5000	982	20	09/09/20 16:11	09/10/20 12:52	7440-23-5	
Thallium	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 12:48	7440-28-0	
Tin	ND	ug/L	0.50	0.24	1	09/09/20 16:11	09/10/20 12:48	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/04/20 15:28	09/08/20 17:22	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**3.1**	mg/L	1.0	0.60	1		09/05/20 13:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/05/20 13:27	16984-48-8	
Sulfate	**50.8**	mg/L	1.0	0.50	1		09/05/20 13:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1602 **Lab ID: 92493784001** Collected: 09/02/20 10:31 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 13:12	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 13:12	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 13:12	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 13:12	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 13:12	7440-44-0	
EPA 9066	Analytical Method: EPA 9066 Preparation Method: METHOD Pace Analytical Gulf Coast								
Phenolics, Total Recoverable	**0.050**	mg/L	0.012	0.012	1	09/12/20 11:45	09/13/20 06:06	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1607 **Lab ID: 92493784002** Collected: 09/02/20 08:53 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	**130**	mg/L	25.0	25.0	1		09/08/20 10:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	5.0	3.0	1	09/09/20 01:47	09/10/20 05:15	7440-36-0	
Arsenic	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:15	7440-38-2	
Barium	**51.7**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:15	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	09/09/20 01:47	09/10/20 05:15	7440-41-7	
Boron	**225**	ug/L	50.0	32.4	1	09/09/20 01:47	09/10/20 05:15	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	09/09/20 01:47	09/10/20 05:15	7440-43-9	
Calcium	**8380**	ug/L	100	94.2	1	09/09/20 01:47	09/10/20 05:15	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	09/09/20 01:47	09/10/20 05:15	7440-47-3	
Copper	ND	ug/L	5.0	4.3	1	09/09/20 01:47	09/10/20 05:15	7440-50-8	
Molybdenum	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:15	7439-98-7	
Nickel	**10.0**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:15	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:15	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	09/09/20 01:47	09/10/20 05:15	7440-22-4	
Hardness, Total(SM 2340B)	**35900**	ug/L	662	131	1	09/09/20 01:47	09/10/20 05:15		
Vanadium	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:15	7440-62-2	
Zinc	**19.8**	ug/L	10.0	9.5	1	09/09/20 01:47	09/10/20 05:15	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**8.2**	ug/L	0.10	0.050	1	09/09/20 16:11	09/09/20 23:45	7440-48-4	
Iron	**3230**	ug/L	1500	628	30	09/09/20 16:11	09/10/20 12:56	7439-89-6	M6
Lead	ND	ug/L	0.10	0.077	1	09/09/20 16:11	09/09/20 23:45	7439-92-1	
Lithium	**3.1**	ug/L	2.5	0.39	1	09/09/20 16:11	09/09/20 23:45	7439-93-2	
Manganese	**209**	ug/L	15.0	14.2	30	09/09/20 16:11	09/10/20 12:56	7439-96-5	M6
Potassium	**2640**	ug/L	1500	270	30	09/09/20 16:11	09/10/20 12:56	7440-09-7	M6
Sodium	**15900**	ug/L	7500	1470	30	09/09/20 16:11	09/10/20 12:56	7440-23-5	M6
Thallium	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/09/20 23:45	7440-28-0	
Tin	ND	ug/L	0.50	0.24	1	09/09/20 16:11	09/09/20 23:45	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/04/20 15:28	09/08/20 17:30	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**16.2**	mg/L	1.0	0.60	1		09/05/20 13:42	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/05/20 13:42	16984-48-8	
Sulfate	**39.3**	mg/L	1.0	0.50	1		09/05/20 13:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1607 **Lab ID: 92493784002** Collected: 09/02/20 08:53 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**0.82J**	mg/L	1.0	0.50	1		09/18/20 13:29	7440-44-0	
Total Organic Carbon	**0.69J**	mg/L	1.0	0.50	1		09/18/20 13:29	7440-44-0	
Total Organic Carbon	**0.71J**	mg/L	1.0	0.50	1		09/18/20 13:29	7440-44-0	
Total Organic Carbon	**0.73J**	mg/L	1.0	0.50	1		09/18/20 13:29	7440-44-0	
Mean Total Organic Carbon	**0.74J**	mg/L	1.0	0.50	1		09/18/20 13:29	7440-44-0	
EPA 9066	Analytical Method: EPA 9066 Preparation Method: METHOD Pace Analytical Gulf Coast								
Phenolics, Total Recoverable	**0.029**	mg/L	0.012	0.012	1	09/12/20 11:45	09/14/20 13:50	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1608 **Lab ID: 92493784003** Collected: 09/02/20 10:13 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	**239**	mg/L	25.0	25.0	1		09/08/20 10:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	5.0	3.0	1	09/09/20 01:47	09/10/20 05:34	7440-36-0	
Arsenic	**5.7J**	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:34	7440-38-2	
Barium	**67.3**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:34	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	09/09/20 01:47	09/10/20 05:34	7440-41-7	
Boron	**217**	ug/L	50.0	32.4	1	09/09/20 01:47	09/10/20 05:34	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	09/09/20 01:47	09/10/20 05:34	7440-43-9	
Calcium	**20600**	ug/L	100	94.2	1	09/09/20 01:47	09/10/20 05:34	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	09/09/20 01:47	09/10/20 05:34	7440-47-3	
Copper	ND	ug/L	5.0	4.3	1	09/09/20 01:47	09/10/20 05:34	7440-50-8	
Molybdenum	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:34	7439-98-7	
Nickel	**19.8**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:34	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:34	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	09/09/20 01:47	09/10/20 05:34	7440-22-4	
Hardness, Total(SM 2340B)	**89600**	ug/L	662	131	1	09/09/20 01:47	09/10/20 05:34		
Vanadium	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:34	7440-62-2	
Zinc	**12.3**	ug/L	10.0	9.5	1	09/09/20 01:47	09/10/20 05:34	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**26.5**	ug/L	1.0	0.50	10	09/09/20 16:11	09/10/20 13:00	7440-48-4	
Iron	**6090**	ug/L	500	209	10	09/09/20 16:11	09/10/20 13:00	7439-89-6	
Lead	ND	ug/L	0.10	0.077	1	09/09/20 16:11	09/10/20 00:27	7439-92-1	
Lithium	**12.3**	ug/L	2.5	0.39	1	09/09/20 16:11	09/10/20 00:27	7439-93-2	
Manganese	**181**	ug/L	5.0	4.7	10	09/09/20 16:11	09/10/20 13:00	7439-96-5	
Potassium	**3790**	ug/L	500	89.9	10	09/09/20 16:11	09/10/20 13:00	7440-09-7	
Sodium	**32200**	ug/L	12500	2450	50	09/09/20 16:11	09/10/20 13:04	7440-23-5	
Thallium	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 00:27	7440-28-0	
Tin	ND	ug/L	0.50	0.24	1	09/09/20 16:11	09/10/20 00:27	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/04/20 15:28	09/08/20 17:37	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**54.7**	mg/L	1.0	0.60	1		09/05/20 14:27	16887-00-6	
Fluoride	**0.079J**	mg/L	0.10	0.050	1		09/05/20 14:27	16984-48-8	
Sulfate	**29.6**	mg/L	1.0	0.50	1		09/05/20 14:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1608 **Lab ID: 92493784003** Collected: 09/02/20 10:13 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**1.5**	mg/L	1.0	0.50	1		09/18/20 17:26	7440-44-0	
Total Organic Carbon	**1.4**	mg/L	1.0	0.50	1		09/18/20 17:26	7440-44-0	
Total Organic Carbon	**1.4**	mg/L	1.0	0.50	1		09/18/20 17:26	7440-44-0	
Total Organic Carbon	**1.4**	mg/L	1.0	0.50	1		09/18/20 17:26	7440-44-0	
Mean Total Organic Carbon	**1.5**	mg/L	1.0	0.50	1		09/18/20 17:26	7440-44-0	
EPA 9066	Analytical Method: EPA 9066 Preparation Method: METHOD Pace Analytical Gulf Coast								
Phenolics, Total Recoverable	**0.035**	mg/L	0.012	0.012	1	09/12/20 11:45	09/13/20 06:10	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1614 **Lab ID: 92493784004** Collected: 09/02/20 09:20 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	**244**	mg/L	25.0	25.0	1		09/08/20 10:47		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	5.0	3.0	1	09/09/20 01:47	09/10/20 05:37	7440-36-0	
Arsenic	**44.1**	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:37	7440-38-2	
Barium	**185**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:37	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	09/09/20 01:47	09/10/20 05:37	7440-41-7	
Boron	**212**	ug/L	50.0	32.4	1	09/09/20 01:47	09/10/20 05:37	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	09/09/20 01:47	09/10/20 05:37	7440-43-9	
Calcium	**21600**	ug/L	100	94.2	1	09/09/20 01:47	09/10/20 05:37	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	09/09/20 01:47	09/10/20 05:37	7440-47-3	
Copper	ND	ug/L	5.0	4.3	1	09/09/20 01:47	09/10/20 05:37	7440-50-8	
Molybdenum	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:37	7439-98-7	
Nickel	**15.1**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:37	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:37	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	09/09/20 01:47	09/10/20 05:37	7440-22-4	
Hardness, Total(SM 2340B)	**87800**	ug/L	662	131	1	09/09/20 01:47	09/10/20 05:37		
Vanadium	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:37	7440-62-2	
Zinc	ND	ug/L	10.0	9.5	1	09/09/20 01:47	09/10/20 05:37	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**21.7**	ug/L	1.0	0.50	10	09/09/20 16:11	09/10/20 13:07	7440-48-4	
Iron	**31600**	ug/L	2500	1050	50	09/09/20 16:11	09/10/20 13:11	7439-89-6	
Lead	**0.20**	ug/L	0.10	0.077	1	09/09/20 16:11	09/10/20 00:30	7439-92-1	
Lithium	**14.6**	ug/L	2.5	0.39	1	09/09/20 16:11	09/10/20 00:30	7439-93-2	
Manganese	**303**	ug/L	5.0	4.7	10	09/09/20 16:11	09/10/20 13:07	7439-96-5	
Potassium	**4040**	ug/L	500	89.9	10	09/09/20 16:11	09/10/20 13:07	7440-09-7	
Sodium	**20900**	ug/L	12500	2450	50	09/09/20 16:11	09/10/20 13:11	7440-23-5	
Thallium	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 00:30	7440-28-0	
Tin	ND	ug/L	0.50	0.24	1	09/09/20 16:11	09/10/20 00:30	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/04/20 15:28	09/08/20 17:39	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**17.2**	mg/L	1.0	0.60	1		09/05/20 14:42	16887-00-6	
Fluoride	**0.092J**	mg/L	0.10	0.050	1		09/05/20 14:42	16984-48-8	
Sulfate	**38.5**	mg/L	1.0	0.50	1		09/05/20 14:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1614 **Lab ID: 92493784004** Collected: 09/02/20 09:20 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**3.0**	mg/L	1.0	0.50	1		09/18/20 17:43	7440-44-0	
Total Organic Carbon	**3.0**	mg/L	1.0	0.50	1		09/18/20 17:43	7440-44-0	
Total Organic Carbon	**2.9**	mg/L	1.0	0.50	1		09/18/20 17:43	7440-44-0	
Total Organic Carbon	**3.1**	mg/L	1.0	0.50	1		09/18/20 17:43	7440-44-0	
Mean Total Organic Carbon	**3.0**	mg/L	1.0	0.50	1		09/18/20 17:43	7440-44-0	
EPA 9066	Analytical Method: EPA 9066 Preparation Method: METHOD Pace Analytical Gulf Coast								
Phenolics, Total Recoverable	**0.12**	mg/L	0.012	0.012	1	09/12/20 11:45	09/13/20 06:10	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-Duplicate **Lab ID: 92493784005** Collected: 09/02/20 10:45 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	**128**	mg/L	25.0	25.0	1		09/08/20 10:48		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	5.0	3.0	1	09/09/20 01:47	09/10/20 05:41	7440-36-0	
Arsenic	**7.0J**	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:41	7440-38-2	
Barium	**67.8**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:41	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	09/09/20 01:47	09/10/20 05:41	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	09/09/20 01:47	09/10/20 05:41	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	09/09/20 01:47	09/10/20 05:41	7440-43-9	
Calcium	**6670**	ug/L	100	94.2	1	09/09/20 01:47	09/10/20 05:41	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	09/09/20 01:47	09/10/20 05:41	7440-47-3	
Copper	**8.4**	ug/L	5.0	4.3	1	09/09/20 01:47	09/10/20 05:41	7440-50-8	
Molybdenum	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:41	7439-98-7	
Nickel	**7.0**	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:41	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:41	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	09/09/20 01:47	09/10/20 05:41	7440-22-4	
Hardness, Total(SM 2340B)	**33600**	ug/L	662	131	1	09/09/20 01:47	09/10/20 05:41		
Vanadium	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:41	7440-62-2	
Zinc	ND	ug/L	10.0	9.5	1	09/09/20 01:47	09/10/20 05:41	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	**12.0**	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 00:34	7440-48-4	
Iron	**92.9**	ug/L	50.0	20.9	1	09/09/20 16:11	09/10/20 00:34	7439-89-6	
Lead	ND	ug/L	0.10	0.077	1	09/09/20 16:11	09/10/20 00:34	7439-92-1	
Lithium	**8.7**	ug/L	2.5	0.39	1	09/09/20 16:11	09/10/20 00:34	7439-93-2	
Manganese	**198**	ug/L	10.0	9.5	20	09/09/20 16:11	09/10/20 13:15	7439-96-5	
Potassium	**6080**	ug/L	1000	180	20	09/09/20 16:11	09/10/20 13:15	7440-09-7	
Sodium	**8130**	ug/L	5000	982	20	09/09/20 16:11	09/10/20 13:15	7440-23-5	
Thallium	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 00:34	7440-28-0	
Tin	ND	ug/L	0.50	0.24	1	09/09/20 16:11	09/10/20 00:34	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/04/20 15:28	09/08/20 17:42	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**3.1**	mg/L	1.0	0.60	1		09/05/20 14:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/05/20 14:56	16984-48-8	
Sulfate	**52.2**	mg/L	1.0	0.50	1		09/05/20 14:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-Duplicate **Lab ID: 92493784005** Collected: 09/02/20 10:45 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	**0.50J**	mg/L	1.0	0.50	1		09/18/20 18:01	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:01	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:01	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:01	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:01	7440-44-0	
EPA 9066	Analytical Method: EPA 9066 Preparation Method: METHOD Pace Analytical Gulf Coast								
Phenolics, Total Recoverable	**0.099**	mg/L	0.012	0.012	1	09/12/20 11:45	09/13/20 06:13	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-Field Blank **Lab ID: 92493784006** Collected: 09/02/20 09:45 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids	Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/08/20 10:48		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	5.0	3.0	1	09/09/20 01:47	09/10/20 05:44	7440-36-0	
Arsenic	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:44	7440-38-2	
Barium	ND	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:44	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	09/09/20 01:47	09/10/20 05:44	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	09/09/20 01:47	09/10/20 05:44	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	09/09/20 01:47	09/10/20 05:44	7440-43-9	
Calcium	ND	ug/L	100	94.2	1	09/09/20 01:47	09/10/20 05:44	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	09/09/20 01:47	09/10/20 05:44	7440-47-3	
Copper	ND	ug/L	5.0	4.3	1	09/09/20 01:47	09/10/20 05:44	7440-50-8	
Molybdenum	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:44	7439-98-7	
Nickel	ND	ug/L	5.0	3.5	1	09/09/20 01:47	09/10/20 05:44	7440-02-0	
Selenium	ND	ug/L	10.0	4.7	1	09/09/20 01:47	09/10/20 05:44	7782-49-2	
Silver	ND	ug/L	5.0	2.5	1	09/09/20 01:47	09/10/20 05:44	7440-22-4	
Hardness, Total(SM 2340B)	ND	ug/L	662	131	1	09/09/20 01:47	09/10/20 05:44		
Vanadium	ND	ug/L	5.0	3.9	1	09/09/20 01:47	09/10/20 05:44	7440-62-2	
Zinc	ND	ug/L	10.0	9.5	1	09/09/20 01:47	09/10/20 05:44	7440-66-6	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Cobalt	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 00:38	7440-48-4	
Iron	ND	ug/L	50.0	20.9	1	09/09/20 16:11	09/10/20 00:38	7439-89-6	
Lead	ND	ug/L	0.10	0.077	1	09/09/20 16:11	09/10/20 00:38	7439-92-1	
Lithium	ND	ug/L	2.5	0.39	1	09/09/20 16:11	09/10/20 00:38	7439-93-2	
Manganese	ND	ug/L	0.50	0.47	1	09/09/20 16:11	09/10/20 00:38	7439-96-5	
Potassium	ND	ug/L	50.0	9.0	1	09/09/20 16:11	09/10/20 00:38	7440-09-7	
Sodium	ND	ug/L	250	49.1	1	09/09/20 16:11	09/10/20 00:38	7440-23-5	
Thallium	ND	ug/L	0.10	0.050	1	09/09/20 16:11	09/10/20 00:38	7440-28-0	
Tin	ND	ug/L	0.50	0.24	1	09/09/20 16:11	09/10/20 00:38	7440-31-5	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/04/20 15:28	09/08/20 17:44	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		09/08/20 22:59	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/08/20 22:59	16984-48-8	
Sulfate	**0.84J**	mg/L	1.0	0.50	1		09/08/20 22:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-Field Blank **Lab ID: 92493784006** Collected: 09/02/20 09:45 Received: 09/03/20 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon,Asheville	Analytical Method: EPA 9060A Pace Analytical Services - Asheville								
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:18	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:18	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:18	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:18	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		09/18/20 18:18	7440-44-0	
EPA 9066	Analytical Method: EPA 9066 Preparation Method: METHOD Pace Analytical Gulf Coast								
Phenolics, Total Recoverable	**0.097**	mg/L	0.012	0.012	1	09/12/20 11:45	09/13/20 06:14	64743-03-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 564896 | Analysis Method: SM 2540C-2011
QC Batch Method: SM 2540C-2011 | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Eden
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 2994207 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/08/20 10:46	

