2020 CCR Annual Groundwater Monitoring and Corrective Action Report

Chesterfield Power Station, Lower Ash Pond

Prepared for:

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EXECUTIVE SUMMARY

This *2020 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Lower Ash Pond (Unit) at the Chesterfield Power Station (Station). Historically, the Station operated the Unit to manage Coal Combustion Residuals (CCR) generated by the power generation operations at the Station. The Unit is considered an existing CCR surface impoundment under Title 40 Code of Federal Regulations (CCR) Part 257.50 *et seq.* [*Disposal of Coal Combustion Residuals* (CFR) *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 Agency 20, Chapter 81-800 *et seq.* (9VAC20-81-800). Pursuant to the CCR Rule, the Station operator is required to complete an *Annual Groundwater Monitoring and Corrective Action Report* (Report) for the Unit by January 31st annually.

The Report documents the status of the CCR groundwater monitoring program for the Unit, summarizes key actions completed, describes issues encountered, actions taken to resolve identified concerns, and key activities for the upcoming year. More specifically, this Report describes the initiation, performance, results of the CCR Rule Assessment Monitoring Program (AMP), activities performed to comply with CCR Rule requirements, and the progression of future sampling activities pursuant to the CCR Rule and the Unit's *Groundwater Monitoring Plan* (GMP).

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.

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.

- At the end of 2020, the Unit was operating under the assessment monitoring program in §257.95.

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 identified for the following Appendix III constituents at the following wells during the second semi-annual 2019 and first semi-annual 2020 events:

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- Boron – MW-20, MW-21, MW-22, MW-24, MW-27, MW-28, MW-34, MW-B40A, and MW-B50
- Calcium – MW-23, MW-28, and MW-B50
- Chloride – MW-20, MW-21, MW-24, MW-34, MW-B40A, and MW-B50
- Fluoride – MW-25, MW-28, and MW-32
- pH – MW-20, MW-24, MW-28, MW-33, and MW-34
- Sulfate – MW-20, MW-21, MW-22, MW-27, MW-28, MW-B50
- Total dissolved solids – MW-20 and MW-B50

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

- The Unit initiated the assessment monitoring program on March 23, 2018.

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 groundwater protection standard identified for the following Appendix IV constituents at the following wells during the second semi-annual 2019 and first semi-annual 2020 events:

  - Arsenic – MW-28, MW-29U (upgradient), and MW-32
  - Cobalt – MW-20, MW-21, MW-22, and MW-27
  - Radium 226 and 228 combined – MW-27

- In 2020, there were statistically significant increases over the Virginia CCR groundwater protection standard identified for the following additional Appendix IV constituents at the following wells during the second semi-annual 2019 and first semi-annual 2020 events:

  - Arsenic – wells MW-28, MW-29U (upgradient), and MW-32
  - Cobalt –wells MW-20, MW-21, MW-22, MW-27
  - Molybdenum – well MW-28
  - Radium 226 and 228 combined – wells MW-27

(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit

- The Station initiated assessment of corrective measures for the Unit on December 18, 2018.

(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit

- A public meeting has not yet been held for the assessment of corrective measures.

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(D) Provide the date when the assessment of corrective measures was completed for the CCR unit

- The Unit completed the assessment of corrective measures on May 17, 2019.

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.

Monitoring results from the second semi-annual 2020 event, conducted in November 2020, were received on December 9 ,2020. These results are being evaluated against site-specific GWPS in accordance with the applicable CCR Rule timeframe and the results will be placed in the operating record in accordance with the CCR Rule timeframe requirements.

Based on the results from the 2020 AMP activities, Dominion Energy intends to continue with semi-annual groundwater monitoring activities in 2021 that are consistent with the provisions in the CCR Rule [Part 257.95] and the Unit's Groundwater Monitoring Plan.

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1.0 INTRODUCTION

This *2020 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) was prepared on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Lower Ash Pond (Unit) at the Chesterfield Power Station (Station) located in Chesterfield County, Virginia. The Unit is considered an existing Coal Combustion Residuals (CCR) surface impoundment and is subject to the groundwater monitoring requirements in Title 40 Code of Federal Regulations (CFR) Part 257.50 *et seq.* [Disposal of Coal Combustion Residuals from Electric Utilities (CCR 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 Agency 20, Chapter 81-800 *et seq.* (9VAC20-81-800; VWMB, 2019). Pursuant to the CCR Rule, no later than January 31st annually, the owner or operator of a CCR Unit must prepare an annual groundwater monitoring and corrective action report for the CCR Unit documenting the status of groundwater monitoring and corrective action programs for the preceding year.

Golder Associates Inc. (Golder) has prepared this Report for the Unit on behalf of Dominion Energy in accordance with CCR Rule Part 257.90(e). This Report presents relevant data evaluations from the second semi-annual 2019 event that were completed in 2020, provides the monitoring data and required data evaluations for the first semi-annual CCR monitoring compliance events performed in May 2020, and provides the monitoring data for the second semi-annual CCR monitoring compliance events performed in November 2020.

1.1 Site Location

The Station is owned and operated by Dominion Energy and is located in Chesterfield County at 500 Coxendale Road, east of I-95 on the south side of the James River (Dutch Gap Cutoff Channel) near its confluence with the Old Channel of the James River. A site location map is presented as Drawing 1.

1.2 Site History

Virginia Electric and Power Company acquired the Unit property in 1959. The Unit, a former borrow area, was commissioned in 1964 by constructing dikes on its east, south and west sides. The western, southern, and eastern dikes were raised approximately 5 feet in the late 1960's. The Unit stopped accepting newly generated CCR in November 2017 and is currently covered with a synthetic rain cover. The Unit is subject to the groundwater monitoring requirements of the CCR Rule.

1.3 Key Actions

Key actions for this Unit are as follows:

- Initiated the CCR Detection Monitoring Program (DMP) in October 2016, with the collection of eight baseline/background samples and completed the background monitoring activities in August 2017, pursuant to the CCR Rule [257.94(b)];

- Conducted the initial DMP compliance sampling event on September 12-14, 2017, and completed the sample analyses on September 26, 2017 (revised data package received on February 27, 2018), pursuant to the CCR Rule [257.94];
- Placed a copy of the Unit's *Groundwater Monitoring Plan* (GMP; Golder, 2017) documenting the design information for the monitoring wells pursuant to the CCR Rule [257.91(e)(1)] in the Station's operating record on October 17, 2017, pursuant to the CCR Rule [257.105(h)(2)];
- Certified the Unit's groundwater monitoring system pursuant to the CCR Rule [257.91(e)(1) and posted the Certification in the Station's operating record on October 17, 2017, 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 posted the Certification in the Station's operating record on October 17, 2017, pursuant to the CCR Rule [257.105(h)(4)];
- Placed a notification of a Statistically Significant Increase (SSI) over the Unit's background concentrations under the DMP in the Station's operating record on December 25, 2017;
- Conducted the initial assessment monitoring program (AMP) compliance sampling event on February 5-7, 2018, and completed the sample analyses on March 9, 2018 (revised data package received on March 23, 2018), pursuant to the CCR Rule [257.95(b)];
- Established groundwater protection standards (GWPS) for detected constituents in Appendix IV of Part 257 on September 19, 2018, pursuant to the CCR Rule [257.95(d)(2)];
- Notification of GWPS exceedances placed in the Station's operating record on October 19, 2018 (revised November 4, 2018);
- Placed an Assessment of Corrective Measures (ACM) Initiation Notification in the Unit's operating record on January 17, 2019, within the required timeframe pursuant to 40 CFR Part 257.96;
- Completed the ACM on May 17, 2019. Based on the results of the ACM, adjacent landowner notification was made and was placed in the operating record;
- Notification of 2019 second semi-annual GWPS exceedances was placed in the Unit's operating record on April 9, 2020;
- Placed a copy of the Semi-Annual Remedy Selection Progress Report No. 2 in the Unit's operating record on May 11, 2020;
- Conducted the first semi-annual 2020 AMP compliance sampling event on May 4-6, 2020, and completed the sample analyses on June 3, 2020 (revised data package received on July 30, 2020) pursuant to the CCR Rule [257.95(d)(1)];
- Notification of 2020 first semi-annual federal GWPS and Virginia CCR Rule GWPS exceedances placed on the Unit's operating record on October 1, 2020;

- Conducted the second semi-annual 2020 AMP compliance sampling event on November 2-6, 2020, and completed the sample analyses on December 9, 2020 (revised laboratory data package received on December 11, 2020), pursuant to the CCR Rule [257.95(d)(1)]; and,
- Placed a copy of the Semi-Annual Remedy Selection Progress Report No. 3 in the Unit's operating record on November 6, 2020.

1.4 Monitoring Program Concerns

There were no monitoring program concerns identified during the semi-annual AMP compliance events conducted in 2020.

2.0 SITE INFORMATION

The Station property is bordered by the James River to the north; to the east by Henricus Park Road, across which is Aiken Swamp (Dutch Gap Conservation Area), and Henricus Park; undeveloped tidal flats and river bottom associated with Farrar Gut to the south; and the James River Industrial Center to the west. The Station is accessed from Coxendale Road and has a CSX rail line and a barge port on the James River.

Land use surrounding the Station is comprised of a mix of rural residential (across the James River and Farrar Gut), public space (Henricus Park and Aiken Swamp), and commercial/industrial to the west (James River Industrial Center).

As part of the Station operations, Dominion Energy operated the Unit for CCR storage as an existing CCR impoundment. The Unit is currently idled and covered with a synthetic rain cover. The Unit was subject to the groundwater monitoring provisions of the CCR Rule by October 17, 2017. On March 20, 2019, Virginia Governor Northam signed SB1355/ HB2786 (Virginia Code section 10.1-1402.03); the resultant law requires Dominion Energy to close the Unit by removal of all CCR.

2.1 Monitoring Well Network

The Unit's GMP (Golder, 2017) details the design of the Unit's CCR Rule groundwater monitoring network. As presented in the GMP, the monitoring network is comprised of two (2) upgradient/background wells (MW-29U and MW-35S) and 14 downgradient monitoring wells (MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-32, MW-33, MW-34, MW-B40A, MW-B50) designed to monitor the uppermost aquifer beneath the Unit. The groundwater monitoring well locations relative to the Unit are shown on Drawing 2. In addition, the Station maintains several observation wells that are presently used for periodic water level monitoring activities.

2.1.1 Monitoring Wells Installation and Decommissioning Activities

No groundwater monitoring wells associated with the Unit's CCR Rule compliance network were commissioned or decommissioned in calendar year 2020.

2.2 Geology and Hydrogeology

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

2.2.1 Geology

The Station is located approximately 2.5 miles east of the Fall Line in the western part of the Virginia Coastal Plain physiographic province (VDMR, 1993). The surrounding area is characterized by gently rolling topography incised by dendritically patterned mature stream channels flowing in a general easterly direction towards the James River. The Coastal Plain physiographic province is composed of an extensive complex of interlayered, unconsolidated to semi-consolidated strata deposited between the Quaternary and Cretaceous Periods. The thickness of the strata is variable within the Coastal Plain, varying from a "feather's edge" where the sediments overlap the Piedmont

physiographic province rocks and saprolitic sediment, to massively bedded formations near the continental shelf. Structurally, the Station and Unit are located within the easterly dipping Coastal Plain physiographic province, with the northern limits of the inactive, steep-angled, reverse Dutch Gap Fault (reactivated normal fault with a west footwall) mapped immediately southeast of the Unit.

The uppermost sediments at the Station and surrounding areas are mapped as Quaternary alluvium associated with the present-day James River. The Quaternary sediments are underlain by Tertiary and Cretaceous sedimentary deposits of variable thickness. The Cretaceous sediments overlie the Petersburg Granite (mapped to the west) and other undifferentiated basement rock that varies in texture from a relatively uniform aphanitic to phaneritic textured rock to a heterogeneous gneissic texture. The Petersburg Granite is variously described as a Paleozoic crystalline basement rock composed primarily of quartz, sodic plagioclase, potassium feldspar, biotite, and hornblende, with minor amounts of ilmenite, magnetite, pyrite, zircon, apatite, titanite, muscovite, and fluorite (VDMR, 1993). Locally (site investigations in 2016), the lower basement bedrock is overlain by consolidated sediments (mudstone, arkose, and conglomerate) that are believed to date to the Triassic. The basement bedrock surface near the Station is interpreted to be inclined to the east.

2.2.2 Hydrogeology

The uppermost aquifer beneath the Unit is unconfined and is found in the surficially exposed Quaternary and upper Tertiary sediments, hereafter referred to as the Columbia Aquifer (the water table aquifer system, which includes unconfined sections of the Yorktown Formation). The groundwater flow direction in the uppermost aquifer beneath the Unit is radial in nature.