LABORATORY CONTROL SAMPLE: 2994208

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	268	107	90-110	

SAMPLE DUPLICATE: 2994209

Parameter	Units	92493444008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	384	346	10	25	

SAMPLE DUPLICATE: 2994210

Parameter	Units	92493784002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	130	142	9	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 564629 | Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A | Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 2992788 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	09/08/20 17:01	

LABORATORY CONTROL SAMPLE: 2992789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	101	80-120	

LABORATORY CONTROL SAMPLE: 2992790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.7	107	80-120	

LABORATORY CONTROL SAMPLE: 2992791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.6	104	80-120	

LABORATORY CONTROL SAMPLE: 2992792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.6	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992793 2992794

Parameter	Units	92493776002 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	2.6	2.5	103	100	75-125	3	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992795 2992796

Parameter	Units	92493784002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.4	2.4	97	96	75-125	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2992797 2992798

Parameter	Units	92493444008 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	2.8	2.7	110	108	75-125	2	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 565136
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 2995305 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	5.0	3.0	09/10/20 03:50	
Arsenic	ug/L	ND	10.0	4.7	09/10/20 03:50	
Barium	ug/L	ND	5.0	3.5	09/10/20 03:50	
Beryllium	ug/L	ND	1.0	0.70	09/10/20 03:50	
Boron	ug/L	ND	50.0	32.4	09/11/20 11:48	
Cadmium	ug/L	ND	1.0	0.40	09/10/20 03:50	
Calcium	ug/L	ND	100	94.2	09/10/20 03:50	
Chromium	ug/L	ND	5.0	3.7	09/10/20 03:50	
Copper	ug/L	ND	5.0	4.3	09/10/20 03:50	
Hardness, Total(SM 2340B)	ug/L	ND	662	131	09/10/20 03:50	
Molybdenum	ug/L	ND	5.0	3.9	09/10/20 03:50	
Nickel	ug/L	ND	5.0	3.5	09/10/20 03:50	
Selenium	ug/L	ND	10.0	4.7	09/10/20 03:50	
Silver	ug/L	ND	5.0	2.5	09/10/20 03:50	
Vanadium	ug/L	ND	5.0	3.9	09/10/20 03:50	
Zinc	ug/L	ND	10.0	9.5	09/10/20 03:50	

LABORATORY CONTROL SAMPLE: 2995306

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	518	104	80-120	
Arsenic	ug/L	500	538	108	80-120	
Barium	ug/L	500	505	101	80-120	
Beryllium	ug/L	500	499	100	80-120	
Boron	ug/L	500	533	107	80-120	
Cadmium	ug/L	500	495	99	80-120	
Calcium	ug/L	5000	4810	96	80-120	
Chromium	ug/L	500	466	93	80-120	
Copper	ug/L	500	508	102	80-120	
Hardness, Total(SM 2340B)	ug/L	33100	31000	94	80-120	
Molybdenum	ug/L	500	515	103	80-120	
Nickel	ug/L	500	499	100	80-120	
Selenium	ug/L	500	530	106	80-120	
Silver	ug/L	250	242	97	80-120	
Vanadium	ug/L	500	474	95	80-120	
Zinc	ug/L	500	497	99	80-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995307 2995308

Parameter	Units	92493443006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	539	543	107	108	75-125	1	20	
Arsenic	ug/L	ND	500	500	555	565	111	113	75-125	2	20	
Barium	ug/L	150	500	500	661	667	102	103	75-125	1	20	
Beryllium	ug/L	ND	500	500	514	516	103	103	75-125	0	20	
Boron	ug/L	1480	500	500	1930	1970	91	99	75-125	2	20	
Cadmium	ug/L	ND	500	500	517	523	103	104	75-125	1	20	
Calcium	ug/L	40300	5000	5000	43800	44500	69	84	75-125	2	20	M1
Chromium	ug/L	ND	500	500	481	483	96	97	75-125	0	20	
Copper	ug/L	ND	500	500	523	525	104	104	75-125	0	20	
Hardness, Total(SM 2340B)	ug/L	187000	33100	33100	213000	216000	78	88	75-125	2		
Molybdenum	ug/L	ND	500	500	526	530	105	106	75-125	1	20	
Nickel	ug/L	ND	500	500	501	506	100	101	75-125	1	20	
Selenium	ug/L	ND	500	500	562	565	112	113	75-125	1	20	
Silver	ug/L	ND	250	250	251	254	100	102	75-125	1	20	
Vanadium	ug/L	ND	500	500	495	500	99	100	75-125	1	20	
Zinc	ug/L	ND	500	500	515	522	103	104	75-125	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995309 2995310

Parameter	Units	92493784002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	500	500	538	542	107	108	75-125	1	20	
Arsenic	ug/L	ND	500	500	558	554	111	110	75-125	1	20	
Barium	ug/L	51.7	500	500	573	572	104	104	75-125	0	20	
Beryllium	ug/L	ND	500	500	518	518	104	104	75-125	0	20	
Boron	ug/L	225	500	500	722	720	99	99	75-125	0	20	
Cadmium	ug/L	ND	500	500	520	523	104	105	75-125	1	20	
Calcium	ug/L	8380	5000	5000	13400	13200	100	96	75-125	1	20	
Chromium	ug/L	ND	500	500	487	484	97	97	75-125	1	20	
Copper	ug/L	ND	500	500	524	525	104	105	75-125	0	20	
Hardness, Total(SM 2340B)	ug/L	35900	33100	33100	68300	67400	98	95	75-125	1		
Molybdenum	ug/L	ND	500	500	526	529	105	105	75-125	0	20	
Nickel	ug/L	10.0	500	500	520	524	102	103	75-125	1	20	
Selenium	ug/L	ND	500	500	561	572	112	114	75-125	2	20	
Silver	ug/L	ND	250	250	252	252	101	101	75-125	0	20	
Vanadium	ug/L	ND	500	500	498	492	100	98	75-125	1	20	
Zinc	ug/L	19.8	500	500	540	542	104	104	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 565305
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 2995907 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	0.10	0.050	09/09/20 23:38	
Iron	ug/L	ND	50.0	20.9	09/09/20 23:38	
Lead	ug/L	ND	0.10	0.077	09/09/20 23:38	
Lithium	ug/L	ND	2.5	0.39	09/09/20 23:38	
Manganese	ug/L	ND	0.50	0.47	09/09/20 23:38	
Potassium	ug/L	ND	50.0	9.0	09/09/20 23:38	
Sodium	ug/L	ND	250	49.1	09/09/20 23:38	
Thallium	ug/L	ND	0.10	0.050	09/09/20 23:38	
Tin	ug/L	ND	0.50	0.24	09/09/20 23:38	

LABORATORY CONTROL SAMPLE: 2995908

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	10	10.2	102	80-120	
Iron	ug/L	625	648	104	80-120	
Lead	ug/L	50	50.3	101	80-120	
Lithium	ug/L	50	47.2	94	80-120	
Manganese	ug/L	50	50.8	102	80-120	
Potassium	ug/L	625	617	99	80-120	
Sodium	ug/L	625	633	101	80-120	
Thallium	ug/L	10	10	100	80-120	
Tin	ug/L	50	49.2	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995909 2995910

Parameter	Units	92493784002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	8.2	10	10	18.4	18.7	102	105	75-125	2	20	
Iron	ug/L	3230	625	625	4360	4440	181	194	75-125	2	20	M6
Lead	ug/L	ND	50	50	51.3	51.1	103	102	75-125	0	20	
Lithium	ug/L	3.1	50	50	47.3	47.5	88	89	75-125	0	20	
Manganese	ug/L	209	50	50	292	297	168	177	75-125	2	20	M6
Potassium	ug/L	2640	625	625	3520	3580	139	150	75-125	2	20	M6
Sodium	ug/L	15900	625	625	18300	19000	383	495	75-125	4	20	M6
Thallium	ug/L	ND	10	10	10.2	10.2	101	102	75-125	0	20	
Tin	ug/L	ND	50	50	50.4	49.7	101	99	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2995911 2995912

Parameter	Units	92493444008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	44.0	10	10	52.1	50.0	81	60	75-125	4	20	M6
Iron	ug/L	6430	625	625	6730	6390	47	-7	75-125	5	20	M6
Lead	ug/L	0.15	50	50	51.0	50.5	102	101	75-125	1	20	
Lithium	ug/L	14.7	50	50	55.9	55.5	82	82	75-125	1	20	
Manganese	ug/L	983	50	50	962	924	-42	-117	75-125	4	20	M6
Potassium	ug/L	4710	625	625	5230	5000	84	46	75-125	5	20	M6
Sodium	ug/L	71200	625	625	73500	72800	361	257	75-125	1	20	M6
Thallium	ug/L	ND	10	10	10.2	10.1	102	101	75-125	1	20	
Tin	ug/L	ND	50	50	48.7	48.5	97	97	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 692013
QC Batch Method: METHOD
Analysis Method: EPA 9066
Analysis Description: EPA 9066 Phenolics Water
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2082287 2082288

Parameter	Units	92493784002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phenolics, Total Recoverable	mg/L	0.029	0.1	0.1	0.10	0.10	73	73	80-120	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 692013
QC Batch Method: EPA 420.1
Analysis Method: EPA 9066
Analysis Description: EPA 420.4 Phenolics Water
Laboratory: Pace Analytical Gulf Coast
Associated Lab Samples:

METHOD BLANK: 2082819 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/L	ND	0.012	0.012	09/13/20 05:52	

LABORATORY CONTROL SAMPLE: 2082820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/L	0.1	0.11	109	80-120	

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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 564789
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 2993840 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/05/20 12:42	
Fluoride	mg/L	ND	0.10	0.050	09/05/20 12:42	
Sulfate	mg/L	ND	1.0	0.50	09/05/20 12:42	

LABORATORY CONTROL SAMPLE: 2993841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.8	106	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	53.2	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993842 2993843

Parameter	Units	92493784002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	16.2	50	50	68.9	69.2	106	106	90-110	0	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	106	106	90-110	0	10	
Sulfate	mg/L	39.3	50	50	92.0	92.3	105	106	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2993844 2993845

Parameter	Units	92493444008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	92.2	50	50	138	139	92	94	90-110	1	10	
Fluoride	mg/L	0.14	2.5	2.5	2.8	2.9	106	109	90-110	2	10	
Sulfate	mg/L	115	50	50	166	167	102	103	90-110	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 567230
QC Batch Method: EPA 9060A
Analysis Method: EPA 9060A
Analysis Description: 9060 TOC, AVL
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92493784001, 92493784002

METHOD BLANK: 3005931 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 05:33	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 05:33	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 05:33	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 05:33	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 05:33	

LABORATORY CONTROL SAMPLE: 3005932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	25.8	103	75-125	
Total Organic Carbon	mg/L	25	25.7	103	75-125	
Total Organic Carbon	mg/L	25	25.8	103	75-125	
Total Organic Carbon	mg/L	25	25.7	103	75-125	
Total Organic Carbon	mg/L	25	26.0	104	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3005933 3005934

Parameter	Units	92493443006 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	ND	25	25	26.3	26.4	104	104	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	26.2	26.3	103	104	75-125	1	25	
Total Organic Carbon	mg/L	ND	25	25	26.6	26.5	105	104	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	26.0	26.1	103	103	75-125	0	25	
Total Organic Carbon	mg/L	ND	25	25	26.6	26.7	105	105	75-125	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3005935 3005936

Parameter	Units	92493784002 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	0.74J	25	25	26.7	26.8	104	104	75-125	0	25	
Total Organic Carbon	mg/L	0.69J	25	25	26.8	26.7	105	104	75-125	1	25	
Total Organic Carbon	mg/L	0.73J	25	25	26.8	27.1	104	105	75-125	1	25	
Total Organic Carbon	mg/L	0.82J	25	25	26.4	26.8	102	104	75-125	1	25	
Total Organic Carbon	mg/L	0.71J	25	25	26.9	26.8	105	104	75-125	0	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 567284
QC Batch Method: EPA 9060A
Analysis Method: EPA 9060A
Analysis Description: 9060 TOC, AVL
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 3006435 Matrix: Water
Associated Lab Samples: 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 16:15	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 16:15	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 16:15	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 16:15	
Total Organic Carbon	mg/L	ND	1.0	0.50	09/18/20 16:15	

LABORATORY CONTROL SAMPLE: 3006436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	25.6	103	75-125	
Total Organic Carbon	mg/L	25	25.6	102	75-125	
Total Organic Carbon	mg/L	25	26.0	104	75-125	
Total Organic Carbon	mg/L	25	25.3	101	75-125	
Total Organic Carbon	mg/L	25	25.8	103	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3006437 3006438