2.2.3 Potentiometric Surface Evaluation

Historical static water level data for the Unit are summarized in Table 1. 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 compliance sampling event. The Groundwater Potentiometric Surface Map presented as Drawing 2 and 3 were prepared using static water level data from the uppermost aquifer obtained during the first and second semi-annual AMP events on May 4, 2020, and November 2, 2020, respectively. The interpreted data indicates that the groundwater flow direction remains consistent with previous monitoring events. Therefore, based on network review and regulatory requirements, Golder believes that the groundwater monitoring wells continue to be operated and maintained so that they perform to the design specifications in the Groundwater Monitoring System Certification for the LAP (Golder, 2017) consistent with 40CFR Part 257.91(e)(2) of the CCR Rule.

Using the groundwater contours presented as an overlay on Drawings 2 and 3, the average hydraulic gradient along the ideal flow line beneath the Unit for the uppermost aquifer in the study area was calculated for each monitoring event using the following equations:

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

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)

Using the estimated average effective porosity value of 20% for the sediments comprising the uppermost aquifer (Sanders, 1998), the estimated average hydraulic conductivity value for the uppermost aquifer (Columbia), and the calculated gradient, the average rate of groundwater flow (*Vgw*) in the uppermost aquifer beneath the Unit, based on slug test evaluations, was calculated using the algorithm below.

Groundwater Flow	Hydraulic Conductivity (k, cm/s)	Contour lines (feet amsl)	Flow Length (feet)	Calculated Gradient (i)	Average Gradient (i)	Assumed Porosity (Ø)	Estimated Groundwater Velocity	
							(cm/s)	(feet/year)
1st Semi-Annual Assessment Monitoring Program Event (May 2020)								
Unit -Columbia Vgw1	1.39E-03	5-2.5	62	4.0E-02	2.3E-02	0.20	1.6E-04	166
Unit -Columbia Vgw2		9.9-5	793	6.2E-03				
2nd Semi-Annual Assessment Monitoring Program Event (November 2020)								
Unit -Columbia Vgw1	1.39E-03	5-1.0	204	2.0E-02	1.3E-02	0.20	9.0E-05	93
Unit -Columbia Vgw2		9.9-5.0	830	5.9E-03				

As presented, the estimated average groundwater flow rate in the uppermost aquifer beneath the Unit (*Vgw*) is approximately 166 to 93 feet per year. The calculated flow rate velocity for the events conducted in 2020 is reduced compared to historical data prior to 2019. The reduced and variable flow rate velocity observed from second semi-annual 2019 event to current is associated with the installation of the rain cover at the LAP. Specifically, the reduced gradient and associated reduction in the groundwater flow rate was expected due to the reduction in recharge to the uppermost aquifer.

3.0 FIELD ACTIVITIES

Pursuant to the requirements in 40 CFR 257.95(d)(1) two semi-annual AMP monitoring events were completed for the Unit for the constituents and parameters listed Appendix III of the CCR Rule and constituents and parameters listed in Appendix IV of the CCR rule. Summaries of the AMP sampling events are presented below.

Monitoring Event	Sample Dates	Final Laboratory Package Receipt Date
1st Semi-Annual Assessment Monitoring Program Event	May 4-6, 2020	June 3, 2020 (revised July 30, 2020)
2nd Semi-Annual Assessment Monitoring Program Event	November 2-6, 2020	December 9, 2020 (revised December 11, 2020)

During each of the AMP sampling events, the compliance monitoring wells were sampled in general accordance with the procedures presented in the Station's GMP. Field logs for the 2020 semi-annual sampling events are included in Appendices B and C.

Samples collected during the first and second semi-annual AMP sampling events were submitted on ice in secured coolers under chain-of-custody control to Pace Analytical, LLC (Pace) in Mechanicsville, Virginia. The Pace samples were then shipped to the Greensburg, Pennsylvania, Huntersville, North Carolina, Asheville, North Carolina, and Eden, North Carolina locations of Pace for analysis. These locations (#9526, #460221, #460222, and #460025) are Virginia Environmental Laboratory Accreditation Program (VELAP)-accredited laboratories for the analyses required.

4.0 LABORATORY ANALYTICAL RESULTS

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

4.1 2nd Semi-Annual 2019 Assessment Verification Monitoring Program Event

The groundwater sample collected from MW-32 during December 30, 2019 verification event was analyzed for the presence of arsenic. The laboratory certificates of analysis, chain-of-custody form, and field log for the sampling event are presented in Appendix A. A summary of the first semi-annual verification CCR sampling data for the Unit is presented in Table 3.

4.2 1st Semi-Annual 2020 Assessment Monitoring Program Event

The groundwater samples collected during the first semi-annual AMP event were analyzed for the presence of concentration of the constituent and parameters listed in Appendix III and Appendix IV of the CCR rule. The laboratory certificates of analysis, chain-of-custody form, and field logs for the sampling event are presented in Appendix B. A summary of the CCR sampling data for the Unit is presented in Table 4.

4.3 2nd Semi-Annual 2020 Assessment Monitoring Program Event

The groundwater samples collected during the second semi-annual AMP event were analyzed for the presence of concentration of the constituent and parameters listed in Appendix III of the CCR rule and constituents and parameters of Appendix IV of the CCR rule that were detected during previous AMP events. The current list of Appendix IV detections is as follows:

- Arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium molybdenum, thallium, and radium (226 and 228).

The laboratory certificates of analysis, chain-of-custody form, and field logs for the sampling event are presented in Appendix C. A summary of the CCR sampling data for the Unit is presented in Table 5.

5.0 DATA QUALITY VALIDATION

The Quality Assurance (QA) and quality control (QC) data provided by the laboratory for the 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 Environmental Protection Agency (EPA) and Department of Energy (DOE) guidance documents:

- *National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017* (EPA, 2017);
- *Sampling and Analysis Plan for US Department of Energy Office of Legacy Management Sites*. Department of Energy (DOE, 2017); and
- *Evaluation of Radiochemical Data Usability.* 1997. Department of Energy (Paar, G. J. *et al*, April 1997).

5.1 2nd Semi-Annual 2019 Verification Event Findings

The laboratory data for the second semi-annual verification monitoring event for MW-32 was reviewed in accordance with EPA and DOE Protocol. Based on review of the laboratory-provided QC data and EPA/DOE guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. A copy of the data validation record is included in Appendix A.

5.2 1st Semi-Annual 2020 Compliance Event Findings

The laboratory and field QA/QC data for the first semi-annual compliance monitoring event samples were reviewed in accordance with EPA and DOE Protocol. Field QA/QC samples for this event included a field blank, equipment blank, and a field duplicate sample that was collected from compliance well MW-25 collected during the 1st semi-annual compliance event. These QA/QC samples were analyzed for the same constituents as the groundwater samples. Based on review of the laboratory-provided QC data and EPA/DOE guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. A copy of the data validation record is included in Appendix B.

5.3 2nd Semi-Annual 2020 Compliance Event Findings

The laboratory and field QA/QC data for the second semi-annual compliance monitoring event samples collected were reviewed in accordance with EPA and DOE Protocol. Field QA/QC samples for this event included a field blank, an equipment blank, and a field duplicate sample that was collected from compliance well MW-27. These QA/QC samples were analyzed for the same constituents as the groundwater samples. Based on review of the laboratory-provided QC data and EPA/DOE guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. A copy of the data validation record is included in Appendix C.

6.0 STATISTICAL EVALUATION OF GROUNDWATER DATA

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

- Data from the second semi-annual 2019 compliance event and the first semi-annual 2020 compliance event have been evaluated with respect to background data; this analysis identifies statistically significant increases (SSIs) in downgradient wells over background (inter-well analysis); and
- Data from the second semi-annual 2019 compliance event and the first semi-annual 2020 compliance event have been evaluated with respect to GWPS.

6.1 Site-Specific Background Evaluations

Compliance data from each semi-annual event were evaluated against site-specific background values as follows.

6.1.1 Second Semi-Annual 2019 Compliance Event

Pursuant to §257.95 of the CCR Rule, Golder evaluated Appendix III constituent detections against site-specific background values that were established for the DMP. Based on that evaluation, the following Appendix III SSIs were identified for the second semi-annual 2019 event (see Table 2):

- Boron (MW-20, MW-21, MW-22, MW-24, MW-27, MW-28, MW-34, MW-B40A, and MW-B50)
- Calcium (MW-23, MW-28, and MW-B50)
- Chloride (MW-20, MW-21, MW-24, MW-34, MW-B40A, and MW-B50)
- Fluoride (MW-25, MW-28, and MW-32)
- pH (MW-24, MW-28, MW-33, and MW-34)
- Sulfate (MW-20, MW-21, MW-22, MW-27, MW-28, and MW-B50)
- Total Dissolved Solids (MW-20)

For Appendix IV constituents, the following SSIs were identified consistent with §257.93(h) of the CCR Rule. Golder evaluated the AMP constituent detections against site-specific background values that were established for the evaluation of AMP constituents (see Table 2 and 3).

- Arsenic (MW-28 and MW-32)
- Barium (MW-24)
- Cobalt (MW-20, MW-21, and MW-27)
- Fluoride (MW-25, MW-28, and MW-32)
- Molybdenum (MW-28)
- Radium 226 and 228 combined (MW-20, MW-22, MW-23, MW-27, MW-35S [upgradient], and MW-B40A)

As this Unit is already monitoring groundwater under the AMP, no additional actions beyond reporting these background exceedances in this annual report is required.

6.1.2 First Semi-Annual 2020 Compliance Event

Pursuant to §257.95 of the CCR Rule, Golder evaluated Appendix III constituent detections against site-specific background values that were established for the DMP. Based on that evaluation, the following Appendix III SSIs were identified for the first semi-annual 2020 event (see Table 4):

- Boron (MW-20, MW-21, MW-22, MW-24, MW-27, MW-28, MW-34, MW-B40A, and MW-B50)
- Calcium (MW-23, MW-28, and MW-B50)
- Chloride (MW-21, MW-24, MW-34, MW-B40A, and MW-B50)
- Fluoride (MW-25, MW-28, and MW-32)
- pH (MW-20, MW-28, and MW-33)
- Sulfate (MW-20, MW-21, MW-22, MW-27, MW-28 and MW-B50)
- Total Dissolved Solids (MW-B50)

For Appendix IV constituents, the following SSIs were identified consistent with §257.93(h) of the CCR Rule. Golder evaluated the AMP constituent detections against site-specific background values that were established for the evaluation of AMP constituents (see Table 5).

- Arsenic (MW-28 and MW-29U [upgradient])
- Barium (MW-24 and MW-29U [upgradient])
- Cobalt (MW-20, MW-21, MW-22, and MW-27)
- Fluoride (MW-25, MW-28, and MW-32)
- Molybdenum (MW-28)
- Radium 226 and 228 combined (MW-27)

As this Unit is already monitoring groundwater under the AMP, no additional actions beyond reporting these background exceedances in this annual report is required.

6.1.3 Second Semi-Annual 2020 Compliance Event

The results from the second semi-annual 2020 sampling event are being evaluated in accordance with the timeframes in the CCR Rule.

6.2 Groundwater Protection Standards

Consistent with the provisions of 40 CFR Subpart 257.95(d)(2) for the CCR Rule, groundwater protection standards (GWPS) for the detected Appendix IV constituents listed in 40 CFR 257 were established on September 19, 2018. Because the Commonwealth of Virginia adopted by reference the October 4, 2016 version of 40 CFR Part 257 into 9VAC20-81-800 of the Virginia Solid Waste Management Regulations (VWMB, 2019), amendments to 40 CFR Part 257 Subpart D after October 4, 2016, have not been incorporated into 9VAC20-81-800 and health-based GWPS are not applicable to the VSWMR under 9VAC20-81-800. Therefore, two sets of groundwater protection

standards were established (federal CCR Rule GWPS and Virginia CCR GWPS). The GWPS establishment documentation was placed in the Unit's operating record on September 19, 2018.

6.2.1 2nd Semi-Annual 2019 Data Evaluations

The following constituents were detected at concentrations above the Federal GWPS as presented in Table 2 and 3 based on a value-to-standard comparison.