Parameter	Units	92493444008 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	0.80J	25	25	21.5	21.5	83	83	75-125	0	25	
Total Organic Carbon	mg/L	0.79J	25	25	21.4	21.6	82	83	75-125	1	25	
Total Organic Carbon	mg/L	0.85J	25	25	21.8	21.6	84	83	75-125	1	25	
Total Organic Carbon	mg/L	0.78J	25	25	21.0	21.3	81	82	75-125	2	25	
Total Organic Carbon	mg/L	0.79J	25	25	21.7	21.7	84	84	75-125	0	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1602 **Lab ID: 92493784001** Collected: 09/02/20 10:31 Received: 09/03/20 10:35 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	**0.948 ± 0.401 (0.349) C:75% T:NA**	pCi/L	09/23/20 06:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**2.34 ± 0.898 (1.40) C:53% T:70%**	pCi/L	09/25/20 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.29 ± 1.30 (1.75)**	pCi/L	09/28/20 13:12	7440-14-4	

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(704)875-9092

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1607 **Lab ID: 92493784002** Collected: 09/02/20 08:53 Received: 09/03/20 10:35 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	**0.260 ± 0.255 (0.493) C:86% T:NA**	pCi/L	09/23/20 06:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.05 ± 0.595 (1.10) C:62% T:76%**	pCi/L	09/25/20 11:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.31 ± 0.850 (1.59)**	pCi/L	09/28/20 13:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1608 **Lab ID: 92493784003** Collected: 09/02/20 10:13 Received: 09/03/20 10:35 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	**0.230 ± 0.215 (0.386) C:86% T:NA**	pCi/L	09/23/20 06:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.606 ± 0.480 (0.964) C:65% T:89%**	pCi/L	09/25/20 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.836 ± 0.695 (1.35)**	pCi/L	09/28/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-1614 **Lab ID: 92493784004** Collected: 09/02/20 09:20 Received: 09/03/20 10:35 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	**0.221 ± 0.285 (0.610) C:88% T:NA**	pCi/L	09/23/20 06:09	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0309 ± 0.392 (0.906) C:64% T:78%**	pCi/L	09/25/20 11:47	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.252 ± 0.677 (1.52)**	pCi/L	09/28/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-Duplicate **Lab ID: 92493784005** Collected: 09/02/20 10:45 Received: 09/03/20 10:35 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	**0.721 ± 0.409 (0.646) C:80% T:NA**	pCi/L	09/23/20 06:11	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.915 ± 0.562 (1.06) C:61% T:75%**	pCi/L	09/25/20 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.64 ± 0.971 (1.71)**	pCi/L	09/28/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Sample: ABC-Field Blank **Lab ID: 92493784006** Collected: 09/02/20 09:45 Received: 09/03/20 10:35 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	**0.231 ± 0.204 (0.345) C:86% T:NA**	pCi/L	09/23/20 06:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.750 ± 0.417 (0.751) C:69% T:88%**	pCi/L	09/25/20 11:48	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.981 ± 0.621 (1.10)**	pCi/L	09/28/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch:	413711	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 2001147 Matrix: Water

Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.246 ± 0.265 (0.536) C:93% T:NA	pCi/L	09/23/20 06:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

QC Batch: 413498 | Analysis Method: EPA 9320
QC Batch Method: EPA 9320 | Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

METHOD BLANK: 1999849 Matrix: Water
Associated Lab Samples: 92493784001, 92493784002, 92493784003, 92493784004, 92493784005, 92493784006

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.389 ± 0.401 (0.829) C:68% T:80%	pCi/L	09/25/20 11:45	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493784001	**ABC-1602**	SM 2540C-2011	564896		
92493784002	**ABC-1607**	SM 2540C-2011	564896		
92493784003	**ABC-1608**	SM 2540C-2011	564896		
92493784004	**ABC-1614**	SM 2540C-2011	564896		
92493784005	**ABC-Duplicate**	SM 2540C-2011	564896		
92493784006	**ABC-Field Blank**	SM 2540C-2011	564896		
92493784001	**ABC-1602**	EPA 3010A	565136	EPA 6010D	565166
92493784002	**ABC-1607**	EPA 3010A	565136	EPA 6010D	565166
92493784003	**ABC-1608**	EPA 3010A	565136	EPA 6010D	565166
92493784004	**ABC-1614**	EPA 3010A	565136	EPA 6010D	565166
92493784005	**ABC-Duplicate**	EPA 3010A	565136	EPA 6010D	565166
92493784006	**ABC-Field Blank**	EPA 3010A	565136	EPA 6010D	565166
92493784001	**ABC-1602**	EPA 3010A	565305	EPA 6020B	565362
92493784002	**ABC-1607**	EPA 3010A	565305	EPA 6020B	565362
92493784003	**ABC-1608**	EPA 3010A	565305	EPA 6020B	565362
92493784004	**ABC-1614**	EPA 3010A	565305	EPA 6020B	565362
92493784005	**ABC-Duplicate**	EPA 3010A	565305	EPA 6020B	565362
92493784006	**ABC-Field Blank**	EPA 3010A	565305	EPA 6020B	565362
92493784001	**ABC-1602**	EPA 7470A	564629	EPA 7470A	564719
92493784002	**ABC-1607**	EPA 7470A	564629	EPA 7470A	564719
92493784003	**ABC-1608**	EPA 7470A	564629	EPA 7470A	564719
92493784004	**ABC-1614**	EPA 7470A	564629	EPA 7470A	564719
92493784005	**ABC-Duplicate**	EPA 7470A	564629	EPA 7470A	564719
92493784006	**ABC-Field Blank**	EPA 7470A	564629	EPA 7470A	564719
92493784001	**ABC-1602**	EPA 9315	413711		
92493784002	**ABC-1607**	EPA 9315	413711		
92493784003	**ABC-1608**	EPA 9315	413711		
92493784004	**ABC-1614**	EPA 9315	413711		
92493784005	**ABC-Duplicate**	EPA 9315	413711		
92493784006	**ABC-Field Blank**	EPA 9315	413711		
92493784001	**ABC-1602**	EPA 9320	413498		
92493784002	**ABC-1607**	EPA 9320	413498		
92493784003	**ABC-1608**	EPA 9320	413498		
92493784004	**ABC-1614**	EPA 9320	413498		
92493784005	**ABC-Duplicate**	EPA 9320	413498		
92493784006	**ABC-Field Blank**	EPA 9320	413498		
92493784001	**ABC-1602**	Total Radium Calculation	415894		
92493784002	**ABC-1607**	Total Radium Calculation	415894		
92493784003	**ABC-1608**	Total Radium Calculation	415894		
92493784004	**ABC-1614**	Total Radium Calculation	415894		
92493784005	**ABC-Duplicate**	Total Radium Calculation	415894		
92493784006	**ABC-Field Blank**	Total Radium Calculation	415894		
92493784001	**ABC-1602**	EPA 9056A	564789		
92493784002	**ABC-1607**	EPA 9056A	564789		
92493784003	**ABC-1608**	EPA 9056A	564789		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PP 2SA20 (A)-Revised Report
Pace Project No.: 92493784

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92493784004	**ABC-1614**	EPA 9056A	564789		
92493784005	**ABC-Duplicate**	EPA 9056A	564789		
92493784006	**ABC-Field Blank**	EPA 9056A	564789		
92493784001	**ABC-1602**	EPA 9060A	567230		
92493784002	**ABC-1607**	EPA 9060A	567230		
92493784003	**ABC-1608**	EPA 9060A	567284		
92493784004	**ABC-1614**	EPA 9060A	567284		
92493784005	**ABC-Duplicate**	EPA 9060A	567284		
92493784006	**ABC-Field Blank**	EPA 9060A	567284		
92493784001	**ABC-1602**	METHOD	692013	EPA 9066	692044
92493784002	**ABC-1607**	METHOD	692013	EPA 9066	692044
92493784003	**ABC-1608**	METHOD	692013	EPA 9066	692044
92493784004	**ABC-1614**	METHOD	692013	EPA 9066	692044
92493784005	**ABC-Duplicate**	METHOD	692013	EPA 9066	692044
92493784006	**ABC-Field Blank**	METHOD	692013	EPA 9066	692044

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workord

WO# : 92493784

92493784

ALL SHADED

Company: Golder Associates Inc.	Billing Information: 20139775
Address: 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227	
Report To: Amanda Reynolds/Mike Williams Nicole Gasiorowski nicole.gasiorowski@pacelabs.com	Email To: areynolds@golder.com/Martha_Smith@golder.com
Copy To: Martha Smith	Site Collection Info/Address: Possum Point Power Station
Customer Project Name/Number: Possum Point 2SA2020 Modified Assessment Ponds ABC COMP	State: VA / County/City: Dumfries [ ]PT [ ]MT [ ]CT [X]ET Time Zone Collected:
Phone: 804-258-2398 Email: areynolds@golder.com	Site/Facility ID #: / Compliance Monitoring? [X] Yes [ ] No
Collected By (print): C. Joyner / M. Anta	Purchase Order # : 20139775 Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [X] Hold: 3 Months	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedited Charges Apply) / Field Filtered (if applicable): [ ] Yes [X] No Analysis: _____

Container Preservative Type **

1	1	U	U	1	2	2	2	0	

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other phosphoric acid (O1) Other 1 nitrous acid

Lab Project Manager:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	6010/6020 Metals (B, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Ni, Mo, K, Se, Ag, Na, Tl, Sn, V, Zn)	7470 Mercury	9056 Anions (Chloride, Fluoride, Sulfate)	SM2540 Total Dissolved Solids	SM2340B Hardness	9065 Phenolics	9315 Radium-226	9320 Radium-228	9060A Total Organic Carbon		
ABC-1602	GW	G	9-2-2020	1031			N	10	X	X	X	X	X	X	X	X	X		001
ABC-1607	GW	G	9-2-2020	0853			N	10	X	X	X	X	X	X	X	X	X		Sample MS/MSD 002
ABC-1608	GW	G	9-2-2020	1013			N	10	X	X	X	X	X	X	X	X	X		003
ABC-1614	GW	G	9-2-2020	0420			N	10	X	X	X	X	X	X	X	X	X		004
ABC-Duplicate	GW	G	9-2-2020	1045			N	10	X	X	X	X	X	X	X	X	X		005
ABC-Field Blank	GW	G	9-2-2020	0945			N	10	X	X	X	X	X	X	X	X	X		006

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact X N NA
Custody Signatures Present X N NA
Collector Signature Present X N NA
Bottles Intact X N NA
Correct Bottles X N NA
Sufficient Volume X N NA
Samples Received on Ice X N NA
VOA - Headspace Acceptable X N NA
USDA Regulated Soils Y N X
Samples in Holding Time X N NA
Residual Chlorine Present Y N X
Cl Strips: _____
Sample pH Acceptable X N NA
pH Strips: 232518V
Sulfide Present Y N X
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

92493784

Customer Remarks / Special Conditions / Possible Hazards: All samples immediately preserved on ice. Level II Reporting package requested. See sample memo, reporting group A for more details.

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 1-3
Cooler 1 Temp Upon Receipt: 0.1 oC
Cooler 1 Therm Corr. Factor: 0.0 oC
Cooler 1 Corrected Temp: 0.1 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time: 9-3-2020 0455	Received by/Company: (Signature)	Date/Time: 9.3.20 9:55	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time: 9.3.20 10:35	Received by/Company: (Signature) Rachel Burruss	Date/Time: 9-3-20 1035	Acctnum: Template: Prelogin: PM: PB:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: 1 of: 1

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Enthalpy Analytical
1941 Reymet Road
Richmond, VA 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Analysis Detects Report

Client Name: Golder Associates, Inc.
Client Site ID: Possum Point PS
Submitted To: Amanda Reynolds

Date Issued: 9/18/2020 8:17:13AM

Laboratory Sample ID: **20I0147-04** **Client Sample ID:** **ABC-1614**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Chromium, Hexavalent	04	SW7196A	14		5	5	1	ug/L

Note that this report is not the "Certificate of Analysis". This report only lists the target analytes that displayed concentrations that exceeded the detection limit specified for that analyte. For a complete listing of all analytes requested and the results of the analysis see the " Certificate of Analysis".

ENTHALPY ANALYTICAL
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1941 Reymet Road ● Richmond, Virginia 23237 ● Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 20I0147

Client Name:	Golder Associates, Inc. 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227	Date Received:	September 2, 2020 15:51
		Date Issued:	September 18, 2020 8:17
		Project Number:	20139775
Submitted To:	Amanda Reynolds	Purchase Order:	70313832
Client Site I.D.:	Possum Point PS		

Enclosed are the results of analyses for samples received by the laboratory on 09/02/2020 15:51. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Mandy Mishra
Laboratory Director

End Notes:
The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Date Issued: 9/18/2020 8:17:13AM

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
ABC-1602	20I0147-01	Ground Water	09/02/2020 10:31	09/02/2020 15:51
ABC-1607	20I0147-02	Ground Water	09/02/2020 08:53	09/02/2020 15:51
ABC-1608	20I0147-03	Ground Water	09/02/2020 10:13	09/02/2020 15:51
ABC-1614	20I0147-04	Ground Water	09/02/2020 09:20	09/02/2020 15:51
ABC-Duplicate	20I0147-05	Ground Water	09/02/2020 10:45	09/02/2020 15:51
ABC-Field Blank	20I0147-06	Ground Water	09/02/2020 09:45	09/02/2020 15:51

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Certificate of Analysis

Client Name: Golder Associates, Inc.
Date Issued: 9/18/2020 8:17:13AM
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Client Sample ID: **ABC-1602** **Laboratory Sample ID:** **20I0147-01**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	01	18540-29-9	SW7196A	09/03/2020 08:00	09/03/2020 08:00	BLOD		5	5	1	ug/L	MWL

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Certificate of Analysis

Client Name: Golder Associates, Inc.
Date Issued: 9/18/2020 8:17:13AM
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Client Sample ID: **ABC-1607** **Laboratory Sample ID:** **20I0147-02**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	02	18540-29-9	SW7196A	09/03/2020 08:00	09/03/2020 08:00	BLOD		5	5	1	ug/L	MWL

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Certificate of Analysis

Client Name: Golder Associates, Inc.
Date Issued: 9/18/2020 8:17:13AM
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Client Sample ID: **ABC-1608** **Laboratory Sample ID:** **20I0147-03**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	03	18540-29-9	SW7196A	09/03/2020 08:00	09/03/2020 08:00	BLOD		5	5	1	ug/L	MWL

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Certificate of Analysis

Client Name: Golder Associates, Inc.
Date Issued: 9/18/2020 8:17:13AM
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Client Sample ID: **ABC-1614** **Laboratory Sample ID:** **20I0147-04**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	04	18540-29-9	SW7196A	09/03/2020 08:00	09/03/2020 08:00	14		5	5	1	ug/L	MWL

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Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Date Issued: 9/18/2020 8:17:13AM

Client Sample ID: **ABC-Duplicate** **Laboratory Sample ID:** **20I0147-05**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	05	18540-29-9	SW7196A	09/03/2020 08:00	09/03/2020 08:00	BLOD		5	5	1	ug/L	MWL

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Enthalpy Analytical
1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
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Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Date Issued: 9/18/2020 8:17:13AM

Client Sample ID: **ABC-Field Blank** **Laboratory Sample ID:** **20I0147-06**

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Chromium, Hexavalent	06	18540-29-9	SW7196A	09/03/2020 08:00	09/03/2020 08:00	BLOD		5	5	1	ug/L	MWL

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Richmond, Virginia 23237
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Certificate of Analysis

Client Name: Golder Associates, Inc.
Date Issued: 9/18/2020 8:17:13AM
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Wet Chemistry Analysis - Quality Control

Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BDI0382 - No Prep Wet Chem										
Blank (BDI0382-BLK1)				Prepared & Analyzed: 09/03/2020						
Chromium, Hexavalent	ND	5	ug/L							
LCS (BDI0382-BS1)				Prepared & Analyzed: 09/03/2020						
Chromium, Hexavalent	99	5	ug/L	100		99.0	80-120			
Matrix Spike (BDI0382-MS1)	**Source: 20I0147-05**			Prepared & Analyzed: 09/03/2020						
Chromium, Hexavalent	86	5	ug/L	100	BLOD	86.0	80-120			
Matrix Spike Dup (BDI0382-MSD1)	**Source: 20I0147-05**			Prepared & Analyzed: 09/03/2020						
Chromium, Hexavalent	84	5	ug/L	100	BLOD	84.0	80-120	2.35	20	

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Wet Chemistry Analysis			**Preparation Method:**	**No Prep Wet Chem**	
20I0147-01	100 mL / 100 mL	SW7196A	BDI0382	SDI0352	AI00049
20I0147-02	100 mL / 100 mL	SW7196A	BDI0382	SDI0352	AI00049
20I0147-03	100 mL / 100 mL	SW7196A	BDI0382	SDI0352	AI00049
20I0147-04	100 mL / 100 mL	SW7196A	BDI0382	SDI0352	AI00049
20I0147-05	100 mL / 100 mL	SW7196A	BDI0382	SDI0352	AI00049
20I0147-06	100 mL / 100 mL	SW7196A	BDI0382	SDI0352	AI00049

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Certificate of Analysis

Client Name: Golder Associates, Inc.