CCR Rule Groundwater Protection Standard Exceedances

Constituent	Federal CCR Groundwater Protection Standard	Assessment Monitoring Well	2SA 2019 Concentration
Arsenic (ug/L)	19.8	MW-28	250
		MW-32	27.9 29.5 (Resample)
Cobalt (ug/L)	7.4	MW-20 DUP	140
		MW-20	141
		MW-21	13.3
		MW-27	9.76
Radium, Total (pCi/L)	5	MW-27	5.97

Notes: ug/L = Microgram per liter
pCi/L = picoCurie per liter

Under 9VAC20-81-800, the following constituents were detected in one or more downgradient wells at a concentration above the Virginia CCR Rule GWPS.

Virginia CCR Rule Groundwater Protection Standard Exceedances

Constituent	Virginia CCR Groundwater Protection Standard	Assessment Monitoring Well	2SA 2019 Concentration
Arsenic (ug/L)	19.8	MW-28	250
		MW-32	27.9 29.5 (Resample)
Cobalt (ug/L)	7.4	MW-20 DUP	140
		MW-20	141
		MW-21	13.3
		MW-27	9.76
Molybdenum (ug/L)	QL (10)	MW-28	16.5
Radium, Total (pCi/L)	5	MW-27	5.97

Notes: ug/L = Microgram per liter
pCi/L = picoCurie per liter
QL= Quantitation Limit

A record of the exceedances was placed in the Unit's operating record on April 9, 2020. An ACM was completed for the Unit in May 2019 and includes the constituents noted above.

6.2.2 1st Semi-Annual 2020 Data Evaluations

Federal GWPS exceedances were identified for the first semi-annual 2020 AMP sampling event. Based on review of the first semi-annual 2020 data package and the September 19, 2018, GWPS, the following GWPS exceedances were identified during the first semi-annual groundwater monitoring event based on a value-to-standard comparison.

CCR Rule Groundwater Protection Standard Exceedances

Constituent	Federal CCR Groundwater Protection Standard	Assessment Monitoring Well	1SA 2020 Concentration
Arsenic (ug/L)	19.8	MW-28	172
		MW-29U (upgradient)	25.1
Cobalt (ug/L)	7.4	MW-20	77.8
		MW-21	15.8
		MW-22	9.0
		MW-27	9.9

Note: ug/L = Micrograms per liter

Under 9VAC-20-81-800, the following constituents were detected in one or more downgradient wells at a concentration above the Virginia CCR Rule GWPS.

Virginia CCR Rule Groundwater Protection Standard Exceedances

Constituent	Virginia CCR Groundwater Protection Standard	Assessment Monitoring Well	1SA 2020 Concentration
Arsenic (ug/L)	19.8	MW-28	172
		MW-29U (upgradient)	25.1
Cobalt (ug/L)	7.4	MW-20	77.8
		MW-21	15.8
		MW-22	9.0
		MW-27	9.9
Molybdenum (ug/L)	QL (10)	MW-28	11.6

Notes: ug/L = Microgram(s) per liter
QL= Quantitation Limit

A record of the exceedances was placed in the Unit's operating record on October 1, 2020. An ACM was completed for the Unit in May 2019 and includes the constituents noted above.

6.2.3 2nd Semi-Annual 2020 Data Evaluations

The data for the 2020 second semi-annual AMP sampling event are being evaluated against the established GWPS for the Unit in accordance with the CCR Rule timeframes. The results from those evaluations will be presented in the 2021 Annual Groundwater Monitoring and Corrective Action Report.

7.0 CONCLUSIONS

7.1 Findings

The first semi-annual 2020 AMP compliance sampling event was completed on May 4-6, 2020, with sample analyses completed on June 3, 2020. The second semi-annual 2020 AMP compliance sampling event was completed on November 2-6, 2020, with sample analyses complete on December 9, 2020. These groundwater sampling and analysis activities were conducted in general accordance with the requirements of the Unit's GMP for the CCR network.

Evaluation of the monitoring results from the 2019 second semi-annual event and the 2020 first semi-annual event identified the federal GWPS exceedances for arsenic, cobalt, and radium-226/228. Additionally, Virginia CCR Rule GWPS exceedances were identified for arsenic, cobalt, molybdenum, and radium-226/228. Monitoring results from the second semi-annual 2020 event were received on December 9, 2020 and are being evaluated against site--specific GWPS in accordance with the applicable CCR Rule timeframe. Dominion Energy completed an ACM for the Unit for arsenic, cobalt, lithium, molybdenum, and radium-226/228 in May 2019.

7.2 Planned Activities

Based on the results from the 2020 AMP activities, Dominion Energy intends to continue with semi-annual groundwater monitoring activities in 2021 that are consistent with the provisions in the CCR Rule [Part 257.95] and the Unit's GMP. 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 continue to prepare semi-annual progress reports for remedy design and selection. In accordance with the provisions in Virginia State Bill 1355 (Virginia Code section 10.1-1402.03), Dominion Energy will continue with the planned closure by removal of CCR material in the Unit.

8.0 REFERENCES

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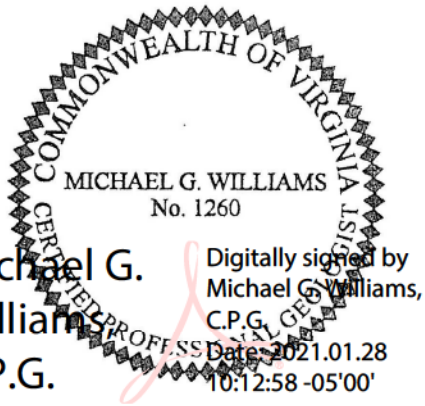
9.0 SIGNATURE PAGE

This *2020 CCR Annual Groundwater Monitoring and Corrective Action Report* (Report) has been prepared by a qualified groundwater scientist on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Unit at Chesterfield Power Station to satisfy the reporting requirements specified in Title 40 Code of Federal Regulations (CFR) Part 257.90(e) *et seq*. [*Disposal of Coal Combustion Residuals* (CCR) *from Electric Utilities* (CCR 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 Agency 20, Chapter 81-800 *et seq.* (9VAC20-81-800).

Signature



Name & Title

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Principal, Senior Hydrogeologist

https://golderassociates.sharepoint.com/sites/123551/project files/6 deliverables/2020 agwmr lap/2021-01-29 2020 cps lap ccr amr.docx

TABLES

Table 1
Summary of Historical CCR Static Water Level Data
Chesterfield Power Station, Lower Ash Pond, Chesterfield, VA

Monitoring Well ID	TOC Elevation (ft msl)	Date of Measurement	Depth to Water ft btoc	Groundwater Elevation ft msl
MW-29U	7.13	10/07/2016	6.22	0.91
		11/14/2016	6.40	0.73
		01/09/2017	7.00	0.13
		02/20/2017	5.74	1.39
		04/03/2017	4.69	2.44
		05/15/2017	4.60	2.53
		06/19/2017	4.79	2.34
		07/24/2017	6.30	0.83
		09/11/2017	6.90	0.23
		02/05/2018	6.72	0.41
		05/17/2018	5.55	1.58
		11/19/2018	4.58	2.55
		04/22/2019	3.93	3.20
		11/18/2019	6.71	0.42
		05/04/2020	4.45	2.68
		11/02/2020	4.31	2.82
MW-35S	57.81	01/09/2017	49.67	8.14
		02/20/2017	50.02	7.79
		04/03/2017	50.06	7.75
		05/03/2017	50.12	7.69
		05/15/2017	49.62	8.19
		05/26/2017	49.48	8.33
		06/06/2017	49.03	8.78
		06/19/2017	49.42	8.39
		07/05/2017	49.81	8.00
		07/24/2017	50.13	7.68
		08/10/2017	50.32	7.49
		09/11/2017	50.38	7.43
		02/05/2018	51.75	6.06
		05/17/2018	51.30	6.51
		11/19/2018	49.47	8.34
		04/22/2019	48.77	9.04
		11/18/2019	50.38	7.43
		05/04/2020	50.59	7.22
		11/02/2020	48.44	9.37
MW-20	21.30	10/07/2016	14.86	6.44
		11/14/2016	15.45	5.85
		01/09/2017	15.46	5.84
		02/20/2017	15.57	5.73
		04/03/2017	15.12	6.18
		05/15/2017	15.59	5.71
		06/19/2017	15.97	5.33
		07/24/2017	16.50	4.80
		09/11/2017	16.35	4.95
		02/05/2018	17.36	3.94
		05/17/2018	17.26	4.04
		11/19/2018	15.89	5.41
		04/22/2019	16.22	5.08
		11/18/2019	18.56	2.74
		05/04/2020	17.68	3.62
		11/02/2020	16.40	4.90

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Chesterfield Power Station, Lower Ash Pond, Chesterfield, VA

Monitoring Well ID	TOC Elevation (ft msl)	Date of Measurement	Depth to Water ft btoc	Groundwater Elevation ft msl
MW-21	11.91	10/04/2016	4.31	7.60
		11/14/2016	5.09	6.82
		01/09/2017	4.69	7.22
		02/20/2017	4.74	7.17
		04/03/2017	3.86	8.05
		05/15/2017	5.01	6.90
		06/19/2017	5.64	6.27
		07/24/2017	6.57	5.34
		09/11/2017	6.51	5.40
		02/05/2018	6.80	5.11
		05/17/2018	6.76	5.15
		11/19/2018	4.91	7.00
		04/22/2019	5.25	6.66
		11/18/2019	8.77	3.14
		05/04/2020	6.92	4.99
		11/02/2020	5.58	6.33
MW-22	12.33	10/04/2016	4.50	7.83
		11/14/2016	5.98	6.35
		01/09/2017	5.59	6.74
		02/20/2017	5.54	6.79
		04/03/2017	4.80	7.53
		05/15/2017	5.77	6.56
		06/19/2017	6.52	5.81
		07/24/2017	7.40	4.93
		09/11/2017	7.48	4.85
		02/05/2018	7.63	4.70
		05/17/2018	7.42	4.91
		11/19/2018	5.69	6.64
		04/22/2019	5.85	6.48
		11/18/2019	9.45	2.88
		05/04/2020	7.34	4.99
		11/02/2020	6.19	6.14
MW-23	8.37	10/03/2016	4.26	4.11
		11/14/2016	4.96	3.41
		01/09/2017	5.11	3.26
		02/20/2017	4.83	3.54
		04/03/2017	4.31	4.06
		05/15/2017	4.42	3.95
		06/19/2017	4.92	3.45
		07/24/2017	5.49	2.88
		09/11/2017	5.37	3.00
		02/05/2018	5.61	2.76
		05/17/2018	5.39	2.98
		11/19/2018	4.67	3.70
		04/22/2019	4.83	3.54
		11/18/2019	5.51	2.86
		05/04/2020	4.95	3.42
		11/02/2020	4.79	3.58

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Monitoring Well ID	TOC Elevation (ft msl)	Date of Measurement	Depth to Water ft btoc	Groundwater Elevation ft msl
MW-24	18.66	10/07/2016	9.82	8.84
		11/14/2016	10.45	8.21
		01/09/2017	11.65	7.01
		02/20/2017	11.05	7.61
		04/03/2017	10.57	8.09
		05/15/2017	10.05	8.61
		06/19/2017	10.29	8.37
		07/24/2017	10.45	8.21
		09/11/2017	10.61	8.05
		02/05/2018	13.58	5.08
		05/17/2018	14.85	3.81
		11/19/2018	13.20	5.46
		04/22/2019	9.36	9.30
		11/18/2019	12.71	5.95
		05/04/2020	12.76	5.90
		11/02/2020	12.98	5.68
MW-25	12.64	10/12/2016	9.66	2.98
		11/14/2016	10.28	2.36
		11/16/2016	10.72	1.92
		01/09/2017	11.24	1.40
		02/20/2017	10.88	1.76
		04/03/2017	10.15	2.49
		05/15/2017	9.74	2.90
		06/19/2017	10.73	1.91
		07/24/2017	10.90	1.74
		09/11/2017	10.30	2.34
		02/05/2018	11.20	1.44
		05/17/2018	10.60	2.04
		11/19/2018	10.02	2.62
		04/22/2019	9.73	2.91
		11/18/2019	10.43	2.21
		05/04/2020	10.27	2.37
		11/02/2020	10.65	1.99
MW-26	9.71	10/04/2016	6.97	2.74
		11/14/2016	9.34	0.37
		11/15/2016	8.21	1.50
		01/09/2017	9.20	0.51
		02/20/2017	8.09	1.62
		04/03/2017	7.33	2.38
		05/15/2017	7.03	2.68
		06/19/2017	8.76	0.95
		07/24/2017	9.10	0.61
		09/11/2017	7.69	2.02
		02/05/2018	8.54	1.17
		05/17/2018	9.76	-0.05
		11/19/2018	6.98	2.73
		04/22/2019	6.70	3.01
		11/18/2019	8.21	1.50
		05/04/2020	7.58	2.13
		11/02/2020	9.10	0.61

Table 1
Summary of Historical CCR Static Water Level Data
Chesterfield Power Station, Lower Ash Pond, Chesterfield, VA

Monitoring Well ID	TOC Elevation (ft msl)	Date of Measurement	Depth to Water ft btoc	Groundwater Elevation ft msl
MW-27	17.15	10/04/2016	15.00	2.15
		10/12/2016	15.01	2.14
		11/14/2016	17.77	-0.62
		11/15/2016	16.98	0.17
		01/09/2017	17.20	-0.05
		02/20/2017	15.76	1.39
		04/03/2017	15.18	1.97
		05/15/2017	15.02	2.13
		06/19/2017	16.80	0.35
		07/24/2017	17.41	-0.26
		09/11/2017	15.15	2.00
		02/05/2018	16.44	0.71
		05/17/2018	15.90	1.25
		11/19/2018	15.59	1.56
		04/22/2019	14.55	2.60
		11/18/2019	15.97	1.18
		05/04/2020	15.23	1.92
		11/02/2020	17.45	-0.30
MW-28	22.01	10/04/2016	16.37	5.64
		10/12/2016	15.81	6.20
		11/14/2016	16.60	5.41
		01/09/2017	16.93	5.08
		02/20/2017	16.90	5.11
		04/03/2017	16.80	5.21
		05/15/2017	16.83	5.18
		06/19/2017	17.04	4.97
		07/24/2017	17.52	4.49
		09/11/2017	17.11	4.90
		02/05/2018	18.55	3.46
		05/17/2018	18.33	3.68
		11/19/2018	17.26	4.75
		04/22/2019	17.66	4.35
		11/18/2019	19.11	2.90
		05/04/2020	18.85	3.16
		11/02/2020	17.75	4.26
MW-32	8.37	10/03/2016	3.79	4.58
		11/14/2016	4.01	4.36
		01/09/2017	4.12	4.25
		02/20/2017	4.08	4.29
		04/03/2017	3.81	4.56
		05/15/2017	3.90	4.47
		06/19/2017	4.42	3.95
		07/24/2017	4.98	3.39
		09/11/2017	4.95	3.42
		02/05/2018	5.07	3.30
		05/17/2018	4.88	3.49
		11/19/2018	3.98	4.39
		04/22/2019	3.99	4.38
		11/18/2019	5.63	2.74
		12/30/2019	4.58	3.79
		05/04/2020	4.53	3.84
		11/02/2020	4.20	4.17

Table 1
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Chesterfield Power Station, Lower Ash Pond, Chesterfield, VA

Monitoring Well ID	TOC Elevation (ft msl)	Date of Measurement	Depth to Water ft btoc	Groundwater Elevation ft msl
MW-33	12.73	10/03/2016	8.88	3.85
		11/14/2016	9.45	3.28
		01/09/2017	3.26	9.47
		02/20/2017	9.71	3.02
		04/03/2017	5.45	7.28
		05/15/2017	8.15	4.58
		06/19/2017	8.66	4.07
		07/24/2017	9.05	3.68
		09/11/2017	9.35	3.38
		02/05/2018	10.06	2.67
		05/17/2018	9.85	2.88
		11/19/2018	9.34	3.39
		04/22/2019	9.50	3.23
		11/18/2019	9.35	3.38
		05/04/2020	9.30	3.43
		11/02/2020	9.62	3.11
MW-34	9.70	10/12/2016	5.95	3.75
		11/14/2016	6.58	3.12
		01/09/2017	7.65	2.05
		02/20/2017	7.34	2.36
		04/03/2017	6.70	3.00
		05/15/2017	6.28	3.42
		06/19/2017	6.53	3.17
		07/24/2017	7.02	2.68
		09/11/2017	6.85	2.85
		02/05/2018	8.42	1.28
		05/17/2018	10.30	-0.60
		11/19/2018	7.32	2.38
		04/22/2019	6.73	2.97
		11/18/2019	7.05	2.65
		05/04/2020	7.18	2.52
		11/02/2020	7.29	2.41
MW-B40A	18.49	10/05/2016	5.52	12.97
		11/14/2016	6.02	12.47
		01/09/2017	5.99	12.50
		02/20/2017	6.00	12.49
		04/03/2017	5.50	12.99
		05/15/2017	5.54	12.95
		06/19/2017	5.66	12.83
		07/24/2017	6.21	12.28
		09/11/2017	5.54	12.95
		02/05/2018	6.96	11.53
		05/17/2018	8.68	9.81
		11/19/2018	8.49	10.00
		04/22/2019	5.63	12.86
		11/18/2019	8.54	9.95
		05/04/2020	6.50	11.99
		11/02/2020	6.88	11.61

Table 1
Summary of Historical CCR Static Water Level Data
Chesterfield Power Station, Lower Ash Pond, Chesterfield, VA

Monitoring Well ID	TOC Elevation (ft msl)	Date of Measurement	Depth to Water ft btoc	Groundwater Elevation ft msl
MW-B50	25.83	10/04/2016	20.19	5.64
		10/12/2016	19.69	6.14
		11/14/2016	20.39	5.44
		01/09/2017	20.75	5.08
		02/20/2017	20.96	4.87
		04/03/2017	20.73	5.10
		05/15/2017	20.61	5.22
		06/19/2017	20.94	4.89
		07/24/2017	21.32	4.51
		09/11/2017	21.11	4.72
		02/05/2018	22.39	3.44
		05/17/2018	22.20	3.63
		11/19/2018	21.19	4.64
		04/22/2019	21.46	4.37
		11/18/2019	22.80	3.03
		05/04/2020	22.60	3.23
		11/02/2020	21.56	4.27

Notes:
ft - Feet
ft msl - Feet Ablove Mean Sea Level
BTOC - Below Top of Casing

Table 2
Summary of 2019 2nd Semi-Annual Assessment Monitoring Program Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

					Upgradient								Downgradient															
				Sample ID:	MW-29U				MW-35S				MW-20				MW-21				MW-22				MW-23				MW-24			
				Sample Date:	11/18/2019				11/18/2019				11/18/2019				11/18/2019				11/18/2019				11/19/2019				11/19/2019			
Parameter Name	Unit	CCR Site-Specific BKG	Virginia CCR GPS	CCR GWPS	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL
CCR Appendix III Constituents																																
Boron	ug/L	QL (50)	--	--	**17.8**	J	5.70	50.0	**15.8**	J+	0.00570	0.0500	**812**		5.70	50.0	**526**		5.70	50.0	**647**		5.70	50.0	**25.2**	J	5.70	50.0	**671**		5.70	50.0
Calcium	ug/L	63,900	--	--	**52400**		39.0	100	**5030**		0.0390	0.100	**56400**		39.0	100	**50600**		39.0	100	**32200**		39.0	100	**82100**		39.0	100	**37900**		39.0	100
Chloride	mg/L	46	--	--	**15**		2.2	5.0	**7.2**		2.2	5.0	**69**		2.2	5.0	**66**		2.2	5.0	**25**		2.2	5.0	**2.4**	J	2.2	5.0	**53**		2.2	5.0
Fluoride	mg/L	0.281	4	4	**0.24**		0.0097	0.20	**0.017**	J	0.0097	0.20	**0.065**	J	0.0097	0.20	**0.064**	J	0.0097	0.20	**0.061**	J	0.0097	0.20	**0.28**		0.0097	0.20	**0.11**	J	0.0097	0.20
pH	SU	4.63-6.72	--	--	6.22		0.01	0.01	5.23		0.01	0.01	4.90		0.01	0.01	5.92		0.01	0.01	5.77		0.01	0.01	6.42		0.01	0.01	**6.88**		0.01	0.01
Sulfate	mg/L	9.16	--	--	< 2.9	U	2.9	5.0	**5.1**		2.9	5.0	**260**	D	14	25	**110**	D	14	25	**31**		2.9	5.0	**3.9**	J	2.9	5.0	< 2.9	U	2.9	5.0
Total Dissolved Solids	mg/L	450	--	--	**320**		50	50	**68**		50	50	**500**		50	50	**370**		50	50	**210**		50	50	**370**		50	50	**230**		50	50
Detected CCR Appendix IV Constituents																																
Arsenic	ug/L	19.8	19.8	19.8	**14.0**		0.940	2.00	< 0.940	U	0.940	2.00	< 0.940	U	0.940	2.00	< 0.940	U	0.940	2.00	< 0.940	U	0.940	2.00	**17.7**		0.940	2.00	**8.73**		0.940	2.00
Barium	ug/L	318	2,000	2,000	**281**		1.10	10.0	**29.8**		1.10	10.0	**35.7**		1.10	10.0	**56.0**		1.10	10.0	**141**		1.10	10.0	**238**		1.10	10.0	**329**		1.10	10.0
Beryllium	ug/L	QL (1)	4	4	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	**0.498**	J	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00
Cadmium	ug/L	QL (1)	5	5	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00
Chromium	ug/L	QL (5)	100	100	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0
Cobalt	ug/L	7.4	7.4	7.4	**2.61**		0.200	2.00	**0.267**	J	0.200	2.00	**141**		0.200	2.00	**13.3**		0.200	2.00	**4.35**		0.200	2.00	**2.04**		0.200	2.00	**1.51**	J	0.200	2.00
Fluoride	mg/L	0.281	4	4	**0.24**		0.0097	0.20	**0.017**	J	0.0097	0.20	**0.065**	J	0.0097	0.20	**0.064**	J	0.0097	0.20	**0.061**	J	0.0097	0.20	**0.28**		0.0097	0.20	**0.11**	J	0.0097	0.20
Lead	ug/L	QL (1)	QL (1)	15	**0.367**	J	0.260	2.00	< 0.260	U	0.260	2.00	**0.374**	J	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00
Lithium	ug/L	QL (50)	QL (50)	40	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0	**6.63**	J	2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0
Molybdenum	ug/L	QL (10)	QL (10)	100	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	**3.31**		1.56	2.00	**2.21**		1.56	2.00
Radium, Total	pci/l	1.55	5	5	0.609	U	1.30	1.30	**2.52**		1.12	1.12	**1.90**		1.14	1.14	1.10	U	1.34	1.34	**2.52**		1.31	1.31	**2.11**		1.14	1.14	**1.55**		1.30	1.30
Thallium	ug/L	QL (1)	2	2	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	**0.244**		0.0500	0.100	**0.0516**	J	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100
Field Parameters																																
Conductivity	uS/cm	--	--	--	752		0.1	0.1	84.4		0.1	0.1	785		0.1	0.1	664		0.1	0.1	408.1		0.1	0.1	641		0.1	0.1	543		0.1	0.1
Depth to Water*	ft btoc	--	--	--	6.71		0.01	0.01	50.38		0.01	0.01	18.56		0.01	0.01	8.77		0.01	0.01	9.45		0.01	0.01	5.51		0.01	0.01	12.71		0.01	0.01
Dissolved Oxygen	mg/L	--	--	--	0.23		0.01	0.01	6.59		0.01	0.01	1.84		0.01	0.01	1.57		0.01	0.01	2.89		0.01	0.01	1.36		0.01	0.01	0.09		0.01	0.01
Groundwater Elevation*	ft msl	--	--	--	0.42		0.01	0.01	7.43		0.01	0.01	2.74		0.01	0.01	3.14		0.01	0.01	2.88		0.01	0.01	2.86		0.01	0.01	5.95		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--	--	-90.4		0.1	0.1	232.4		0.1	0.1	144.8		0.1	0.1	105.8		0.1	0.1	155.5		0.1	0.1	-59.4		0.1	0.1	-123.9		0.1	0.1
Temperature	C	--	--	--	17.6		0.01	0.01	16.0		0.01	0.01	16.4		0.01	0.01	16.7		0.01	0.01	16.1		0.01	0.01	15.7		0.01	0.01	19.2		0.01	0.01
Turbidity	ntu	--	--	--	36.03		0.1	0.1	9.84		0.1	0.1	13.9		0.1	0.1	5.0		0.1	0.1	4.2		0.1	0.1	3.5		0.1	0.1	10.89		0.1	0.1