Date Issued: 9/18/2020 8:17:13AM

Client Site I.D.: Possum Point PS

Submitted To: Amanda Reynolds

Certified Analyses included in this Report

Analyte	Certifications
SW7196A in Non-Potable Water	
Chromium, Hexavalent	VELAP

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2020
NC	North Carolina DENR	495	12/31/2020
NJDEP	New Jersey DEP	VA015	06/30/2021
NYDOH	New York DOH Drinking Water	12096	04/01/2021
PADEP	NELAC-Pennsylvania Certificate #005	68-03503	10/31/2020
VELAP	NELAC-Virginia Certificate #11064	460021	06/14/2021
WVDEP	West Virginia DEP	350	11/30/2020

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Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Date Issued: 9/18/2020 8:17:13AM

Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.
PCBs, Total	Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

AIR WATER & SOIL LABORATORIES, INC.
1941 REYMET ROAD
RICHMOND, VIRGINIA 23237
(804) 358-8295 PHONE
(804)358-8297 FAX

Chain of Custody
Effective: Nov 15, 2018

CHAIN OF CUSTODY

PAGE 1 OF 1 COMP

COMPANY NAME: Golder Associates Inc	INVOICE TO: Golder Associates Inc	PROJECT NAME/Quote #: Possum Point 2SA2020 Cr6+ Pond ABC
CONTACT: Amanda Reynolds / Mike Williams	INVOICE CONTACT: Amanda Reynolds	SITE NAME: ~~Yorktown Industrial Landfill~~ c/s Possum Point P.S.
ADDRESS: 2108 W Laburnum Ave, Suite 200, RVA 23227	INVOICE ADDRESS: gaiapdataentry_invoices@golder.com	PROJECT NUMBER: 20139775
PHONE #: 804-258-2398	INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL: areynolds@golder.com / Martha_Smith@golder.com	Pretreatment Program:
Is sample for compliance reporting? YES	**Regulatory State: VA**	Is sample from a chlorinated supply? NO	PWS I.D. #:
SAMPLER NAME (PRINT): C. Joyner / M. Antal	SAMPLER SIGNATURE:	**Turn Around Time:** Standard	

Matrix Codes: WW=Waste Water/Storm Water GW=Ground Water DW=Drinking Water S=Soil/Solids OR=Organic A=Air WP=Wipe OT=Other_____

CLIENT SAMPLE I.D.	Grab	Composite	Field Filtered (Dissolved Metals)	Composite Start Date	Composite Start Time	Grab Date or Composite Stop Date	Grab Time or Composite Stop Time	Time Preserved	Matrix (See Codes)	Number of Containers	ANALYSIS / (PRESERVATIVE) 7196A Hexavalent Chromium								COMMENTS
1) ABC-1607	X					9-2-2020	1031	1031	GW	1	X								All samples immediately
2) ABC-1607	X					9-2-2020	0853	0853	GW	1	X								preserved on ice. Level
3) ABC-1609	X					9-2-2020	1013	1013	GW	1	X								II Reporting package
4) ABC-1614	X					9-2-2020	0920	0920	GW	1	X								requested.
5) ABC-Duplicate	X					9-2-2020	1045	1045	GW	1	X								See sample memo dated
6) ABC-Field Blank	X					9-2-2020	0945	0945	GW	1	X								July 17, 2020, for more
7)																			information.
8)																			
9)																			Report Group A
10)																			

PRESERVATIVE CODES: N=Nitric Acid C=Hydrochloric Acid S=Sulfuric Acid H=Sodium Hydroxide A=Ascorbic Acid Z=Zinc Acetate T=Sodium Thiosulfate M=Methanol

PLEASE NOTE PRESERVATIVE(S), INTERFERENCE CHECKS or PUMP RATE (L/min)

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
	9-2-2020 1410		9-2-20 1417
RELINQUISHED: Courier	DATE / TIME	RECEIVED: MDST	DATE / TIME 9/2/20 15:51
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package
Level III ☐
Level IV ☐
Level II

LAB USE ONLY Therm ID: 274 COOLER TEMP 0.6 °C
Custody Seals used and intact? (Y) N) Received on ice? (Y) N)

GA 20I0147
Possum Point PS: Report Set A
Recd: 09/02/2020 Due: 09/10/20

v130325002

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1941 Reymet Road
Richmond, Virginia 23237
(804)-358-8295 - Telephone
(804)-358-8297 - Fax

Certificate of Analysis

Client Name: Golder Associates, Inc.
Client Site I.D.: Possum Point PS
Submitted To: Amanda Reynolds

Date Issued: 9/18/2020 8:17:13AM

Sample Conditions Checklist

Samples Received at:	**0.60°C**
How were samples received?	ent Provided Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

Work Order Comments

APPENDIX E.3
LABORATORY ANALYTICAL RESULTS
SECOND SEMI-ANNUAL VERIFICATION GROUNDWATER MONITORING EVENT
(OCTOBER 2020)

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 21, 2020

Mike Williams
Golder Associates
2108 W Laburnum Ave
Suite 200
Richmond, VA 23227

RE: Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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,

Nicole Gasiorowski

Nicole Gasiorowski
nicole.gasiorowski@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Craig LaCosse, Golder Associates Inc.
Rachel Powell, Golder Associates
Amanda Reynolds, Golder Associates
Martha Smith, Golder Associates Inc.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92500785001	**ABC-1608**	Water	10/15/20 11:12	10/15/20 16:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500785001	**ABC-1608**	EPA 6020B	JOR	1	PASI-A

PASI-A = Pace Analytical Services - Asheville

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92500785001	**ABC-1608**					
EPA 6020B	Cobalt	25.4	ug/L	1.0	10/21/20 13:43	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

Sample: ABC-1608 **Lab ID: 92500785001** Collected: 10/15/20 11:12 Received: 10/15/20 16:00 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								
Cobalt	**25.4**	ug/L	1.0	0.50	10	10/21/20 01:13	10/21/20 13:43	7440-48-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

QC Batch: 574580
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500785001

METHOD BLANK: 3041808 Matrix: Water
Associated Lab Samples: 92500785001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	0.10	0.050	10/21/20 13:13	

LABORATORY CONTROL SAMPLE: 3041809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	10	10.6	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3041810 3041811

Parameter	Units	92500784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	10	10	10.1	10.4	101	104	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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

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.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500785

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500785001	**ABC-1608**	EPA 3010A	574580	EPA 6020B	574600

REPORT OF LABORATORY ANALYSIS

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workord **WO# : 92500785**

92500785

ALL SHADED

Company: Golder Associates Inc.	Billing Information: 20139775
Address: 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227	
Report To: Amanda Reynolds/Mike Williams Nicole Gasiorowski nicole.gasiorowski@pacelabs.com	Email To: areynolds@golder.com/Martha_Smith@golder.com
Copy To: Martha Smith	Site Collection Info/Address: Possum Point Power Station
Customer Project Name/Number: Possum Point 2SA2020 Verification - Ponds ABC	State: VA / County/City: Dumfries [ ]PT [ ]MT [ ]CT [X]ET Time Zone Collected:
Phone: 804-258-2398 Email: areynolds@golder.com	Site/Facility ID #: Possum Point P.S. / Compliance Monitoring? [X] Yes [ ] No
Collected By (print): O. Steele	Purchase Order # : 20139775 Quote #: / DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [X] Hold: 3 Months	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedited Charges Apply) / Field Filtered (if applicable): [ ] Yes [X] No Analysis: _____

Container Preservative Type ** | Lab Project Manager:

1

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other phosphoric acid (O1) Other 1 nitrous acid

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 6020 Cobalt, Total	Lab Profile/Line:
ABC-1608	GW	Grab	10/15/2020	1112			N	1	X	92500785 001

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	✗	N	NA
Custody Signatures Present	✗	N	NA
Collector Signature Present	✗	N	NA
Bottles Intact	✗	N	NA
Correct Bottles	✗	N	NA
Sufficient Volume	✗	N	NA
Samples Received on Ice	✗	N	NA
VOA - Headspace Acceptable	Y	N	✗
USDA Regulated Soils	Y	N	✗
Samples in Holding Time	✗	N	NA
Residual Chlorine Present	Y	N	✗

Cl Strips: _____

Sample pH Acceptable ✗ N NA

pH Strips: 232518V

Sulfide Present Y N ✗

Lead Acetate Strips: _____

LAB USE ONLY:

Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards: All samples immediately preserved on ice. Level II Reporting package requested. See sample memo, reporting group __A__ for more details.

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#: T-3

Cooler 1 Temp Upon Receipt: 1.8 oC

Cooler 1 Therm Corr. Factor: +0.1 oC

Cooler 1 Corrected Temp: 1.9 oC

Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY
(Golder)	10/15/2020 1600	Rachel Burruss	10-15-20 1600	Table #:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	PM: PB:

Trip Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 21, 2020

Mike Williams
Golder Associates
2108 W Laburnum Ave
Suite 200
Richmond, VA 23227

RE: Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory on October 15, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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,

Nicole Gasiorowski

Nicole Gasiorowski
nicole.gasiorowski@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Craig LaCosse, Golder Associates Inc.
Rachel Powell, Golder Associates
Amanda Reynolds, Golder Associates
Martha Smith, Golder Associates Inc.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92500784001	**Field Blank-Cobalt**	Water	10/15/20 09:35	10/15/20 16:00

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92500784001	**Field Blank-Cobalt**	EPA 6020B	JOR	1	PASI-A

PASI-A = Pace Analytical Services - Asheville

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

Sample: Field Blank-Cobalt **Lab ID: 92500784001** Collected: 10/15/20 09:35 Received: 10/15/20 16:00 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								
Cobalt	ND	ug/L	0.10	0.050	1	10/21/20 01:13	10/21/20 13:21	7440-48-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

QC Batch: 574580
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92500784001

METHOD BLANK: 3041808 Matrix: Water
Associated Lab Samples: 92500784001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	0.10	0.050	10/21/20 13:13	

LABORATORY CONTROL SAMPLE: 3041809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	10	10.6	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3041810 3041811

Parameter	Units	92500784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cobalt	ug/L	ND	10	10	10.1	10.4	101	104	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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

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.

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Possum Point 2SA20 Verif.
Pace Project No.: 92500784

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92500784001	**Field Blank-Cobalt**	EPA 3010A	574580	EPA 6020B	574600

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix W

WO# : 92500784

92500784

ALL SHAI

Company: Golder Associates Inc.	Billing Information: 20139775
Address: 2108 W. Laburnum Ave. Suite 200 Richmond, VA 23227	
Report To: Amanda Reynolds/Mike Williams Nicole Gasiorowski nicole.gasiorowski@pacelabs.com	Email To: areynolds@golder.com/Martha_Smith@golder.com
Copy To: Martha Smith	Site Collection Info/Address: Possum Point Power Station
Customer Project Name/Number: Possum Point 2SA2020 Verification - Ponds ABC	State: VA / County/City: Dumfries [ ]PT [ ]MT [ ]CT [X]ET Time Zone Collected:
Phone: 804-258-2398 Email: areynolds@golder.com	Site/Facility ID #: Possum Point P.S. / Compliance Monitoring? [X] Yes [ ] No
Collected By (print): O. Steele	Purchase Order # : 20139775 Quote #: / DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard / Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: ____ [X] Hold: 3 Months	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedited Charges Apply) / Field Filtered (if applicable): [ ] Yes [X] No Analysis:

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other phosphoric acid (O1) Other 1 nitrous acid

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: 6020 Cobalt, Total
Field Blank-Cobalt	GW	Grab	10/15/2020	0935			N	1	X

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	N NA
Custody Signatures Present	N NA
Collector Signature Present	N NA
Bottles Intact	N NA
Correct Bottles	N NA
Sufficient Volume	N NA
Samples Received on Ice	N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	N NA
Residual Chlorine Present	Y N NA
Cl Strips: ____	
Sample pH Acceptable	N NA
pH Strips: 232518V	
Sulfide Present	Y N NA
Lead Acetate Strips: ____	

LAB USE ONLY:
Lab Sample # / Comments:

92500784
001

Customer Remarks / Special Conditions / Possible Hazards: All samples immediately preserved on ice. Level II Reporting package requested. See sample memo, reporting group __H__ for more details.