					Downgradient																							
				Sample ID:	MW-25				MW-26				MW-27				MW-28				MW-32				MW-33				MW-34			
				Sample Date:	11/19/2019				11/18/2019				11/18/2019				11/18/2019				11/19/2019				11/19/2019				11/19/2019			
Parameter Name	Unit	CCR Site-Specific BKG	Virginia CCR GPS	CCR GWPS	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL
CCR Appendix III Constituents																																
Boron	ug/L	QL (50)	--	--	**22.0**	J	5.70	50.0	**13.4**	J	5.70	50.0	**422**		5.70	50.0	**175**		5.70	50.0	**15.5**	J	5.70	50.0	**45.9**	J	5.70	50.0	**1100**		5.70	50.0
Calcium	ug/L	63,900	--	--	**39800**		39.0	100	**7910**		39.0	100	**21700**		39.0	100	**81500**		39.0	100	**36300**		39.0	100	**28500**		39.0	100	**47400**		39.0	100
Chloride	mg/L	46	--	--	**4.8**	J	2.2	5.0	**6.0**		2.2	5.0	**37**		2.2	5.0	**30**		2.2	5.0	< 2.2	U	2.2	5.0	**21**		2.2	5.0	**96**		2.2	5.0
Fluoride	mg/L	0.281	4	4	**0.43**		0.0097	0.20	**0.11**	J	0.0097	0.20	**0.043**	J	0.0097	0.20	**0.37**		0.0097	0.20	**0.43**		0.0097	0.20	**0.13**	J	0.0097	0.20	**0.090**	J	0.0097	0.20
pH	SU	4.63-6.72	--	--	6.24		0.01	0.01	6.00		0.01	0.01	5.78		0.01	0.01	**7.28**		0.01	0.01	6.47		0.01	0.01	**6.91**		0.01	0.01	**6.77**		0.01	0.01
Sulfate	mg/L	9.16	--	--	< 2.9	U	2.9	5.0	< 2.9	U	2.9	5.0	**28**		2.9	5.0	**34**		2.9	5.0	< 2.9	U	2.9	5.0	< 2.9	U	2.9	5.0	< 2.9	U	2.9	5.0
Total Dissolved Solids	mg/L	450	--	--	**240**		50	50	**110**		50	50	**200**		50	50	**340**		50	50	**230**		50	50	**210**		50	50	**320**		50	50
Detected CCR Appendix IV Constituents																																
Arsenic	ug/L	19.8	19.8	19.8	**15.7**		0.940	2.00	**3.85**		0.940	2.00	< 0.940	U	0.940	2.00	**250**		0.940	2.00	**27.9**		0.940	2.00	**9.95**		0.940	2.00	**9.96**		0.940	2.00
Barium	ug/L	318	2,000	2,000	**139**		1.10	10.0	**40.1**		1.10	10.0	**83.4**		1.10	10.0	**117**		1.10	10.0	**166**		1.10	10.0	**192**		1.10	10.0	**234**		1.10	10.0
Beryllium	ug/L	QL (1)	4	4	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00
Cadmium	ug/L	QL (1)	5	5	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00
Chromium	ug/L	QL (5)	100	100	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0
Cobalt	ug/L	7.4	7.4	7.4	**0.787**	J	0.200	2.00	**3.10**		0.200	2.00	**9.76**		0.200	2.00	**0.617**	J	0.200	2.00	**1.54**	J	0.200	2.00	**2.39**		0.200	2.00	**1.86**	J	0.200	2.00
Fluoride	mg/L	0.281	4	4	**0.43**		0.0097	0.20	**0.11**	J	0.0097	0.20	**0.043**	J	0.0097	0.20	**0.37**		0.0097	0.20	**0.43**		0.0097	0.20	**0.13**	J	0.0097	0.20	**0.090**	J	0.0097	0.20
Lead	ug/L	QL (1)	QL (1)	15	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00
Lithium	ug/L	QL (50)	QL (50)	40	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0	**26.9**		2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0
Molybdenum	ug/L	QL (10)	QL (10)	100	**3.43**		1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	**16.5**		1.56	2.00	**2.57**		1.56	2.00	**2.50**		1.56	2.00	**1.58**	J	1.56	2.00
Radium, Total	pci/l	1.55	5	5	1.01	U	1.23	1.23	**1.15**		1.10	1.10	**5.97**		1.04	1.04	1.07	U	1.19	1.19	0.973	U	1.54	1.54	0.730	U	1.28	1.28	1.00	U	1.38	1.38
Thallium	ug/L	QL (1)	2	2	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100
Field Parameters																																
Conductivity	uS/cm	--	--	--	398.1		0.1	0.1	178.3		0.1	0.1	331.2		0.1	0.1	662		0.1	0.1	472.3		0.1	0.1	624		0.1	0.1	610		0.1	0.1
Depth to Water*	ft btoc	--	--	--	10.43		0.01	0.01	8.21		0.01	0.01	15.97		0.01	0.01	19.11		0.01	0.01	5.63		0.01	0.01	9.35		0.01	0.01	7.05		0.01	0.01
Dissolved Oxygen	mg/L	--	--	--	0.29		0.01	0.01	1.03		0.01	0.01	0.19		0.01	0.01	1.37		0.01	0.01	1.70		0.01	0.01	2.60		0.01	0.01	0.14		0.01	0.01
Groundwater Elevation*	ft msl	--	--	--	2.21		0.01	0.01	1.50		0.01	0.01	1.18		0.01	0.01	2.90		0.01	0.01	2.74		0.01	0.01	3.38		0.01	0.01	2.65		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--	--	-90.2		0.1	0.1	27.8		0.1	0.1	142.7		0.1	0.1	-117.7		0.1	0.1	-84.0		0.1	0.1	-109.0		0.1	0.1	-124.5		0.1	0.1
Temperature	C	--	--	--	15.9		0.01	0.01	18.7		0.01	0.01	18.8		0.01	0.01	20.7		0.01	0.01	15.8		0.01	0.01	15.5		0.01	0.01	17.4		0.01	0.01
Turbidity	ntu	--	--	--	3.43		0.1	0.1	2.21		0.1	0.1	5.63		0.1	0.1	8.7		0.1	0.1	10.0		0.1	0.1	5.2		0.1	0.1	6.11		0.1	0.1

Notes:

ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
BKGD = Background
CCR = Coal Combustion Residuals
GWPS = Groundwater Protection Standard
MDL = Method Detection Limit
PQL = Quantitation Limit

ug/L = Microgram per Liter
mg/L = Milligram per liter
uS/cm = MicroSiemen per centimeter
ntu = Nephelometric turbidity unit
pci/L = Picocurie per Liter
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on November 18, 2019

Quals (Qual):
J = Estimated Result
J+ = Potential bias high
U = Sample not detected above the method detection limit or the miniumum detection concentration
D = Dilution

= Concentration greater than site-specific background
= Concentration greater than Virginia GWPS and site background
= Concentration greater than Virginia and/or Federal GWPS and site background

Table 2
Summary of 2019 2nd Semi-Annual Assessment Monitoring Program Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

					Downgradient								Field QC											
				Sample ID:	MW-B40A				MW-B50				MW-20 Duplicate				Field Blank				Equipment Blank			
				Sample Date:	11/19/2019				11/18/2019				11/18/2019				11/19/2019				11/19/2019			
Parameter Name	**Unit**	**CCR Site-Specific BKG**	**Virgina CCR GPS**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**
CCR Appendix III Constituents																								
Boron	ug/L	QL (50)	--	--	**1570**		5.70	50.0	**374**		5.70	50.0	**820**		5.70	50.0	**7.34**	J	5.70	50.0	**8.00**	J	5.70	50.0
Calcium	ug/L	63,900	--	--	**37600**		39.0	100	**90000**		39.0	100	**57700**		39.0	100	**44.1**	J	39.0	100	**58.6**	J	39.0	100
Chloride	mg/L	46	--	--	**85**		2.2	5.0	**100**	D	4.4	10	**69**		2.2	5.0	< 2.2	U	2.2	5.0	< 2.2	U	2.2	5.0
Fluoride	mg/L	0.281	4	4	**0.14**	J	0.0097	0.20	**0.13**	J	0.0097	0.20	**0.069**	J	0.0097	0.20	< 0.0097	U	0.0097	0.20	< 0.0097	U	0.0097	0.20
pH	SU	4.63-6.72	--	--	6.66		0.01	0.01	6.55		0.01	0.01	--				--				--			
Sulfate	mg/L	9.16	--	--	< 2.9	U	2.9	5.0	**54**		2.9	5.0	**240**	D	14	25	< 2.9	U	2.9	5.0	< 2.9	U	2.9	5.0
Total Dissolved Solids	mg/L	450	--	--	**300**		50	50	**410**		50	50	**500**		50	50	< 50	U	50	50	< 50	U	50	50
Detected CCR Appendix IV Constituents																								
Arsenic	ug/L	19.8	19.8	19.8	**15.6**		0.940	2.00	**1.48**	J	0.940	2.00	< 0.940	U	0.940	2.00	< 0.940	U	0.940	2.00	< 0.940	U	0.940	2.00
Barium	ug/L	318	2,000	2,000	**231**		1.10	10.0	**126**		1.10	10.0	**36.8**		1.10	10.0	< 1.10	U	1.10	10.0	< 1.10	U	1.10	10.0
Beryllium	ug/L	QL (1)	4	4	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00	**0.610**	J	0.160	1.00	< 0.160	U	0.160	1.00	< 0.160	U	0.160	1.00
Cadmium	ug/L	QL (1)	5	5	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00	< 0.360	U	0.360	1.00
Chromium	ug/L	QL (5)	100	100	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0	< 1.40	U	1.40	10.0
Cobalt	ug/L	7.4	7.4	7.4	< 0.200	U	0.200	2.00	**1.08**	J	0.200	2.00	**140**		0.200	2.00	< 0.200	U	0.200	2.00	< 0.200	U	0.200	2.00
Fluoride	mg/L	0.281	4	4	**0.14**	J	0.0097	0.20	**0.13**	J	0.0097	0.20	**0.069**	J	0.0097	0.20	< 0.0097	U	0.0097	0.20	< 0.0097	U	0.0097	0.20
Lead	ug/L	QL (1)	QL (1)	15	**0.402**	J	0.260	2.00	**0.306**	J	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00	< 0.260	U	0.260	2.00
Lithium	ug/L	QL (50)	QL (50)	40	< 2.24	U	2.24	10.0	**2.88**	J	2.24	10.0	**7.71**	J	2.24	10.0	< 2.24	U	2.24	10.0	< 2.24	U	2.24	10.0
Molybdenum	ug/L	QL (10)	QL (10)	100	**2.32**		1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00	< 1.56	U	1.56	2.00
Radium, Total	pci/l	1.55	5	5	**2.63**		1.26	1.26	**0.832**	U	1.17	1.17	**1.38**		1.05	1.05	**0.611**	U	1.14	1.14	**1.21**		1.08	1.08
Thallium	ug/L	QL (1)	2	2	< 0.0500	U	0.0500	0.100	**0.0969**	J	0.0500	0.100	**0.234**		0.0500	0.100	< 0.0500	U	0.0500	0.100	< 0.0500	U	0.0500	0.100
Field Parameters																								
Conductivity	uS/cm	--	--	--	621		0.1	0.1	857		0.1	0.1	--				--				--			
Depth to Water*	ft btoc	--	--	--	8.54		0.01	0.01	22.80		0.01	0.01	--				--				--			
Dissolved Oxygen	mg/L	--	--	--	0.14		0.01	0.01	1.87		0.01	0.01	--				--				--			
Groundwater Elevation*	ft msl	--	--	--	9.95		0.01	0.01	3.03		0.01	0.01	--				--				--			
Oxidation Reduction Potential	millivolts	--	--	--	-105.2		0.1	0.1	17.0		0.1	0.1	--				--				--			
Temperature	C	--	--	--	20.7		0.01	0.01	16.7		0.01	0.01	--				--				--			
Turbidity	ntu	--	--	--	9.82		0.1	0.1	38.2		0.1	0.1	--				--				--			

Notes:

ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
BKGD = Background
CCR = Coal Combustion Residuals
GWPS = Groundwater Protection Standard
MDL = Method Detection Limit
PQL = Quantitation Limit

ug/L = Microgram per Liter
mg/L = Milligram per liter
uS/cm = MicroSiemen per centimeter
ntu = Nephelometric turbidity unit
pci/L = Picocurie per Liter
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on November 18, 2019

Quals (Qual):
J = Estimated Result
J+ = Potential bias high
U = Sample not detected above the method detection limit or the miniumum detection concentration
D = Dilution

= Concentration greater than site-specific background

= Concentration greater than Virginia GWPS and site background

= Concentration greater than Virginia and/or Federal GWPS and site background

Table 3
Summary of 2019 2nd Semi-Annual Assessment Monitoring Program Verification Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