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: T-3
Cooler 1 Temp Upon Receipt: 1.8 oC
Cooler 1 Therm Corr. Factor: +0.1 oC
Cooler 1 Corrected Temp: 1.9 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
(Golder)	10/15/2020@1600	Rachel Burruss	10-15-20 1600
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO
Page: ____ of: ____

APPENDIX F
HISTORICAL LABORATORY DETECTIONS

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
Permit No. 617

		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Arsenic							
11/02-04/2016	SW6020B	µg/L	< 0.5 U	0.88 J	6.8	25.4	--
12/12-13/2016	SW6020B	µg/L	< 0.5 U	1.1	49.3	28.1	--
01/25-26/2017	SW6020B	µg/L	0.63 J	0.98 J	36	37.4	--
03/06-07/2017	SW6020B	µg/L	< 0.5 U	1.3	24.1	39.5	--
04/19-21/2017	SW6020B	µg/L	< 0.5 U	1.5 J+	15	32.8	--
05/30-06/01/2017	SW6020B	µg/L	< 0.5 U	1.1	11.5	31	--
07/10-12/2017	SW6020B	µg/L	< 0.5 U	1.5	12.2	31.7	--
08/21-23/2017	SW6020B	µg/L	< 0.5 U	0.95 J	12.4	36.9	--
06/27/2018	SW6010D	µg/L	< 5.0	< 5.0	9.6 J	35.4	< 5.0
09/19/2018	SW6010D	µg/L	< 5.0	< 5.0	9.3 J	39.2	< 5.0
12/12-13/2018	SW6010D	µg/L	< 5.0 U	< 5.0 U	< 5.0 U	40.1	< 5.0 U
08/26-29/2019	SW6010D	µg/L	< 4.7	< 4.7	< 4.7	30.1	< 4.7
02/17-19/2020	SW6010D	µg/L	< 4.7	< 4.7	5.8 J	44.4	< 4.7
08/31-09/02/2020	SW6010D	µg/L	< 4.7	< 4.7	5.7 J	44.1	< 4.7
Barium							
11/02-04/2016	SW6020B	µg/L	52.9	34.1	157	230	--
12/12-13/2016	SW6020B	µg/L	53 B	33.9 B	150	263	--
01/25-26/2017	SW6020B	µg/L	67.3	31.4	132	222	--
03/06-07/2017	SW6020B	µg/L	77.6	45	125	236	--
04/19-21/2017	SW6020B	µg/L	81	33.9	89.9	203	--
05/30-06/01/2017	SW6020B	µg/L	81.4	35.1	95.1	208	--
07/10-12/2017	SW6020B	µg/L	75.8	31.3	93	243	--
08/21-23/2017	SW6020B	µg/L	73.3	29.4	96.2	251	--
06/27/2018	SW6010D	µg/L	82.8	36.0	79.4	235	< 2.5
09/19/2018	SW6010D	µg/L	68.6	33.7	72.2	244	< 2.5
12/12-13/2018	SW6010D	µg/L	68.5	37.5	64.3	204	< 2.5 U
08/26-29/2019	SW6010D	µg/L	62.1	54.1 J+	66.2	211	1.1 J
02/17-19/2020	SW6010D	µg/L	67.9	50.6	64.2	175	< 1.0
08/31-09/02/2020	SW6010D	µg/L	65.9	51.7	67.3	185	< 3.5
Beryllium							
11/02-04/2016	SW6020B	µg/L	0.4 J	0.2 J	< 0.2 U	0.26 J	--
12/12-13/2016	SW6020B	µg/L	0.61 B	< 0.2 U	< 0.2 U	0.58 B	--
01/25-26/2017	SW6020B	µg/L	0.36 J	< 0.2 U	< 0.2 U	< 0.2 U	--
03/06-07/2017	SW6020B	µg/L	0.7 J	< 0.2 U	< 0.2 U	0.28 J	--
04/19-21/2017	SW6020B	µg/L	0.65 J	< 0.2 U	< 0.2 U	< 0.2 U	--
05/30-06/01/2017	SW6020B	µg/L	0.76 J	< 0.2 U	< 0.2 U	< 0.2 U	--
07/10-12/2017	SW6020B	µg/L	0.9 J	< 0.2 U	< 0.2 U	< 0.2 U	--
08/21-23/2017	SW6020B	µg/L	0.67 J	0.31 J	< 0.2 U	< 0.2 U	--
06/27/2018	SW6010D	µg/L	0.64 J	< 0.50	< 0.50	< 0.50	< 0.50
09/19/2018	SW6010D	µg/L	0.65 J	< 0.50	< 0.50	< 0.50	< 0.50
12/12-13/2018	SW6010D	µg/L	0.54 J	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
08/26-29/2019	SW6010D	µg/L	0.60 J	< 0.50	< 0.50	< 0.50	< 0.20
02/17-19/2020	SW6010D	µg/L	0.68 J	< 0.20	< 0.20	< 0.20	< 0.20
08/31-09/02/2020	SW6010D	µg/L	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70
Boron							
11/02-04/2016	SW6020B	µg/L	24.6 J	280	234 J	218 J	< 5.7
12/12-13/2016	SW6020B	µg/L	35 B	211 J	230 J	269	< 0.57
01/25-26/2017	SW6020B	µg/L	41.4 J	279	311	251	2.8 J
03/06-07/2017	SW6020B	µg/L	45.3 J	437	339	265	16.3 J
04/19-21/2017	SW6020B	µg/L	18.5 J	277	232 J	194 J	94.9
05/30-06/01/2017	SW6020B	µg/L	93.6 J+	340	284	223 J	66.1
07/10-12/2017	SW6010	µg/L	< 25	275	226	256	< 25
08/21-23/2017	SW6010	µg/L	< 25	256	212	242	< 25
06/27/2018	SW6010D	µg/L	< 25	240	170	240	< 25
09/19/2018	SW6010D	µg/L	< 25	240	210	300	< 25
12/12-13/2018	SW6010D	µg/L	< 25	250	210	240	48 J
03/11-15/2019	SW6010D	µg/L	< 25	190	150	180	< 25
08/26-29/2019	SW6010D	µg/L	8.8 J	190	220	240	7.4 J
02/17-19/2020	SW6010D	µg/L	< 6.6	190	220	200	< 6.6
08/31-09/02/2020	SW6010D	µg/L	< 32	225	217	212	< 32

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Calcium							
11/02-04/2016	SW6020B	µg/L	4700	33100	19100	68400	< 1030
12/12-13/2016	SW6020B	µg/L	5000 B	22500	29800	78900	1910
01/25-26/2017	SW6020B	µg/L	5570	18600	29000	62200	< 103
03/06-07/2017	SW6020B	µg/L	6070	19100	28600	59600	< 103
04/19-21/2017	SW6020B	µg/L	6280	14800	22500	53900	< 103
05/30-06/01/2017	SW6020B	µg/L	5430	15100	21700	55900	< 103
07/10-12/2017	SW6020B	µg/L	5800	15000	21900	63100	< 103
08/21-23/2017	SW6020B	µg/L	6380	13900	23600	60500	< 1030
06/27/2018	SW6010D	µg/L	6300	13100	16300	50300	< 50
09/19/2018	SW6010D	µg/L	5400	11100	19000	49900	< 50
12/12-13/2018	SW6010D	µg/L	5600	7400	17900	34900	< 50
03/11-15/2019	SW6010D	µg/L	5900	6200	12600	22300	< 50
08/26-29/2019	SW6010D	µg/L	5900	6600	19600	35000	< 24
02/17-19/2020	SW6010D	µg/L	7100	7100	20600	24000	< 94.2
08/31-09/02/2020	SW6010D	µg/L	6480	8400	20600	21600	< 94.2
Chloride							
11/02-04/2016	SW9056A	mg/L	5.0	17.4	59.5	19.1	--
12/12-13/2016	SW9056	mg/L	5.1	14.4	47.0	15.0	--
01/25-26/2017	SW9056A	mg/L	3.1	16.6	53.1	16.0	--
03/06-07/2017	SW9056A	mg/L	3.6	15.9	53.1	14.6	--
04/19-21/2017	SW9056A	mg/L	2.6	16.8	56.9	15.5	--
05/30-06/01/2017	SW9056A	mg/L	2.6	16.7	54.9	18.1	--
07/10-12/2017	SW9056A	mg/L	2.5	16.9	53.8	19.3	--
08/21-23/2017	SW9056A	mg/L	2.8	17.4	60.2	20.0	--
06/27/2018	E300	mg/L	2.4	19.5	54.1	20.3	< 0.50
09/19/2018	E300	mg/L	2.6	17.0	54.9	24.5	< 0.50
12/12-13/2018	E300	mg/L	2.7	15.7	50.9	17.9	0.61 J
03/11-15/2019	E300	mg/L	2.7	11.1	55.4	16.2	< 0.60
08/26-29/2019	SW9056A	mg/L	2.8	12.2	52.8	17.2	< 0.60
02/17-19/2020	SW9056A	mg/L	2.9	18.7	53.2	15.0	< 0.60
08/31-09/02/2020	SW9056A	mg/L	3.1	16.2	54.7	17.2	< 0.60
Chromium							
11/02-04/2016	SW6020B	µg/L	< 1 U	< 1 U	2 J	1.1 J	--
12/12-13/2016	SW6020B	µg/L	< 1 U	< 1 U	< 1 U	< 1 U	--
01/25-26/2017	SW6020B	µg/L	< 1 U	< 1 U	< 1 U	< 1 U	--
03/06-07/2017	SW6020B	µg/L	1.1 B	< 1 U	< 1 U	2.3 B	--
04/19-21/2017	SW6020B	µg/L	< 1 U	1 J+	< 1 U	< 1 U	--
05/30-06/01/2017	SW6020B	µg/L	< 1 U	< 1 U	< 1 U	< 1 U	--
07/10-12/2017	SW6020B	µg/L	< 1 U	< 1 U	< 1 U	< 1 U	--
08/21-23/2017	SW6020B	µg/L	< 1 U	< 1 U	< 1 U	1.2 J	--
06/27/2018	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
09/19/2018	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
12/12-13/2018	SW6010D	µg/L	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
08/26-29/2019	SW6010D	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
02/17-19/2020	SW6010D	µg/L	1.3 J	< 1.0	< 1.0	< 1.0	< 1.0
08/31-09/02/2020	SW6010D	µg/L	< 3.7	< 3.7	< 3.7	< 3.7	< 3.7
Hexavalent Chromium							
11/02-04/2016	SW7196	µg/L	< 10 U	< 10 U	< 10 U	< 10 U	--
12/12-13/2016	SW7196	µg/L	< 10 U	< 10 U	17 ^	< 10 U	--
01/25-26/2017	SW7196A	µg/L	6 ^	< 5 U	< 5 U	< 5 U	--
03/06-07/2017	SW7196A	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	--
04/19-21/2017	SW7196A	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	--
05/30-06/01/2017	SW7196A	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	--
07/10-12/2017	SW7196A	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	--
08/21-23/2017	SW7196A	µg/L	< 5 U	< 5 U	< 5 U	< 5 U	--
06/27/2018	SW7196A	µg/L	< 5	< 5	< 5	0.006 (ND)	< 5
09/19/2018	SW7196A	µg/L	< 5	< 5	< 5	< 5	< 5
12/12-13/2018	SW7196A	µg/L	< 5 U	< 5 U	26	< 5 U	< 5 U
08/26-29/2019	SW7196A	µg/L	< 5	5 R (ND)	< 5	< 5	< 5
02/17-19/2020	SW7196A	µg/L	< 5	< 5	< 5	< 5	< 5
08/31-09/02/2020	SW7196A	µg/L	< 5	< 5	< 5	14 J	< 5

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Cobalt							
11/02-04/2016	SW6020B	µg/L	3.5	8.3	36.1	17.3	--
12/12-13/2016	SW6020B	µg/L	5.7	7.6	36.4	19.2	--
01/25-26/2017	SW6020B	µg/L	9.2	7.8	35.4	17.1	--
03/06-07/2017	SW6020B	µg/L	11	10.2	36	19.2	--
04/19-21/2017	SW6020B	µg/L	13.6	7.6	28.5	18.5	--
05/30-06/01/2017	SW6020B	µg/L	15.3	7.9	27.7	21.2	--
07/10-12/2017	SW6020B	µg/L	18.4	7.5	30	25.9	--
08/21-23/2017	SW6020B	µg/L	18.8 J+	7.8	30.6	25	--
06/27/2018	SW6010D	µg/L	9.8	6.8	21.8	20.9	< 2.5
09/19/2018	SW6010D	µg/L	9.9	6.9	22.2	21.8	< 2.5
12/12-13/2018	SW6010D	µg/L	10	6.5	21.0	17.8	< 2.5 U
08/26-29/2019	SW6020B	µg/L	11.1	8.1	22.5	21.1	< 0.050
02/17-19/2020	SW6020B	µg/L	15.0	8.7	23.5	19.9	< 0.050
08/31-09/02/2020	SW6020B	µg/L	11.5	8.2	26.5	21.7	< 0.050
Copper							
11/02-04/2016	SW6020B	µg/L	1.3 J	< 1.2 U	1.9 J	< 1.2 U	--
12/12-13/2016	SW6020B	µg/L	2.4 B	1.3 B	< 1.2 U	< 1.2 U	--
01/25-26/2017	SW6020B	µg/L	10.1	< 1.2 U	< 1.2 U	< 1.2 U	--
03/06-07/2017	SW6020B	µg/L	16	< 1.2 U	< 1.2 U	< 1.2 U	--
04/19-21/2017	SW6020B	µg/L	17.5 J+	< 1.2 U	< 1.2 U	2.7 J+	--
05/30-06/01/2017	SW6020B	µg/L	14.4	< 1.2 U	< 1.2 U	1.3 J+	--
07/10-12/2017	SW6020B	µg/L	13.6	< 1.2 U	< 1.2 U	< 1.2 U	--
08/21-23/2017	SW6020B	µg/L	12.9	< 1.2 U	< 1.2 U	< 1.2 U	--
06/27/2018	SW6020A	µg/L	7.6	0.35 J	0.75 J	1.5	0.67 J
09/19/2018	SW6020A	µg/L	6.9	0.22 J+	0.22 J	0.29 J+	0.64 J
12/12-13/2018	SW6020B	µg/L	5.8	0.52 J+	< 0.23 U	< 0.23 U	1.4
08/26-29/2019	SW6010D	µg/L	4.9 J	< 2.1	< 2.1	< 2.1	< 2.1
02/17-19/2020	SW6010D	µg/L	7.7	< 2.1	< 2.1	< 2.1	< 2.1
08/31-09/02/2020	SW6010D	µg/L	8.7	< 4.3	< 4.3	< 4.3	< 4.3
Fluoride							
11/02-04/2016	SW9056A	mg/L	0.035 J	0.028 J	0.064 J	0.15	--
12/12-13/2016	SW9056	mg/L	0.093	0.063	0.23	0.23	--
01/25-26/2017	SW9056A	mg/L	< 0.020 U	< 0.020 U	0.15	0.12	--
03/06-07/2017	SW9056A	mg/L	< 0.020 U	< 0.020 U	0.091 J	0.10	--
04/19-21/2017	SW9056A	mg/L	< 0.050 U	< 0.050 U	0.098 J	0.13	--
05/30-06/01/2017	SW9056A	mg/L	< 0.050 U	< 0.050 U	0.12	0.14	--
07/10-12/2017	SW9056A	mg/L	< 0.050 U	< 0.050 U	0.093 J	0.14	--
08/21-23/2017	SW9056A	mg/L	< 0.050 U	< 0.050 U	0.10	0.16	--
06/27/2018	E300	mg/L	< 0.050	< 0.050	< 0.050	0.077 J	< 0.050
09/19/2018	E300	mg/L	< 0.050	< 0.050	0.086 J	0.12	< 0.050
12/12-13/2018	E300	mg/L	< 0.050 U	0.053 J	0.14	0.10	< 0.050 U
03/11-15/2019	E300	mg/L	< 0.050	< 0.050	0.11	0.12	< 0.050
08/26-29/2019	SW9056A	mg/L	< 0.050	< 0.050	0.064 J	0.11	< 0.050
02/17-19/2020	SW9056A	mg/L	< 0.050	0.063 J	0.068 J	0.057 J	< 0.050
08/31-09/02/2020	SW9056A	mg/L	< 0.050	< 0.050	0.079 J	0.092 J	< 0.050
Hardness							
11/02-04/2016	SW6020B	mg/L	23.8	118	97.4	259	--
12/12-13/2016	SW6020B	mg/L	24.9 B	79.8	154	289	--
01/25-26/2017	SW6020B	mg/L	28.5	67.8	145	228	--
03/06-07/2017	SW6020B	mg/L	30.6	71.7	139	220	--
04/19-21/2017	SW6020B	mg/L	32.6	56.1	105	199	--
05/30-06/01/2017	SW6020B	mg/L	28.7	55.8	102	210	--
07/10-12/2017	SW6020B	mg/L	30	55.5	104	235	--
08/21-23/2017	SW6020B	mg/L	31.8	53	109	226	--
06/27/2018	E200.7	mg/L	34.6	50.5	78	187	< 0.662
09/19/2018	E200.7	mg/L	27.9	42.1	82.1	189	< 0.662
12/12-13/2018	E200.7	mg/L	27.5	33.1	79.2	126	< 0.662 U
08/26-29/2019	SW6010D	mg/L	29.7	30.8	85.5	135	< 0.131
02/17-19/2020	SM2340B	mg/L	36.3	33.1	90.4	97	< 0.131
08/31-09/02/2020	SM2340B	mg/L	32.8	35.9	89.6	87.8	< 0.131

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Iron							
11/02-04/2016	SW6020B	µg/L	1230	2330	20400	15100	< 118
12/12-13/2016	SW6020B	µg/L	1890	2770	34000	20900	202
01/25-26/2017	SW6020B	µg/L	1950	2860	29900	19700	< 11.8
03/06-07/2017	SW6020B	µg/L	683	3500	21900	23500	< 11.8
04/19-21/2017	SW6020B	µg/L	188 J	3700	15100	24300	< 11.8
05/30-06/01/2017	SW6020B	µg/L	< 118	3780	15300	28200	< 11.8
07/10-12/2017	SW6020B	µg/L	< 118	3860	14900	37700	< 11.8
08/21-23/2017	SW6020B	µg/L	124 J	4000	15200	37300	< 11.8
06/27/2018	E200.7	µg/L	196	6250	12100	40600	< 25.0
09/19/2018	E200.7	µg/L	117	5280	7710	44600	< 25
12/12-13/2018	E200.7	µg/L	74.2	4500	6310	32100	< 25
08/26-29/2019	SW6020B	µg/L	280	1350 J	5780	32800	< 7.5
02/17-19/2020	SW6020B	µg/L	55.6	1740	5660	28300	< 7.5
08/31-09/02/2020	SW6020B	µg/L	74.3	3230	6090	31600	< 20.9
Lead							
11/02-04/2016	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
12/12-13/2016	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
01/25-26/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
03/06-07/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
04/19-21/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
05/30-06/01/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
07/10-12/2017	SW6020B	µg/L	< 0.8 U	< 0.08 U	< 0.08 U	< 0.8 U	--
08/21-23/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
06/27/2018	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	2.7 J	< 2.5
09/19/2018	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
12/12-13/2018	SW6010D	µg/L	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
08/26-29/2019	SW6020B	µg/L	0.19	0.085 J	0.056 J	0.50	< 0.050
02/17-19/2020	SW6020B	µg/L	0.12	0.088 J	0.071 J	0.18	< 0.050
08/31-09/02/2020	SW6020B	µg/L	0.089 J	< 0.077	< 0.077	0.20	< 0.077
Lithium							
11/02-04/2016	SW6020B	µg/L	10.3 B	5.7 B	17.4 J	25.3	--
12/12-13/2016	SW6020B	µg/L	9.8 J	1.3 B	15.3 J	22 J	--
01/25-26/2017	SW6020B	µg/L	10.4 J	3.7 J	18.2 J	26.9	--
03/06-07/2017	SW6020B	µg/L	11.2 J	4.3 J	20.4 J	27.9	--
04/19-21/2017	SW6020B	µg/L	10.7 J+	3.9 J+	18.9 J+	25.5	--
05/30-06/01/2017	SW6020B	µg/L	15 J+	5.3 J+	18.6 J+	25.1	--
07/10-12/2017	SW6020B	µg/L	10.5 J	4.4 J+	18.4 J	29.2 J+	--
08/21-23/2017	SW6020B	µg/L	10.4 J	3.2 J	16 J	31.2 J+	--
06/27/2018	SW6010C	µg/L	9.8	< 2.8	12.2	24.2	< 2.8
09/19/2018	SW6010C	µg/L	10.2	< 4.6	17.5	26.3	< 4.6
12/12-13/2018	SW6020B	µg/L	8.9	3.3	15.0	17.8	< 0.42 U
08/26-29/2019	SW6020B	µg/L	9.4	4.6	14.2	17.5	< 0.42
02/17-19/2020	SW6020B	µg/L	11.6	3.9	13.6	15.7	< 0.42
08/31-09/02/2020	SW6020B	µg/L	10.1	3.1	12.3	14.6	< 0.39
Manganese							
11/02-04/2016	SW6020B	µg/L	261	425	283	599	< 1.9
12/12-13/2016	SW6020B	µg/L	285	320	261	720	10.1
01/25-26/2017	SW6020B	µg/L	309	276	238	592	0.6
03/06-07/2017	SW6020B	µg/L	257	309	233	753	< 0.19
04/19-21/2017	SW6020B	µg/L	236	247	183	570	< 0.19
05/30-06/01/2017	SW6020B	µg/L	225	248	186	596	< 0.19
07/10-12/2017	SW6020B	µg/L	219	245	181	670	< 0.19
08/21-23/2017	SW6020B	µg/L	238	239	190	642	< 0.19
06/27/2018	E200.7	µg/L	224	236	149	507	< 2.5
09/19/2018	E200.7	µg/L	187	208	144	533	< 2.5
12/12-13/2018	E200.7	µg/L	180	173	141	373	< 2.5
08/26-29/2019	SW6020B	µg/L	166	170	152	348	< 0.14
02/17-19/2020	SW6020B	µg/L	200	181	164	312	0.46 J+
08/31-09/02/2020	SW6020B	µg/L	202	209	181	303	< 0.47

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Molybdenum							
11/02-04/2016	SW6020B	µg/L	< 1.1 U	< 1.1 U	< 1.1 U	2.5 J	--
12/12-13/2016	SW6020B	µg/L	< 1.1 U	< 1.1 U	2.2 J	3.4 J	--
01/25-26/2017	SW6020B	µg/L	< 1.1 U	< 1.1 U	1.3 J	2.2 J	--
03/06-07/2017	SW6020B	µg/L	< 1.1 U	< 1.1 U	< 1.1 U	2.5 J	--
04/19-21/2017	SW6020B	µg/L	< 1.1 U	< 1.1 U	< 1.1 U	1.9 J	--
05/30-06/01/2017	SW6020B	µg/L	< 1.1 U	< 1.1 U	< 1.1 U	1.7 J	--
07/10-12/2017	SW6020B	µg/L	< 1.1 U	< 1.1 U	< 1.1 U	1.8 J	--
08/21-23/2017	SW6020B	µg/L	< 1.1 U	< 1.1 U	< 1.1 U	2.1 J	--
06/27/2018	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
09/19/2018	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
12/12-13/2018	SW6010D	µg/L	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U	< 2.5 U
08/26-29/2019	SW6010D	µg/L	< 0.90	1.0 J	1.7 J	1.6 J	< 0.90
02/17-19/2020	SW6010D	µg/L	< 0.90	< 0.90	2.0 J	< 0.90	< 0.90
08/31-09/02/2020	SW6010D	µg/L	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9
Nickel							
11/02-04/2016	SW6020B	µg/L	< 4.5 U	7.6	23	15.6	--
12/12-13/2016	SW6020B	µg/L	< 4.5 U	7.1	24.5	15.5	--
01/25-26/2017	SW6020B	µg/L	5.4 B	8	25.2	15.1	--
03/06-07/2017	SW6020B	µg/L	7.2	11.3	27.4	16.3	--
04/19-21/2017	SW6020B	µg/L	8.2	8.1	20.6	14.1	--
05/30-06/01/2017	SW6020B	µg/L	7.5	8.6	21.1	15.6	--
07/10-12/2017	SW6020B	µg/L	8.9	8.1	21.9	18.8	--
08/21-23/2017	SW6020B	µg/L	9.9	9.1	22	18.3	--
06/27/2018	SW6020A	µg/L	6.0	8.4	16.5	16.2	0.13 J
09/19/2018	SW6020A	µg/L	6.2	8.9	18.6	19.7 J+	0.22 J
12/12-13/2018	SW6020B	µg/L	5.5	7.8	16.7	14.2	< 0.11 U
08/26-29/2019	SW6010D	µg/L	6.2	10	17.9	15.5	< 0.90
02/17-19/2020	SW6010D	µg/L	7.8	10.7	18.0	14.8	< 0.90
08/31-09/02/2020	SW6010D	µg/L	7.1	10.0	19.8	15.1	< 3.5
pH							
11/02-04/2016	FIELD	SU	5.46	5.66	5.94	6.60	--
12/12-13/2016	FIELD	SU	5.65	5.72	6.35	6.79	--
01/25-26/2017	FIELD	SU	4.98	5.04	5.74	6.19	--
03/06-07/2017	FIELD	SU	4.95	5.24	5.90	6.39	--
04/19-21/2017	FIELD	SU	4.82	5.36	5.86	6.47	--
05/30-06/01/2017	FIELD	SU	4.60	5.34	5.85	6.41	--
07/10-12/2017	FIELD	SU	4.67	5.30	5.81	6.40	--
08/21-23/2017	FIELD	SU	4.73	5.30	5.91	6.44	--
06/27/2018	FIELD	SU	4.70	5.15	5.68	6.37	--
09/19/2018	FIELD	SU	4.59	5.11	5.61	6.29	--
12/12-13/2018	FIELD	SU	4.08	4.67	5.47	6.14	--
03/11-15/2019	FIELD	SU	4.43	4.86	5.48	6.13	--
08/26-29/2019	FIELD	SU	4.17	4.73	5.63	6.06	--
02/17-19/2020	FIELD	SU	4.62	5.09	5.89	6.15	--
08/31-09/02/2020	FIELD	SU	4.44	5.43	6.09	5.86	--
Phenolics							
08/26-29/2019	SW9065	µg/L	< 50	< 50	< 50	< 50	< 50
02/17-19/2020	SW9066	µg/L	6.4 J	< 50	< 50	12.0	< 50
08/31-09/02/2020	SW9066	µg/L	50 J	29 J+	35 J+	12 J+	97
Potassium							
08/26-29/2019	SW6020B	µg/L	5470	1910	3830	4250	< 6.2
02/17-19/2020	SW6020B	µg/L	6450	2060	3840	4240	< 6.2
08/31-09/02/2020	SW6020B	µg/L	6310	2640	3790	4040	< 9.0

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Selenium							
11/02-04/2016	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
12/12-13/2016	SW6020B	µg/L	< 3.2 U	< 3.2 U	3.5 J	< 3.2 U	--
01/25-26/2017	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
03/06-07/2017	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
04/19-21/2017	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
05/30-06/01/2017	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
07/10-12/2017	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
08/21-23/2017	SW6020B	µg/L	< 3.2 U	< 3.2 U	< 3.2 U	< 3.2 U	--
06/27/2018	SW6010D	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
09/19/2018	SW6010D	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
12/12-13/2018	SW6010D	µg/L	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
08/26-29/2019	SW6010D	µg/L	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7
02/17-19/2020	SW6010D	µg/L	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7
08/31-09/02/2020	SW6010D	µg/L	< 4.7	< 4.7	< 4.7	< 4.7	< 4.7
Silver							
11/02-04/2016	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
12/12-13/2016	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
01/25-26/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
03/06-07/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
04/19-21/2017	SW6020B	µg/L	< 0.8 U	< 0.8 U	< 0.8 U	< 0.8 U	--
05/30-06/01/2017	SW6020B	µg/L	1.1 J	< 0.8 U	< 0.8 U	< 0.8 U	--
07/10-12/2017	SW6020B	µg/L	1.4 J	< 0.8 U	< 0.8 U	< 0.8 U	--
08/21-23/2017	SW6020B	µg/L	< 0.8 U	0.85 J	< 0.8 U	< 0.8 U	--
06/27/2018	SW6020A	µg/L	0.16 J	< 0.15	< 0.15	0.29 J	< 0.15
09/19/2018	SW6020A	µg/L	< 0.15	< 0.15	< 0.15	0.91 J	< 0.15
12/12-13/2018	SW6020B	µg/L	0.11 J	< 0.050 U	< 0.050 U	0.20 J	< 0.050 U
08/26-29/2019	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
02/17-19/2020	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
08/31-09/02/2020	SW6010D	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Sodium							
11/02-04/2016	SW6020B	µg/L	7880	22700	40900	25100	302 J
12/12-13/2016	SW6020B	µg/L	9010 B	20300	39600	25200	2240
01/25-26/2017	SW6020B	µg/L	9450	19100	38200	23600	146 J
03/06-07/2017	SW6020B	µg/L	8730	23800	40200	21000	46 J
04/19-21/2017	SW6020B	µg/L	8930	18400	32800	20600	66.1 J
05/30-06/01/2017	SW6020B	µg/L	8090	18400	31500	22500	52 J
07/10-12/2017	SW6020B	µg/L	8550	20000	35200	23500	155 J
08/21-23/2017	SW6020B	µg/L	8330	20000	36300	22900	< 129
06/27/2018	E200.8	µg/L	9240	18100	28300	24400	< 18.4
09/19/2018	E200.8	µg/L	8110	17000	34600	24700	< 18.4
12/12-13/2018	E200.8	µg/L	7490	14900	32000	21500	15.9 J
08/26-29/2019	SW6020B	µg/L	7410	14200	36800	30300	< 14.3
02/17-19/2020	SW6020B	µg/L	8240	14000	33400	22100	41.0 J+
08/31-09/02/2020	SW6020B	µg/L	8570	15900	32200	20900	< 49.1
Sulfate							
11/02-04/2016	SW9056A	mg/L	25.3	51.9	29.2	58.3	--
12/12-13/2016	SW9056	mg/L	28.8	41.6	16.1	44.7	--
01/25-26/2017	SW9056A	mg/L	28.4	44.1	20.9	49.5	--
03/06-07/2017	SW9056A	mg/L	40.4	40.8	23.8	44.1	--
04/19-21/2017	SW9056A	mg/L	53.8 J+	41.8	28.2	46.8	--
05/30-06/01/2017	SW9056A	mg/L	49.1	44.5	27.9	44.4	--
07/10-12/2017	SW9056A	mg/L	47.9	41.8	28.2	37.8	--
08/21-23/2017	SW9056A	mg/L	46.5	42.3	29.5	36.7	--
06/27/2018	E300	mg/L	51.6	40.3	23.5	37.8	< 0.50
09/19/2018	E300	mg/L	44.3	39.6	29.1	34.5	< 0.50
12/12-13/2018	E300	mg/L	47.4	44.9	28.1	39.9	1.0
03/11-15/2019	E300	mg/L	59.7	43.5	31.9	44.4	< 0.50
08/26-29/2019	SW9056A	mg/L	41.4	30.9	27.8	38.5	< 0.50
02/17-19/2020	SW9056A	mg/L	56.7	33.5	28.1	39.3	< 0.50
08/31-09/02/2020	SW9056A	mg/L	50.8	39.3	29.6	38.5	0.84 J