					Sample ID:	Downgradient MW-32		
					Sample Date:	12/30/2019		
Parameter Name	**Unit**	**CCR Site-Specific BKG**	**Virgina CCR GPS**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**PQL**
CCR Appendix III Constituents								
pH	SU	4.63-6.72	--	--	5.90		0.01	0.01
CCR Appendix IV Constituents								
Arsenic	ug/L	19.8	19.8	19.8	**29.5**		0.060	0.10
Field Parameters								
Conductivity	uS/cm	--	--	--	498.9		0.1	0.1
Depth to Water*	ft btoc	--	--	--	4.58		0.01	0.01
Dissolved Oxygen	mg/L	--	--	--	0.33		0.01	0.01
Groundwater Elevation*	ft msl	--	--	--	3.79		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--	--	-92.2		0.1	0.1
Temperature	C	--	--	--	16.8		0.01	0.01
Turbidity	ntu	--	--	--	8.23		0.1	0.1

Notes:

ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
BKGD = Background
CCR = Coal Combustion Residuals
GWPS = Groundwater Protection Standard
MDL = Method Detection Limit
PQL = Quantitation Limit
ug/L = Microgram per Liter
mg/L = Milligram per liter
uS/cm = MicroSiemen per centimeter
ntu = Nephelometric turbidity unit
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on 12/30/2020

= Concentration greater than site-specific background

= Concentration greater than Virginia GPS and site background

= Concentration greater than Virginia and/or Federal GPS and site background

Table 4
Summary of 2020 1st Semi-Annual Assessment Monitoring Program Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

					Upgradient								Downgradient															
Sample ID:					MW-29U				MW-35S				MW-20				MW-21				MW-22				MW-23				MW-24			
Sample Date:					05/04/2020				05/04/2020				05/06/2020				05/06/2020				05/06/2020				05/05/2020				05/05/2020			
Parameter Name	**Unit**	**CCR Site-Specific BKG**	**Virgina CCR GPS**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**
CCR Appendix III Constituents																																
Boron	ug/L	QL (50)	--	--	< 32.4		32.4	50.0	< 32.4		32.4	50.0	**429**		32.4	50.0	**455**		32.4	50.0	**529**		32.4	50.0	< 32.4		32.4	50.0	**556**		32.4	50.0
Calcium	ug/L	63,900	--	--	**49900**		94.2	100	**5180**		94.2	100	**34300**		94.2	100	**41200**		94.2	100	**27100**		94.2	100	**74200**		94.2	100	**34800**		94.2	100
Chloride	mg/L	46	--	--	**18.4**		0.60	1.0	**8.9**		0.60	1.0	**36.2**		0.60	1.0	**57.8**		0.60	1.0	**25.3**		0.60	1.0	**2.3**		0.60	1.0	**51.9**		0.60	1.0
Fluoride	mg/L	0.281	4	4	**0.19**		0.050	0.10	< 0.050		0.050	0.10	**0.052**	J	0.050	0.10	**0.058**	J	0.050	0.10	**0.070**	J	0.050	0.10	**0.27**		0.050	0.10	**0.088**	J	0.050	0.10
pH	SU	4.63-6.72	--	--	6.20		0.01	0.01	5.69		0.01	0.01	**4.60**		0.01	0.01	5.40		0.01	0.01	5.34		0.01	0.01	6.43		0.01	0.01	6.66		0.01	0.01
Sulfate	mg/L	9.16	--	--	< 0.50		0.50	1.0	**5.2**		0.50	1.0	**159**		1.5	3.0	**114**		1.0	2.0	**28.5**		0.50	1.0	**3.0**		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	450	--	--	**422**		50.0	50.0	**89.0**		25.0	25.0	**392**		50.0	50.0	**438**		50.0	50.0	**186**		50.0	50.0	**328**		50.0	50.0	**253**		25.0	25.0
CCR Appendix IV Constituents																																
Antimony	ug/L	QL (5)	--	--	< 0.62		0.62	2.5	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50
Arsenic	ug/L	19.8	19.8	19.8	**25.1**		0.43	0.50	**0.097**	J	0.087	0.10	**0.66**		0.087	0.10	**1.1**		0.087	0.10	**0.34**		0.087	0.10	**18.0**		0.087	0.10	**10.3**		0.087	0.10
Barium	ug/L	318	2,000	2,000	**374**		3.5	5.0	**27.6**		3.5	5.0	**19.4**		3.5	5.0	**48.9**		3.5	5.0	**128**		3.5	5.0	**215**		3.5	5.0	**328**		3.5	5.0
Beryllium	ug/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	< 0.70		0.70	1.0
Cadmium	ug/L	QL (1)	5	5	**0.95**	J	0.40	1.0	< 0.40		0.40	1.0	**0.98**	J	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	ug/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	< 3.7		3.7	5.0
Cobalt	ug/L	7.4	7.4	7.4	**2.4**		0.25	0.50	**0.36**		0.050	0.10	**77.8**		0.50	1.0	**15.8**		0.050	0.10	**9.0**		0.050	0.10	**2.0**		0.050	0.10	**1.5**		0.050	0.10
Fluoride	mg/L	0.281	4	4	**0.19**		0.050	0.10	< 0.050		0.050	0.10	**0.052**	J	0.050	0.10	**0.058**	J	0.050	0.10	**0.070**	J	0.050	0.10	**0.27**		0.050	0.10	**0.088**	J	0.050	0.10
Lead	ug/L	QL (1)	QL (1)	15	< 0.38		0.38	0.50	**0.094**	J	0.077	0.10	**0.42**		0.077	0.10	**0.12**		0.077	0.10	**0.12**		0.077	0.10	**0.11**		0.077	0.10	< 0.077		0.077	0.10
Lithium	ug/L	QL (50)	QL (50)	40	**0.68**		0.070	0.50	**3.2**		0.070	0.50	**3.5**		0.070	0.50	**2.3**		0.070	0.50	**3.2**		0.070	0.50	**2.0**		0.070	0.50	**0.18**	J	0.070	0.50
Mercury	ug/L	QL (0.2)	--	--	< 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	< 0.12		0.12	0.20
Molybdenum	ug/L	QL (10)	QL (10)	100	**0.76**	J	0.55	2.5	**0.13**	J	0.11	0.50	< 0.11		0.11	0.50	**0.25**	J	0.11	0.50	**0.12**	J	0.11	0.50	**3.2**		0.11	0.50	**2.4**		0.11	0.50
Radium, Total	pci/l	1.55	5	5	**1.41**	U	1.43	1.43	**0.605**	U	1.06	1.06	**0.687**	U	1.66	1.66	**0.595**	U	2.03	2.03	**1.38**	U	1.70	1.70	**0.494**	U	1.95	1.95	**1.54**		1.31	1.31
Selenium	ug/L	QL (5)	--	--	< 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	< 4.7		4.7	10.0
Thallium	ug/L	QL (1)	2	2	< 0.25		0.25	0.50	< 0.050		0.050	0.10	**0.22**		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
Field Parameters																																
Conductivity	uS/cm	--	--	--	812		0.1	0.1	110.5		0.1	0.1	514		0.1	0.1	583		0.1	0.1	357.3		0.1	0.1	585		0.1	0.1	606		0.1	0.1
Depth to Water*	ft btoc	--	--	--	4.45		0.01	0.01	50.59		0.01	0.01	17.68		0.01	0.01	6.92		0.01	0.01	7.34		0.01	0.01	4.95		0.01	0.01	12.76		0.01	0.01
Dissolved Oxygen	mg/L	--	--	--	0.51		0.01	0.01	6.93		0.01	0.01	0.49		0.01	0.01	0.47		0.01	0.01	0.31		0.01	0.01	0.55		0.01	0.01	0.30		0.01	0.01
Groundwater Elevation*	ft msl	--	--	--	2.68		0.01	0.01	7.22		0.01	0.01	3.62		0.01	0.01	4.99		0.01	0.01	4.99		0.01	0.01	3.42		0.01	0.01	5.90		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--	--	-66.4		0.1	0.1	129.6		0.1	0.1	154.6		0.1	0.1	156.4		0.1	0.1	190.1		0.1	0.1	-26.6		0.1	0.1	-120.9		0.1	0.1
Temperature	C	--	--	--	16.5		0.01	0.01	17.3		0.01	0.01	16.4		0.01	0.01	16.1		0.01	0.01	16.4		0.01	0.01	15.9		0.01	0.01	17.0		0.01	0.01
Turbidity	ntu	--	--	--	9.7		0.1	0.1	11.7		0.1	0.1	20.24		0.1	0.1	10.00		0.1	0.1	9.29		0.1	0.1	10.5		0.1	0.1	17.55		0.1	0.1

					Downgradient																											
Sample ID:					MW-25				MW-26				MW-27				MW-28				MW-32				MW-33				MW-34			
Sample Date:					05/06/2020				05/05/2020				05/06/2020				05/06/2020				05/06/2020				05/05/2020				05/06/2020			
Parameter Name	**Unit**	**CCR Site-Specific BKG**	**Virgina CCR GPS**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**
CCR Appendix III Constituents																																
Boron	ug/L	QL (50)	--	--	< 32.4		32.4	50.0	< 32.4		32.4	50.0	**381**		32.4	50.0	**166**		32.4	50.0	< 32.4		32.4	50.0	**43.8**	J	32.4	50.0	**1170**		32.4	50.0
Calcium	ug/L	63,900	--	--	**32300**		94.2	100	**6750**		94.2	100	**19700**		94.2	100	**64300**		94.2	100	**28200**		94.2	100	**24800**		94.2	100	**47700**		94.2	100
Chloride	mg/L	46	--	--	**5.5**		0.60	1.0	**7.3**		0.60	1.0	**40.0**		0.60	1.0	**31.2**		0.60	1.0	**1.7**		0.60	1.0	**22.6**		0.60	1.0	**100**		0.60	1.0
Fluoride	mg/L	0.281	4	4	**0.36**		0.050	0.10	**0.097**	J	0.050	0.10	< 0.050		0.050	0.10	**0.34**		0.050	0.10	**0.42**		0.050	0.10	**0.11**		0.050	0.10	**0.10**		0.050	0.10
pH	SU	4.63-6.72	--	--	6.23		0.01	0.01	5.75		0.01	0.01	5.53		0.01	0.01	**6.93**		0.01	0.01	6.20		0.01	0.01	**6.73**		0.01	0.01	6.72		0.01	0.01
Sulfate	mg/L	9.16	--	--	**7.4**		0.50	1.0	**2.4**		0.50	1.0	**28.1**		0.50	1.0	**31.1**		0.50	1.0	**0.80**	J	0.50	1.0	< 0.50		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	450	--	--	**294**	J	50.0	50.0	**101**		25.0	25.0	**258**		50.0	50.0	**354**		50.0	50.0	**159**		25.0	25.0	**117**		25.0	25.0	**341**		25.0	25.0
CCR Appendix IV Constituents																																
Antimony	ug/L	QL (5)	--	--	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50
Arsenic	ug/L	19.8	19.8	19.8	**9.9**		0.087	0.10	**5.8**		0.087	0.10	**0.17**		0.087	0.10	**172**		0.87	1.0	**12.5**		0.087	0.10	**9.3**		0.087	0.10	**9.7**		0.087	0.10
Barium	ug/L	318	2,000	2,000	**91.7**		3.5	5.0	**34.4**		3.5	5.0	**73.3**		3.5	5.0	**90.5**		3.5	5.0	**102**		3.5	5.0	**173**		3.5	5.0	**230**		3.5	5.0
Beryllium	ug/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	< 0.70		0.70	1.0
Cadmium	ug/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	< 0.40		0.40	1.0
Chromium	ug/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	< 3.7		3.7	5.0
Cobalt	ug/L	7.4	7.4	7.4	**0.70**		0.050	0.10	**2.6**		0.050	0.10	**9.9**		0.050	0.10	**4.4**		0.050	0.10	**1.4**		0.050	0.10	**2.4**		0.050	0.10	**2.4**		0.050	0.10
Fluoride	mg/L	0.281	4	4	**0.36**		0.050	0.10	**0.097**	J	0.050	0.10	< 0.050		0.050	0.10	**0.34**		0.050	0.10	**0.42**		0.050	0.10	**0.11**		0.050	0.10	**0.10**		0.050	0.10
Lead	ug/L	QL (1)	QL (1)	15	**0.16**		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	**0.12**		0.077	0.10	**0.55**		0.077	0.10
Lithium	ug/L	QL (50)	QL (50)	40	**1.8**		0.070	0.50	**2.7**		0.070	0.50	**2.0**		0.070	0.50	**16.6**		0.070	0.50	**2.1**		0.070	0.50	**0.15**	J	0.070	0.50	**0.25**	J	0.070	0.50
Mercury	ug/L	QL (0.2)	--	--	< 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	< 0.12		0.12	0.20
Molybdenum	ug/L	QL (10)	QL (10)	100	**2.7**		0.11	0.50	**0.79**		0.11	0.50	< 0.11		0.11	0.50	**11.6**		0.11	0.50	**1.8**		0.11	0.50	**2.3**		0.11	0.50	**1.6**		0.11	0.50
Radium, Total	pci/l	1.55	5	5	0.839	U	1.60	1.60	0.477	U	2.20	2.20	**4.97**		1.75	1.75	0.808	U	1.53	1.53	1.03	U	1.74	1.74	1.71	U	1.97	1.97	0.307	U	1.87	1.87
Selenium	ug/L	QL (5)	--	--	< 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	< 4.7		4.7	10.0
Thallium	ug/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	< 0.050		0.050	0.10
Field Parameters																																
Conductivity	uS/cm	--	--	--	407.2		0.1	0.1	137.1		0.1	0.1	357.0		0.1	0.1	554		0.1	0.1	368.5		0.1	0.1	626		0.1	0.1	646		0.1	0.1
Depth to Water*	ft btoc	--	--	--	10.27		0.01	0.01	7.58		0.01	0.01	15.23		0.01	0.01	18.85		0.01	0.01	4.53		0.01	0.01	9.30		0.01	0.01	7.18		0.01	0.01
Dissolved Oxygen	mg/L	--	--	--	2.57		0.01	0.01	0.26		0.01	0.01	0.17		0.01	0.01	0.68		0.01	0.01	1.12		0.01	0.01	0.50		0.01	0.01	0.55		0.01	0.01
Groundwater Elevation*	ft msl	--	--	--	2.37		0.01	0.01	2.13		0.01	0.01	1.92		0.01	0.01	3.16		0.01	0.01	3.84		0.01	0.01	3.43		0.01	0.01	2.52		0.01	0.01
Oxidation Reduction Potential	millivolts	--	--	--	-62.5		0.1	0.1	58.6		0.1	0.1	211.0		0.1	0.1	-106.9		0.1	0.1	-57.3		0.1	0.1	40.0		0.1	0.1	-113.4		0.1	0.1
Temperature	C	--	--	--	16.0		0.01	0.01	17.6		0.01	0.01	17.6		0.01	0.01	19.2		0.01	0.01	16.7		0.01	0.01	15.4		0.01	0.01	16.5		0.01	0.01
Turbidity	ntu	--	--	--	14.06		0.1	0.1	45.98		0.1	0.1	1.47		0.1	0.1	9.70		0.1	0.1	15.85		0.1	0.1	9.0		0.1	0.1	5.28		0.1	0.1