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	Method	Unit					
Thallium							
11/02-04/2016	SW6020B	µg/L	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	--
12/12-13/2016	SW6020B	µg/L	< 0.2 U	< 0.2 U	< 0.2 U	0.24 J	--
01/25-26/2017	SW6020B	µg/L	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	--
03/06-07/2017	SW6020B	µg/L	< 0.2 U	< 0.2 U	< 0.2 U	0.28 J	--
04/19-21/2017	SW6020B	µg/L	< 0.2 U	< 0.2 U	< 0.2 U	< 0.2 U	--
05/30-06/01/2017	SW6020B	µg/L	0.3 J	< 0.2 U	< 0.2 U	< 0.2 U	--
07/10-12/2017	SW6020B	µg/L	0.31 J	< 0.2 U	< 0.2 U	< 0.2 U	--
08/21-23/2017	SW6020B	µg/L	< 0.2 U	0.39 J	< 0.2 U	< 0.2 U	--
06/27/2018	SW6020A	µg/L	0.050 J	0.050 J	0.027 J	0.033 J	< 0.026
09/19/2018	SW6020A	µg/L	0.034 J	0.034 J	< 0.026	< 0.026	< 0.026
12/12-13/2018	SW6020B	µg/L	< 0.060 U	< 0.060 U	< 0.060 U	< 0.060 U	< 0.060 U
08/26-29/2019	SW6020B	µg/L	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060
02/17-19/2020	SW6020B	µg/L	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060
08/31-09/02/2020	SW6020B	µg/L	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Tin							
11/02-04/2016	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
12/12-13/2016	SW6020B	µg/L	2.5 J	< 0.7 U	< 0.7 U	2.4 J	--
01/25-26/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
03/06-07/2017	SW6020B	µg/L	4.7 J	2 J	1.6 J	7.3	--
04/19-21/2017	SW6020B	µg/L	11.4	1.4 J+	2 J+	12.3	--
05/30-06/01/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
07/10-12/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
08/21-23/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
06/27/2018	SW6020A	µg/L	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
09/19/2018	SW6020A	µg/L	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
12/12-13/2018	SW6020B	µg/L	0.12 J	< 0.090 U	< 0.090 U	< 0.090 U	0.35 J
08/26-29/2019	SW6020B	µg/L	< 0.090	< 0.090	< 0.090	< 0.090	< 0.090
02/17-19/2020	SW6020B	µg/L	< 0.090	0.091 J	< 0.090	< 0.090	< 0.090
08/31-09/02/2020	SW6020B	µg/L	< 0.24	< 0.24	< 0.24	< 0.24	< 0.24
Total Dissolved Solids							
11/02-04/2016	SM2540C	mg/L	116	206	279	389	--
12/12-13/2016	SM2540C	mg/L	122	173	305	465	--
01/25-26/2017	SM2540C	mg/L	67.0	200	284	334	--
03/06-07/2017	SM2540C	mg/L	45.0	145	248	294	--
04/19-21/2017	SM2540C	mg/L	124 J+	156	254	316	--
05/30-06/01/2017	SM2540C	mg/L	109	139	234	365	--
07/10-12/2017	SM2540C	mg/L	113	137	246	321	--
08/21-23/2017	SM2540C	mg/L	109	137	240	330	--
06/27/2018	SM2540C	mg/L	126	116	225	321	< 25.0
09/19/2018	SM2540C	mg/L	113	133	213	317	< 25.0
12/12-13/2018	SM2540C	mg/L	117	130	232	244	< 25.0 U
03/11-15/2019	SM2540C	mg/L	132 J+	132	250	260 J	254
08/26-29/2019	SM2540C	mg/L	144 J+	118	237	284	45.0
02/17-19/2020	SM2540C	mg/L	131	123	241	242	< 25.0
08/31-09/02/2020	SM2540C	mg/L	131	130	239	244	< 25.0
Total Organic Carbon							
11/02-04/2016	SM5310B	mg/L	< 0.50 U	1.4	2.9	5.9	--
12/12-13/2016	SM5310B	mg/L	< 0.50 U	0.94 J	1.8	5.4	--
01/25-26/2017	SM5310B	mg/L	< 0.50 U	1.1	2.0	4.2	--
03/06-07/2017	SM5310B	mg/L	< 0.50 U	0.87 J	1.5	3.8	--
04/19-21/2017	SM5310B	mg/L	< 0.50 U	1.7	3.0	4.1	--
05/30-06/01/2017	SM5310B	mg/L	< 0.50 U	0.97 J	1.5	4.1	--
07/10-12/2017	SM5310B	mg/L	< 0.50 U	1.1	1.4	4.7	--
08/21-23/2017	SM5310B	mg/L	< 0.50 U	0.72 J	1.4	3.8	--
06/27/2018	SM5310B	mg/L	< 0.50	1.0	1.6	4.6	< 0.50
09/19/2018	SM5310B	mg/L	< 0.50	1.1	1.3	4.6	< 0.50
12/12-13/2018	SM5310B	mg/L	< 0.50 U	0.93 J	1.4	3.4	< 0.50 U
08/26-29/2019	SW9060A	mg/L	< 0.50	19.9 J	0.97 J	3.1	< 0.50
02/17-19/2020	SW9060A	mg/L	< 0.50	0.63 J	1.2	2.8	< 0.50
08/31-09/02/2020	SW9060A	mg/L	< 0.50	0.74 J	1.5	3.0	< 0.50

Appendix F
Historical Laboratory Detections
Possum Point Power Station, Ponds ABC
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		Location	ABC-1602	ABC-1607	ABC-1608	ABC-1614	Field Blank
Sample Dates	**Method**	**Unit**					
Total Radium							
11/02-04/2016	CALC	pCi/L	2.82 J	1.27 U	1.16 U	1.28 U	--
12/12-13/2016	CALC	pCi/L	1.23 U	0.796 U	0.241 U	0.402 U	--
01/25-26/2017	CALC	pCi/L	1.02 U	0.948 U	0.783 U	0.678 U	--
03/06-07/2017	CALC	pCi/L	1.01 U	1.70	1.26 U	0.588 U	--
04/19-21/2017	CALC	pCi/L	0.941 U	0.810 U	1.20 U	0.616 U	--
05/30-06/01/2017	CALC	pCi/L	1.63	0.768 U	0.737 U	0.632	--
07/10-12/2017	CALC	pCi/L	2.79	1.28	0.949	0.737 U	--
08/21-23/2017	CALC	pCi/L	1.56	1.09 U	1.56	1.96	--
06/27/2018	CALC	pCi/L	2.73	1.58 U	0.801 U	0.994 U	0.506 U
09/19/2018	RA226RA228	pCi/L	1.26 J	0.852 U	0.731 U	1.42 J	0.659 U
12/12-13/2018	RA226RA228	pCi/L	1.54	0.825 U	0.843 U	1.12	0.570 U
08/26-29/2019	RA226RA228	pCi/L	1.87	1.58	1.59	1.56	1.33 J
02/17-19/2020	RA226RA228	pCi/L	2.79 J	1.76 J	2.00 J	1.52 J	0.359 U
08/31-09/02/2020	RA226RA228	pCi/L	3.29	1.31 U	0.836 U	0.252 U	0.981 U
Vanadium							
11/02-04/2016	SW6020B	µg/L	< 0.7 U	< 0.7 U	2 J	1.4 J	--
12/12-13/2016	SW6020B	µg/L	< 0.7 U	0.87 B	< 0.7 U	< 0.7 U	--
01/25-26/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	< 0.7 U	--
03/06-07/2017	SW6020B	µg/L	1.2 J	1.3 J	0.89 J	2 J	--
04/19-21/2017	SW6020B	µg/L	1.2 J+	1.1 J+	< 0.7 U	1.7 J+	--
05/30-06/01/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	1.2 J	1 J	--
07/10-12/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	0.74 J	--
08/21-23/2017	SW6020B	µg/L	< 0.7 U	< 0.7 U	< 0.7 U	0.7 J	--
06/27/2018	SW6020A	µg/L	0.34 J	0.76 J	1.1	2.4	< 0.27
09/19/2018	SW6020A	µg/L	< 0.27	< 0.27	0.31 J	0.38 J	< 0.27
12/12-13/2018	SW6020B	µg/L	0.17 J	1.6	0.22 J	0.27 J	< 0.12 U
08/26-29/2019	SW6010D	µg/L	< 1.3	< 1.3	1.9 J	2.3 J	< 1.3
02/17-19/2020	SW6010D	µg/L	< 1.3	< 1.3	< 1.3	1.4 J	< 1.3
08/31-09/02/2020	SW6010D	µg/L	< 3.9	< 3.9	< 3.9	< 3.9	< 3.9
Zinc							
11/02-04/2016	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
12/12-13/2016	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
01/25-26/2017	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
03/06-07/2017	SW6020B	µg/L	< 24 U	25.4 J	< 24 U	< 24 U	--
04/19-21/2017	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
05/30-06/01/2017	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
07/10-12/2017	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
08/21-23/2017	SW6020B	µg/L	< 24 U	< 24 U	< 24 U	< 24 U	--
06/27/2018	SW6020A	µg/L	4.9 J	13.9	10.9	8.4	< 1.9
09/19/2018	SW6020A	µg/L	6.1 J+	13.1	15.5 J+	8.2	2.3 J+
12/12-13/2018	SW6020B	µg/L	4.1 J	15.2	13.8 J+	5.0 J	1.6 J
08/26-29/2019	SW6010D	µg/L	< 3.9	19.5	12.2	5.5 J	7.4 J+
02/17-19/2020	SW6010D	µg/L	4.0 J	21.3	9.6 J	< 3.9	< 3.9
08/31-09/02/2020	SW6010D	µg/L	< 9.5	19.8	12.3	< 9.5	< 9.5

Notes: µg/L = Microgram per liter
mg/L = Milligram per liter
SU = Standard Units
C= Degrees Celsius
pCi/L = picoCurie per liter
J = Estimated concentration
J+ = Potential bias high
U = Not detected at the indicated Minimum Detectable Concentration
-- = Not Sampled

APPENDIX G
DATA VALIDATION FORMS

APPENDIX G.1
FIRST SEMI-ANNUAL GROUNDWATER MONITORING EVENT DATA VALIDATION FORM (FEBRUARY 2020)

Project Name: Possum Point Power Station - Pond ABC - 1SA2020

Project Reference Number: 20139775.230

Sampling Event Date: February 19, 2020

Review Date: 03/03/2020 *Initials:* AB

Review Date: 03/20/2020 *Initials:* ALR

Review Date: 05/15/2020 *Initials:* RMS

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) and Department of Energy (DOE) documents:

- National Functional Guidelines for Organic Superfund Methods Data Review, January 2017;
- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017;
- US Department of Energy Evaluation of Radiochemical Data Usability, April 1997; and
- Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites.

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- LCS = laboratory control spike
- RPD = relative percent difference
- MB = method blank
- DUP = duplicate
- FB = field blank
- VSWMR = Virginia Solid Waste Management Regulations
- J = estimated
- ND and/or U= not detected
- COC = chain of custody
- QC = quality control
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- EPA = United States Environmental Protection Agency
- pCi/L = picocuries per liter

COMPLIANCE ANALYTE LIST

☒ Historical VPDES Parameters: Hardness, Iron, Manganese, Potassium, Sodium, Phenolics, Total Organic Carbon

☒ CCR Appendix III to Part 257

☒ CCR Appendix IV to Part 257

☒ VSWMR Phase II Parameters: Copper, Nickel, Silver, Tin, Vanadium, Zinc

☒ Other: Hexavalent Chromium

Note: Pace Package No.: 92466164 ; AWS Work Order: 20B0838

Golder
2108 West Laburnum Ave., Suite 200
Richmond, Virginia, USA 23227
T: +1 804 358-7900 | F: +1 804 358-2900

1.0 CHAIN OF CUSTODY (COC) REVIEW

Yes COC was properly signed by all parties.

Yes Correct project name and number are on the form.

Yes Sample receipt condition at laboratory was acceptable.

Yes Each sample and blank submitted for analysis appears in the data report.

Note: _____

2.0 SAMPLE HOLDING TIMES

Yes Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	**Analytes**	**Holding Time**
EPA 9056A	Chloride, Fluoride,Sulfate, Nitrate	28 days
EPA 6000 series	Metals	6 months
EPA 7470	Mercury	28 days
EPA 9000 series	Radium-226 & Radium-228	6 months
SM2340B	Hardness	6 months
SM 2540C	TDS	7 days
EPA 9060	Total Organic Carbon	28 days
EPA 9066	Phenolics	28 days
EPA 7196	Hexavalent Chromium	24 hours (unpreserved)

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

See Note Laboratory blanks were interference free.

Notes: The following table presents method blank detections and their associated sample delivery groups (SDG; batch). In accordance with EPA guidance, associated samples within the same batch have been evaluated using professional judgement. Inorganic data less than 10X the blank concentration may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data (i.e. the highest concentration reported over the last 8 sampling events). Organic data corresponding to blank contamination may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data. Additionally, associated samples for organic common lab contaminants (acetone, MC, and MEK) may be qualified if the results are 2X greater than the detected blank concentration. Associated samples may be qualified estimated high (J+), estimated low (J-),

non-detect estimated (UJ) or unusable (R). As presented below, data qualification is recommended.

For radiochemistry data, if the reported absolute value of the method blank is above the minimum detectable concentration (MDC) and no other deficiencies are noted in the associated dataset, detections above the MDC and less than 5 times the concentration reported in the method blank may be blank qualified "J" in accordance with qualification guidance. As presented below, data qualification is recommended. Based on EPA guidance, qualified results for radium-226 and/or radium-228 will result in qualified results for total radium.

Parameter	Method Blank Detection (µg/L)	Batch	Associated Qualified Sample(s)	Validator Qualifier
Lead	0.051 J	527589	--	--
Manganese	0.19 J	527589	ABC- Field Blank	J+
Sodium	21.5 J	527589	ABC- Field Blank	J+
Radium-226	0.526 (pCi/L)	385164	ABC-1602, ABC-1607, ABC-1608, ABC-1614	J

NA Surrogate recoveries are provided for each analytical method, where applicable.

NA Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

Yes Tracer and carrier yields are provided for each analytical method, where applicable (Radiochemical Data Only).

Yes Tracer and carrier yields for each method are within the acceptable limits (Radiochemical Data Only).

Notes: _____

Yes MS/MSD/LCS/RPD data results are provided for each analytical method.

See Note MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: The following table presents recoveries and relative percent differences (RPDs) that were outside of QC limits for the associated sample delivery group (analytical batch). In accordance with EPA guidance for evaluation of spike recoveries, the associated samples may be qualified estimated high (J+), estimated low (J-), non-detect estimated (UJ), or unusable (R) using professional judgement to evaluate the spike recovery. Post-digestion spike recovery will be evaluated for MS/MSD qualification purposes where provided. As presented, no data qualification is recommended using professional jusgement based on the review of historical results and acceptable LCS recoveries.

In accordance with EPA guidance for evaluation of RPDs, the associated samples may be qualified estimated (J or UJ) using professional judgement to evaluate the RPD. As presented, no data qualification is recommended using professional judgement based on the review of historical results and acceptable LCS recoveries.

Parameter	Recovery Outside QC Limits	QC Batch	MS/MSD Batch ID	Associated Qualified Sample(s)	Validator Qualifier
Potassium	MS, MSD	527589	2818861/2818862	--	--
	MS		2818836/2818864	--	--
Sodium	MS, MSD	527589	2818861/2818862	--	--
	MS, MSD		2818836/2818864	--	--
Fluoride	MS, RPD	526599	2814064/2814065	--	--
	MS, MSD		2814066/2814067	--	--
Sulfate	MS, MSD	526599	2814064/2814065	--	--
Phenolics	MS, MSD	614847	3340674/3340675	--	--

Yes Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

Yes Radiological samples reported below their respective MDC have been qualified with a "U."