Notes:
ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
BKGD = Background
CCR = Coal Combustion Residuals
GWPS = Groundwater Protection Standard
MDL = Method Detection Limit
PQL = Quantitation Limit

ug/L = Microgram per Liter
mg/L = Milligram per liter
uS/cm = MicroSiemen per centimeter
ntu = Nephelometric turbidity unit
pci/L = Picocurie per Liter
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on 5/4/2020

Quals (Qual):
J = Estimated Result
U = Sample not detected above the miniumum detection concentration

= Concentration greater than site-specific background

= Concentration greater than Virginia GWPS and site background

= Concentration greater than Virginia and/or Federal GWPS and site background

Table 4
Summary of 2020 1st Semi-Annual Assessment Monitoring Program Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

					Downgradient								Field QC											
				Sample ID:	MW-B40A				MW-B50				MW-25 Duplicate				Field Blank				Equipment Blank			
				Sample Date:	05/05/2020				05/05/2020				05/06/2020				05/05/2020				05/06/2020			
Parameter Name	**Unit**	**CCR Site-Specific BKG**	**Virgina CCR GPS**	**CCR GWPS**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**	**Result**	**Qual**	**MDL**	**PQL**
CCR Appendix III Constituents																								
Boron	ug/L	QL (50)	--	--	**1100**		32.4	50.0	**370**		32.4	50.0	< 32.4		32.4	50.0	< 32.4		32.4	50.0	< 32.4		32.4	50.0
Calcium	ug/L	63,900	--	--	**34000**		94.2	100	**89700**		94.2	100	**27900**		94.2	100	< 94.2		94.2	100	< 94.2		94.2	100
Chloride	mg/L	46	--	--	**46.6**		0.60	1.0	**119**		1.8	3.0	**5.7**		0.60	1.0	< 0.60		0.60	1.0	< 0.60		0.60	1.0
Fluoride	mg/L	0.281	4	4	**0.12**		0.050	0.10	**0.11**		0.050	0.10	**0.34**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
pH	SU	4.63-6.72	--	--	6.57		0.01	0.01	6.42		0.01	0.01	--				--				--			
Sulfate	mg/L	9.16	--	--	< 0.50		0.50	1.0	**46.9**		0.50	1.0	**6.6**		0.50	1.0	< 0.50		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	450	--	--	**251**		25.0	25.0	**472**		50.0	50.0	**211**	J	25.0	25.0	< 25.0		25.0	25.0	< 25.0		25.0	25.0
CCR Appendix IV Constituents																								
Antimony	ug/L	QL (5)	--	--	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50	< 0.12		0.12	0.50
Arsenic	ug/L	19.8	19.8	19.8	**8.1**		0.087	0.10	**1.6**		0.087	0.10	**9.0**		0.087	0.10	< 0.087		0.087	0.10	< 0.087		0.087	0.10
Barium	ug/L	318	2,000	2,000	**178**		3.5	5.0	**121**		3.5	5.0	**84.4**		3.5	5.0	< 3.5		3.5	5.0	< 3.5		3.5	5.0
Beryllium	ug/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
Cadmium	ug/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
Chromium	ug/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
Cobalt	ug/L	7.4	7.4	7.4	**0.14**		0.050	0.10	**1.3**		0.050	0.10	**0.64**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Fluoride	mg/L	0.281	4	4	**0.12**		0.050	0.10	**0.11**		0.050	0.10	**0.34**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Lead	ug/L	QL (1)	QL (1)	15	**0.14**		0.077	0.10	**0.26**		0.077	0.10	**0.11**		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10
Lithium	ug/L	QL (50)	QL (50)	40	**0.13**	J	0.070	0.50	**0.88**		0.070	0.50	**1.8**		0.070	0.50	< 0.070		0.070	0.50	< 0.070		0.070	0.50
Mercury	ug/L	QL (0.2)	--	--	< 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
Molybdenum	ug/L	QL (10)	QL (10)	100	**0.73**		0.11	0.50	**0.48**	J	0.11	0.50	**2.5**		0.11	0.50	< 0.11		0.11	0.50	< 0.11		0.11	0.50
Radium, Total	pci/l	1.55	5	5	0.829	U	1.29	1.29	0.557	U	1.19	1.19	0.983	U	1.60	1.60	0.796	U	1.89	1.89	0.914	U	1.82	1.82
Selenium	ug/L	QL (5)	--	--	< 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	ug/L	QL (1)	2	2	< 0.050		0.050	0.10	**0.11**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Field Parameters																								
Conductivity	uS/cm	--	--	--	611		0.1	0.1	837		0.1	0.1	--				--				--			
Depth to Water*	ft btoc	--	--	--	6.50		0.01	0.01	22.60		0.01	0.01	--				--				--			
Dissolved Oxygen	mg/L	--	--	--	0.45		0.01	0.01	0.53		0.01	0.01	--				--				--			
Groundwater Elevation*	ft msl	--	--	--	11.99		0.01	0.01	3.23		0.01	0.01	--				--				--			
Oxidation Reduction Potential	millivolts	--	--	--	-78.2		0.1	0.1	3.0		0.1	0.1	--				--				--			
Temperature	C	--	--	--	16.0		0.01	0.01	17.7		0.01	0.01	--				--				--			
Turbidity	ntu	--	--	--	11.7		0.1	0.1	20.42		0.1	0.1	--				--				--			

Notes:
ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
BKGD = Background
CCR = Coal Combustion Residuals
GWPS = Groundwater Protection Standard
MDL = Method Detection Limit
PQL = Quantitation Limit

ug/L = Microgram per Liter
mg/L = Milligram per liter
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ntu = Nephelometric turbidity unit
pci/L = Picocurie per Liter
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on 5/4/2020

Quals (Qual):
J = Estimated Result
U = Sample not detected above the miniumum detection concentration

= Concentration greater than site-specific background
= Concentration greater than Virginia GWPS and site background
= Concentration greater than Virginia and/or Federal GWPS and site background

Table 5
Summary of 2020 2nd Semi-Annual Assessment Monitoring Program Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

		Upgradient								Downgradient																			
Sample ID:		MW-29U				MW-35S				MW-20				MW-21				MW-22				MW-23				MW-24			
Sample Date:		11/05/2020				11/06/2020				11/05/2020				11/06/2020				11/06/2020				11/05/2020				11/05/2020			
Parameter Name	Unit	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL
CCR Appendix III Constituents																													
Boron	ug/L	**44.3**	J	32.4	50.0	< 32.4		32.4	50.0	**280**		32.4	50.0	**459**		32.4	50.0	**716**		32.4	50.0	< 32.4		32.4	50.0	**562**		32.4	50.0
Calcium	ug/L	**51200**		94.2	100	**5840**		94.2	100	**23700**		94.2	100	**38500**		94.2	100	**33900**		94.2	100	**73600**		94.2	100	**32700**		94.2	100
Chloride	mg/L	**12.7**		0.60	1.0	**11.8**		0.60	1.0	**21.6**		0.60	1.0	**37.3**		0.60	1.0	**27.9**		0.60	1.0	**2.2**		0.60	1.0	**49.3**		0.60	1.0
Fluoride	mg/L	**0.18**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	**0.063**	J	0.050	0.10	**0.068**	J	0.050	0.10	**0.35**		0.050	0.10	**0.12**		0.050	0.10
pH	SU	6.13		0.01	0.01	5.68		0.01	0.01	5.16		0.01	0.01	5.66		0.01	0.01	5.70		0.01	0.01	6.20		0.01	0.01	6.65		0.01	0.01
Sulfate	mg/L	< 0.50		0.50	1.0	**4.6**		0.50	1.0	**98.3**		1.0	2.0	**98.6**		0.50	1.0	**45.8**		0.50	1.0	**3.0**		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	**333**		25.0	25.0	**108**		25.0	25.0	**249**		25.0	25.0	**332**		25.0	25.0	**261**		25.0	25.0	**405**		25.0	25.0	**230**		25.0	25.0
Detected CCR Appendix IV Constituents																													
Arsenic	ug/L	**7.6**		0.087	0.10	< 0.087		0.087	0.10	**0.17**		0.087	0.10	**0.32**		0.087	0.10	**0.23**		0.087	0.10	**16.6**		0.087	0.10	**9.4**		0.087	0.10
Barium	ug/L	**346**		3.5	5.0	**34.4**		3.5	5.0	**23.9**		3.5	5.0	**48.6**		3.5	5.0	**145**		3.5	5.0	**225**		3.5	5.0	**305**		3.5	5.0
Beryllium	ug/L	< 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	< 0.70		0.70	1.0
Cadmium	ug/L	< 0.40		0.40	1.0	< 0.40		0.40	1.0	**0.73**	J	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	ug/L	< 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	< 3.7		3.7	5.0
Cobalt	ug/L	**2.3**		0.050	0.10	**0.061**	J	0.050	0.10	**47.0**		0.25	0.50	**13.6**		0.050	0.10	**6.5**		0.050	0.10	**2.0**		0.050	0.10	**1.6**		0.050	0.10
Fluoride	mg/L	**0.18**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	**0.063**	J	0.050	0.10	**0.068**	J	0.050	0.10	**0.35**		0.050	0.10	**0.12**		0.050	0.10
Lead	ug/L	**0.43**		0.077	0.10	< 0.077		0.077	0.10	**0.099**	J	0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	**0.12**		0.077	0.10
Lithium	ug/L	**0.88**		0.070	0.50	**4.1**		0.070	0.50	**1.6**		0.070	0.50	**2.1**		0.070	0.50	**2.5**		0.070	0.50	**2.0**		0.070	0.50	**0.19**	J	0.070	0.50
Molybdenum	ug/L	**0.41**	J	0.11	0.50	< 0.11		0.11	0.50	< 0.11		0.11	0.50	**0.17**	J	0.11	0.50	**0.12**	J	0.11	0.50	**3.5**		0.11	0.50	**2.4**		0.11	0.50
Radium, Total	pci/l	2.37	U	3.46	3.46	1.66	U	2.01	2.01	0.927	U	1.76	1.76	**3.19**		1.72	1.72	**2.69**		1.71	1.71	0.727	U	1.50	1.5	0.833	U	1.88	1.88
Thallium	ug/L	< 0.050		0.050	0.10	< 0.050		0.050	0.10	**0.16**		0.050	0.10	**0.054**	J	0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Field Parameters																													
Conductivity	uS/cm	795		0.1	0.1	185.2		0.1	0.1	358.1		0.1	0.1	521		0.1	0.1	424.3		0.1	0.1	644		0.1	0.1	642		0.1	0.1
Depth to Water*	ft btoc	4.31		0.01	0.01	48.44		0.01	0.01	16.40		0.01	0.01	5.58		0.01	0.01	6.19		0.01	0.01	4.79		0.01	0.01	12.98		0.01	0.01
Dissolved Oxygen	mg/L	0.08		0.01	0.01	7.66		0.01	0.01	1.25		0.01	0.01	0.77		0.01	0.01	0.78		0.01	0.01	2.77		0.01	0.01	0.20		0.01	0.01
Groundwater Elevation*	ft msl	2.82		0.01	0.01	9.37		0.01	0.01	4.90		0.01	0.01	6.33		0.01	0.01	6.14		0.01	0.01	3.58		0.01	0.01	5.68		0.01	0.01
Oxidation Reduction Potential	millivolts	-97.3		0.1	0.1	122.1		0.1	0.1	124.0		0.1	0.1	142.8		0.1	0.1	148.8		0.1	0.1	-42.7		0.1	0.1	-118.6		0.1	0.1
Temperature	C	17.4		0.01	0.01	15.2		0.01	0.01	18.4		0.01	0.01	17.8		0.01	0.01	17.1		0.01	0.01	20.3		0.01	0.01	19.9		0.01	0.01
Turbidity	ntu	25.21		0.1	0.1	3.16		0.1	0.1	9.82		0.1	0.1	7.5		0.1	0.1	4.5		0.1	0.1	5.7		0.1	0.1	9.81		0.1	0.1