Notes: _____

Parameter	Associated Samples Below MDC
Radium-226	ABC-Field Blank
Radium-228	ABC-1602, ABC-1614, ABC-Duplicate, ABC-Field Blank
Total Radium	ABC-Duplicate, ABC-Field Blank

4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 OUTLIER EVALUATION

Yes — Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

Yes — Analytical results with variances >25% have been evaluated for trends.

NA — If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
--	--	--	--	--

6.0 DATA REPORTING

See Note — Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes: The following table presents field blank detections and associated samples that have been qualified. In accordance with EPA guidance, associated samples have been evaluated using professional judgement. Inorganic data less than 10X the blank concentration may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data (i.e. the highest concentration reported over the last 8 sampling events). Organic data corresponding to blank contamination may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data. Additionally, associated samples for organic common lab contaminants (acetone, MC, and MEK) may be qualified if the results are 2X greater than the detected blank concentration. Associated samples may be qualified estimated high (J+), estimated low (J-), non-detect estimated (UJ) or unusable (R). As presented below, no data qualification is recommended.

Sample ID	Parameter	Blank Detection (µg/L)	Associated Qualified Sample(s)	Validator Qualifier
Field Blank	Manganese	0.46 J	--	--
	Sodium	41.0 J	--	--

Yes — It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (*e.g.*, a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

Yes — The report provides the reporting limit for each constituent.

Yes The proper reporting limits have been used (*e.g.* NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

Notes: _____

7.0 FIELD DUPLICATE PRECISION

Yes Field duplicate sample results were within control limits of 20% relative percent difference for sample results greater than 5 times the quantitation limit. When one or both results were less than 5 times the quantitation limit, the difference between the two results was less than twice the reporting limit.

Notes: _____

APPENDIX G.2
SECOND SEMI-ANNUAL GROUNDWATER MONITORING EVENT DATA VALIDATION FORM (AUGUST-SEPTEMBER 2020)

Project Name: Possum Point Power Station - Ponds ABC - 2SA2020

Project Reference Number: 20139775.220A

Sampling Event Date: September 2, 2020

Review Date: 10/20/2020 *Initials:* ALR

Review Date: 12/10/2020 *Initials:* RMS

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) and Department of Energy (DOE) documents:

- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017;
- National Functional Guidelines for Organic Superfund Methods Data Review, January 2017;
- US Department of Energy Evaluation of Radiochemical Data Usability, April 1997; and
- Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites.

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- LCS = laboratory control spike
- RPD = relative percent difference
- MB = method blank
- DUP = duplicate
- FB = field blank
- VSWMR = Virginia Solid Waste Management Regulations
- J = estimated
- ND and/or U= not detected
- COC = chain of custody
- QC = quality control
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- EPA = United States Environmental Protection Agency
- pCi/L = picocuries per liter

COMPLIANCE ANALYTE LIST

☒ Historical VPDES Parameters: Alkalinity, Iron, Hardness, Manganese, Sodium, Total Organic Carbon

☒ CCR Appendix III to Part 257

☒ CCR Appendix IV to Part 257

☒ VSWMR Phase II Parameters: Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Cobalt, Lead, Lithium, Mercury, Selenium, Thallium, Copper, Cyanide, Nickel, Silver, Sulfide, Tin, Vanadium, Zinc

☒ Other: Hexavalent Chromium

Note: Pace Project No: 92493784; AWS Work Order: 20I0147

Golder
2108 West Laburnum Ave., Suite 200
Richmond, Virginia, USA 23227
T: +1 804 358-7900 | F: +1 804 358-2900

1.0 CHAIN OF CUSTODY (COC) REVIEW

Yes COC was properly signed by all parties.

Yes Correct project name and number are on the form.

Yes Sample receipt condition at laboratory was acceptable.

Yes Each sample and blank submitted for analysis appears in the data report.

Note: _____

2.0 SAMPLE HOLDING TIMES

Yes Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	**Analytes**	**Holding Time**
EPA 9056A	Chloride, Fluoride,Sulfate	28 days
EPA 6000 series	Metals	6 months
EPA 7470	Mercury	28 days
EPA 9000 series	Radium-226 & Radium-228	6 months
SM2340B	Hardness	6 months
SM 2540C	TDS	7 days
EPA 9060	Total Organic Carbon	28 days
EPA 9066	Phenolics	28 days
EPA 7196	Hexavalent Chromium	24 hours (unpreserved)

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

Yes Laboratory blanks were interference free.

Notes: _____

NA Surrogate recoveries are provided for each analytical method, where applicable.

NA Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

Yes Tracer and carrier yields are provided for each analytical method, where applicable (Radiochemical Data Only).

Yes Tracer and carrier yields for each method are within the acceptable limits (Radiochemical Data Only).

Notes: _____

Yes MS/MSD/LCS/RPD data results are provided for each analytical method.

See Note MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: The following table presents recoveries and relative percent differences (RPDs) that were outside of QC limits for the associated sample delivery group (analytical batch). In accordance with EPA guidance for evaluation of spike recoveries, the associated samples may be qualified estimated high (J+), estimated low (J-), non-detect estimated (UJ), or unusable (R) using professional judgement to evaluate the spike recovery. Post-digestion spike recovery will be evaluated for MS/MSD qualification purposes where provided. As presented, no data qualification is recommended. No MS/MSD results were provided for radium-226 or radium-228.

In accordance with EPA guidance for evaluation of RPDs, the associated samples may be qualified estimated (J or UJ) using professional judgement to evaluate the RPD. As presented, no data qualification is recommended.

Parameter	Recovery Outside QC Limits	QC Batch	MS/MSD Batch ID	Associated Qualified Sample(s)	Validator Qualifier
Calcium	MS	565136	2995307/2995308	--	--
Iron	MS, MSD	565305	2995909/2995910	--	--
Manganese	MS, MSD	565305	2995909/2995910	--	--
Potassium	MS, MSD	565305	2995909/2995910	--	--
Sodium	MS, MSD	565305	2995909/2995910	--	--
Cobalt	MSD	565305	2995911/2995912	--	--
Iron	MS, MSD	565305	2995911/2995912	--	--
Manganese	MS, MSD	565305	2995911/2995912	--	--
Potassium	MSD	565305	2995911/2995912	--	--
Sodium	MS, MSD	565305	2995911/2995912	--	--
Phenolics	MS, MSD	692013	2082287/2082288	--	--

Yes Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

Yes Radiological samples reported below their respective MDC have been qualified with a “U.”

Notes: _____

Parameter	Associated Samples Below MDC
Radium-226	ABC-1607, ABC-1608, ABC-1614, ABC-Field Blank
Radium-228	ABC-1607, ABC-1608, ABC-1614, ABC-Duplicate, ABC-Field Blank
Total Radium	ABC-1607, ABC-1608, ABC-1614, ABC-Duplicate, ABC-Field Blank

4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 OUTLIER EVALUATION

Yes Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

Yes Analytical results with variances >25% have been evaluated for trends.

NA If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
Hexavalent Chromium	ABC-1614	High concentration reported; no issues noted with associated QC	No	Result qualified as estimated (J) as total chromium results were reported as non-detect

6.0 DATA REPORTING

See Note Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes: The following table presents field blank detections and associated samples that have been qualified. In accordance with EPA guidance, associated samples have been evaluated using professional judgement. Inorganic data less than 10X the blank concentration may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data (i.e. the highest concentration reported over the last 8 sampling events). Organic data corresponding to blank contamination may be qualified if the detection is not considered part of a visual data trend and is not consistent with recent historical data. Additionally, associated samples for organic common lab contaminants (acetone, MC, and MEK) may be qualified if the results are 2X greater than the detected blank concentration. Associated samples may be qualified estimated high (J+), estimated low (J-), non-detect estimated (UJ) or unusable (R). As presented below, no data qualification is recommended.

Sample ID	Parameter	Blank Detection	Associated Qualified Sample(s)	Validator Qualifier
Field Blank	Sulfate (mg/L)	0.84 J	--	--
Field Blank	Phenolics (mg/L)	0.097	ABC-1602, ABC-1607, ABC-1608, ABC-1614, ABC-Duplicate	J+

Yes It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (*e.g.*, a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

Yes The report provides the reporting limit for each constituent.

Yes The proper reporting limits have been used (*e.g.* NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

Notes: _____

7.0 FIELD DUPLICATE PRECISION

Yes Field duplicate sample results were within control limits of 20% relative percent difference for sample results greater than 5 times the quantitation limit. When one or both results were less than 5 times the quantitation limit, the difference between the two results was less than twice the reporting limit.

Notes: The following table presents field duplicates and their associaed parent samples that were not within control limits. In accordance with EPA guidance, sample results with field duplicate imprecison may be qualified estimated (J) or non-detect estimated (UJ). As presented below, data qualification is recommended.

Parameter	Associated Samples	Parent Sample Result (µg/L)	Duplicate Sample Result (µg/L)	Re-analysis Requested?	Outlier Indentification
Phenolics	ABC-1602/ ABC-1602 DUP	50.0	99.0	No	Both parent and duplicate sample qualified as estimated (J)

Note: Due to field duplicate imprecision, following qualification guidance, the parent sample for ABC-1602 is qualified as estimated (J); this non-directionally biased qualifier supercedes the directionally biased qualifier (J+).

APPENDIX G.3
SECOND SEMI-ANNUAL VERIFICATION GROUNDWATER MONITORING EVENT DATA VALIDATION FORM
(OCTOBER 2020)

Project Name: Possum Point Power Station - Ponds ABC - 2SA2020 Verification

Project Reference Number: 20139775.220A

Sampling Event Date: October 15, 2020

Review Date: 11/23/2020 *Initials:* ALR

Review Date: 12/10/2020 *Initials:* RMS

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency (EPA) documents:

- National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017;
- and
- Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites.

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- LCS = laboratory control spike
- RPD = relative percent difference
- MB = method blank
- DUP = duplicate
- FB = field blank
- VSWMR = Virginia Solid Waste Management Regulations
- J = estimated
- ND and/or U= not detected
- COC = chain of custody
- QC = quality control
- µg/L = micrograms per liter
- mg/L = milligrams per liter
- EPA = United States Environmental Protection Agency
- pCi/L = picocuries per liter

COMPLIANCE ANALYTE LIST

☐ Historical VPDES Parameters: _____

☐ CCR Appendix III to Part 257

☐ CCR Appendix IV to Part 257

☐ VSWMR Phase II Parameters: _____

☒ Other: Cobalt

Note: Pace Project No: 92500785, 92500784

Golder
2108 West Laburnum Ave., Suite 200
Richmond, Virginia, USA 23227
T: +1 804 358-7900 | F: +1 804 358-2900

1.0 CHAIN OF CUSTODY (COC) REVIEW

Yes COC was properly signed by all parties.

Yes Correct project name and number are on the form.

Yes Sample receipt condition at laboratory was acceptable.

Yes Each sample and blank submitted for analysis appears in the data report.

Note: _____

2.0 SAMPLE HOLDING TIMES

Yes Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	**Analytes**	**Holding Time**
EPA 6000 series	Metals	6 months

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

Yes Laboratory blanks were interference free.

Notes: _____

Parameter	Method Blank Detection	Batch	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

NA Surrogate recoveries are provided for each analytical method, where applicable.

NA Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

NA Tracer and carrier yields are provided for each analytical method, where applicable (Radiochemical Data Only).

NA Tracer and carrier yields for each method are within the acceptable limits (Radiochemical Data Only).

Notes: _____

Yes MS/MSD/LCS/RPD data results are provided for each analytical method.

Yes MS/MSD/LCS/RPD recoveries for each method are within the acceptable limits.

Notes: _____

NA Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

NA Radiological samples reported below their respective MDC have been qualified with a "U."

Notes: _____

4.0 ANALYTE LISTS/METHODS

Yes The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

Yes Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 OUTLIER EVALUATION

NA Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent 8 data points.

NA Analytical results with variances >25% have been evaluated for trends.

NA If no trends were identified for analytical results with variances >25%, a data quality review (DQR) was conducted for suspect analytical results identified as possible outliers. DQR results summarized below.

6.0 DATA REPORTING

Yes Trip; field and/or equipment; and laboratory blank results have all been reported and the detected constituents in these blanks, if any, have been qualified using professional judgement where detected in other samples.

Notes: _____

Yes It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (*e.g.*, a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10).

Yes The report provides the reporting limit for each constituent.

Yes The proper reporting limits have been used (*e.g.* NC Solid Waste Section approved PQLs, or VA DEQ Permit approved detection limits, as appropriate).

Notes: _____

7.0 FIELD DUPLICATE PRECISION

NA Field duplicate sample results were within control limits of 20% relative percent difference for sample results greater than 5 times the quantitation limit. When one or both results were less than 5 times the quantitation limit, the difference between the two results was less than twice the reporting limit.

Notes: _____

APPENDIX H
PONDS ABC ASSESSMENT OF CORRECTIVE MEASURES EXTENSION DEMONSTRATION AND CERTIFICATION

HALEY & ALDRICH, INC.
1 Park West Circle
Suite 208
Midlothian, Virginia 23114
804-419-0199

21 April 2020
File No. 134660-002

Dominion Energy Services, Inc.
120 Tredegar Street
Richmond, Virginia 23219

Attention: Ms. Kelly Hicks, P.G.
Environmental Consultant

Subject: Groundwater Assessment of Corrective Measures Extension
Demonstration of Need Certification
Pond ABC – Possum Point Power Station
Dumfries, Virginia

Dear Ms. Hicks:

Haley & Aldrich, Inc. (Haley & Aldrich) is providing Dominion Energy Services, Inc. (Dominion) with this letter certifying that, based on our knowledge of the groundwater monitoring and assessment of corrective measure (ACM) activities for Pond ABC at the Possum Point Power Station in Dumfries, Virginia (Site), the demonstration of need for a 60-day extension to complete the ACM is justified and valid.

The facility identified a groundwater protection standard exceedance on 24 October 2019. In accordance with the *Virginia Solid Waste Management Regulations 9VAC 20-81-800*, and the United States Environmental Protection Agency (USEPA) *Standards for the Disposal of Coal Combustion Residuals and Surface Impoundments 40 CFR §257.96,* the facility is required to complete an ACM by April 21, 2020. A monitoring well to characterize the groundwater was installed in early February 2020, but due in part to complications and availability of resources as a result of the Covid-19 pandemic, the facility needs additional time to complete monitoring and other activities. Due to these Site-specific circumstances, a 60-day extension to the completion timeframe pursuant to 40 CFR §257.96(a) is needed in order to complete the assessment. The facility intends to complete the characterization activities and the associated ACM report by June 20, 2020.

As used herein, the word "certification" or "certifying" shall mean an expression of the Engineer's professional opinion to the best of his or her information, knowledge, and belief, and does not constitute a warranty or guarantee by the Engineer.

Should you have any questions regarding this notification, please contact Monty Bennett at 804-419-0010 or at mbennett@haleyaldrich.com or the undersigned at 864-214-8754 or at jklaiber@haleyaldrich.com.

Sincerely yours,
HALEY & ALDRICH, INC.

Jeffrey A. Klaiber, P.E.
Principal Consultant

cc: Montgomery Bennett, P.G.
Nadia Glucksberg, P.G.

C:\Users\bmcclure\AppData\Local\Microsoft\Windows\INetCache\Content Outlook\VPVTGW8F\2019-04-21_PP Pond ABC ACM Extension Letter F.docx