		Downgradient																											
Sample ID:		MW-25				MW-26				MW-27				MW-28				MW-32				MW-33				MW-34			
Sample Date:		11/05/2020				11/06/2020				11/05/2020				11/06/2020				11/06/2020				11/05/2020				11/05/2020			
Parameter Name	Unit	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL	Result	Qual	MDL	PQL
CCR Appendix III Constituents																													
Boron	ug/L	< 32.4		32.4	50.0	< 32.4		32.4	50.0	**438**		32.4	50.0	**190**		32.4	50.0	< 32.4		32.4	50.0	**48.7**	J	32.4	50.0	**1160**		32.4	50.0
Calcium	ug/L	**34700**		94.2	100	**7480**		94.2	100	**21300**		94.2	100	**64600**		94.2	100	**31400**		94.2	100	**26000**		94.2	100	**43800**		94.2	100
Chloride	mg/L	**5.4**		0.60	1.0	**6.9**		0.60	1.0	**48.2**		0.60	1.0	**29.6**		0.60	1.0	**1.7**		0.60	1.0	**20.8**		0.60	1.0	**95.0**		0.60	1.0
Fluoride	mg/L	**0.43**		0.050	0.10	**0.11**		0.050	0.10	< 0.050		0.050	0.10	**0.36**		0.050	0.10	**0.43**		0.050	0.10	**0.16**		0.050	0.10	**0.084**	J	0.050	0.10
pH	SU	6.16		0.01	0.01	5.98		0.01	0.01	5.68		0.01	0.01	7.15		0.01	0.01	6.47		0.01	0.01	6.80		0.01	0.01	6.59		0.01	0.01
Sulfate	mg/L	**1.4**		0.50	1.0	**2.3**		0.50	1.0	**26.8**		0.50	1.0	**26.6**		0.50	1.0	**0.80**	J	0.50	1.0	< 0.50		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	**258**		25.0	25.0	**115**		25.0	25.0	**224**		25.0	25.0	**337**		25.0	25.0	**227**		25.0	25.0	**235**		25.0	25.0	**309**		25.0	25.0
Detected CCR Appendix IV Constituents																													
Arsenic	ug/L	**18.3**		0.087	0.10	**7.3**		0.087	0.10	**0.25**		0.087	0.10	**196**		1.7	2.0	**25.6**		0.87	1.0	**10.0**		0.087	0.10	**9.9**		0.087	0.10
Barium	ug/L	**141**		3.5	5.0	**38.9**		3.5	5.0	**83.5**		3.5	5.0	**95.0**		3.5	5.0	**147**		3.5	5.0	**189**		3.5	5.0	**233**		3.5	5.0
Beryllium	ug/L	< 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	< 0.70		0.70	1.0
Cadmium	ug/L	**0.59**	J	0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	**1.3**		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0	< 0.40		0.40	1.0
Chromium	ug/L	< 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	< 3.7		3.7	5.0
Cobalt	ug/L	**1.4**		0.050	0.10	**2.5**		0.050	0.10	**9.9**		0.050	0.10	**4.8**		0.050	0.10	**1.6**		0.050	0.10	**2.7**		0.050	0.10	**2.1**		0.050	0.10
Fluoride	mg/L	**0.43**		0.050	0.10	**0.11**		0.050	0.10	< 0.050		0.050	0.10	**0.36**		0.050	0.10	**0.43**		0.050	0.10	**0.16**		0.050	0.10	**0.084**	J	0.050	0.10
Lead	ug/L	**0.58**		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10
Lithium	ug/L	**1.8**		0.070	0.50	**2.6**		0.070	0.50	**1.8**		0.070	0.50	**15.0**		0.070	0.50	**1.7**		0.070	0.50	**0.085**	J	0.070	0.50	**0.22**	J	0.070	0.50
Molybdenum	ug/L	**3.5**		0.11	0.50	**0.80**		0.11	0.50	< 0.11		0.11	0.50	**12.4**		0.11	0.50	**2.4**		0.11	0.50	**2.4**		0.11	0.50	**1.5**		0.11	0.50
Radium, Total	pci/l	**1.92**		1.61	1.61	0.987	U	1.70	1.7	**5.53**		1.45	1.45	**1.76**		1.60	1.6	1.22	U	1.71	1.71	0.799	U	2.61	2.61	0.848	U	1.51	1.51
Thallium	ug/L	< 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	< 0.050		0.050	0.10
Field Parameters																													
Conductivity	uS/cm	509		0.1	0.1	188.8		0.1	0.1	455.5		0.1	0.1	587		0.1	0.1	481.6		0.1	0.1	666		0.1	0.1	776		0.1	0.1
Depth to Water*	ft btoc	10.65		0.01	0.01	9.10		0.01	0.01	17.45		0.01	0.01	17.75		0.01	0.01	4.20		0.01	0.01	9.62		0.01	0.01	7.29		0.01	0.01
Dissolved Oxygen	mg/L	0.43		0.01	0.01	0.64		0.01	0.01	0.20		0.01	0.01	0.32		0.01	0.01	0.68		0.01	0.01	1.19		0.01	0.01	0		0.01	0.01
Groundwater Elevation*	ft msl	1.99		0.01	0.01	0.61		0.01	0.01	-0.30		0.01	0.01	4.26		0.01	0.01	4.17		0.01	0.01	3.11		0.01	0.01	2.41		0.01	0.01
Oxidation Reduction Potential	millivolts	-80.1		0.1	0.1	13.3		0.1	0.1	168.9		0.1	0.1	-103.8		0.1	0.1	-99.4		0.1	0.1	-115.7		0.1	0.1	-127.4		0.1	0.1
Temperature	C	17.2		0.01	0.01	19.1		0.01	0.01	17.5		0.01	0.01	21.2		0.01	0.01	17.7		0.01	0.01	19.6		0.01	0.01	18.2		0.01	0.01
Turbidity	ntu	28.77		0.1	0.1	8.19		0.1	0.1	2.96		0.1	0.1	10.02		0.1	0.1	9.9		0.1	0.1	5.1		0.1	0.1	9.15		0.1	0.1

Notes:

ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
CCR = Coal Combustion Residuals
MDL = Method Detection Limit
PQL = Quantitation Limit

ug/L = Microgram per Liter
mg/L = Milligram per liter
uS/cm = MicroSiemen per centimeter
ntu = Nephelometric turbidity unit
pci/L = Picocurie per Liter
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on 11/2/2020

Quals (Qual):
J = Estimated Result
J+ = Potential bias high
U = Sample not detected above the miniumum detection concentration

Table 5
Summary of 2020 2nd Semi-Annual Assessment Monitoring Program Sampling Event Data - Chesterfield Power Station, Lower Ash Pond

		Downgradient								Field QC											
Sample ID:		MW-B40A				MW-B50				MW-27 Duplicate				Field Blank				Equipment Blank			
Sample Date:		11/03/2020				11/03/2020				11/05/2020				11/05/2020				11/05/2020			
Parameter Name	**Unit**	**Result**	**Qual**	MDL	PQL	**Result**	**Qual**	MDL	PQL	**Result**	**Qual**	MDL	PQL	**Result**	**Qual**	MDL	PQL	**Result**	**Qual**	MDL	PQL
CCR Appendix III Constituents																					
Boron	ug/L	**1530**		32.4	50.0	**434**		32.4	50.0	**470**		32.4	50.0	< 32.4		32.4	50.0	< 32.4		32.4	50.0
Calcium	ug/L	**30300**		94.2	100	**96900**		94.2	100	**22800**		94.2	100	< 94.2		94.2	100	< 94.2		94.2	100
Chloride	mg/L	**42.9**		0.60	1.0	**142**		1.8	3.0	**53.2**		0.60	1.0	< 0.60		0.60	1.0	< 0.60		0.60	1.0
Fluoride	mg/L	**0.14**		0.050	0.10	**0.12**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
pH	SU	6.74		0.01	0.01	6.40		0.01	0.01	--				--				--			
Sulfate	mg/L	< 0.50		0.50	1.0	**66.0**		0.50	1.0	**27.2**		0.50	1.0	< 0.50		0.50	1.0	< 0.50		0.50	1.0
Total Dissolved Solids	mg/L	**287**		25.0	25.0	**528**		25.0	25.0	**223**		25.0	25.0	< 25.0		25.0	25.0	< 25.0		25.0	25.0
Detected CCR Appendix IV Constituents																					
Arsenic	ug/L	**5.0**		0.087	0.10	**1.9**		0.087	0.10	**0.32**		0.087	0.10	< 0.087		0.087	0.10	< 0.087		0.087	0.10
Barium	ug/L	**188**		3.5	5.0	**155**		3.5	5.0	**90.2**		3.5	5.0	< 3.5		3.5	5.0	< 3.5		3.5	5.0
Beryllium	ug/L	< 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	ug/L	< 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	ug/L	< 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	ug/L	**0.14**		0.050	0.10	**2.0**		0.050	0.10	**9.8**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Fluoride	mg/L	**0.14**		0.050	0.10	**0.12**		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Lead	ug/L	**0.14**		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10	< 0.077		0.077	0.10
Lithium	ug/L	**0.17**	J	0.070	0.50	**0.63**		0.070	0.50	**1.9**		0.070	0.50	< 0.070		0.070	0.50	< 0.070		0.070	0.50
Molybdenum	ug/L	**0.78**		0.11	0.50	**0.39**	J	0.11	0.50	< 0.11		0.11	0.50	< 0.11		0.11	0.50	< 0.11		0.11	0.50
Radium, Total	pci/l	0.659	U	1.88	1.88	0.601	U	2.17	2.17	**7.73**		1.64	1.64	0.887	U	1.70	1.7	0.827	U	1.93	1.93
Thallium	ug/L	< 0.050		0.050	0.10	**0.12**		0.050	0.10	**0.050**	J	0.050	0.10	< 0.050		0.050	0.10	< 0.050		0.050	0.10
Field Parameters																					
Conductivity	uS/cm	563		0.1	0.1	992		0.1	0.1	--				--				--			
Depth to Water*	ft btoc	6.88		0.01	0.01	21.56		0.01	0.01	--				--				--			
Dissolved Oxygen	mg/L	0.06		0.01	0.01	1.11		0.01	0.01	--				--				--			
Groundwater Elevation*	ft msl	11.61		0.01	0.01	4.27		0.01	0.01	--				--				--			
Oxidation Reduction Potential	millivolts	-113.2		0.1	0.1	-16.4		0.1	0.1	--				--				--			
Temperature	C	21.7		0.01	0.01	16.4		0.01	0.01	--				--				--			
Turbidity	ntu	11.80		0.1	0.1	5.84		0.1	0.1	--				--				--			

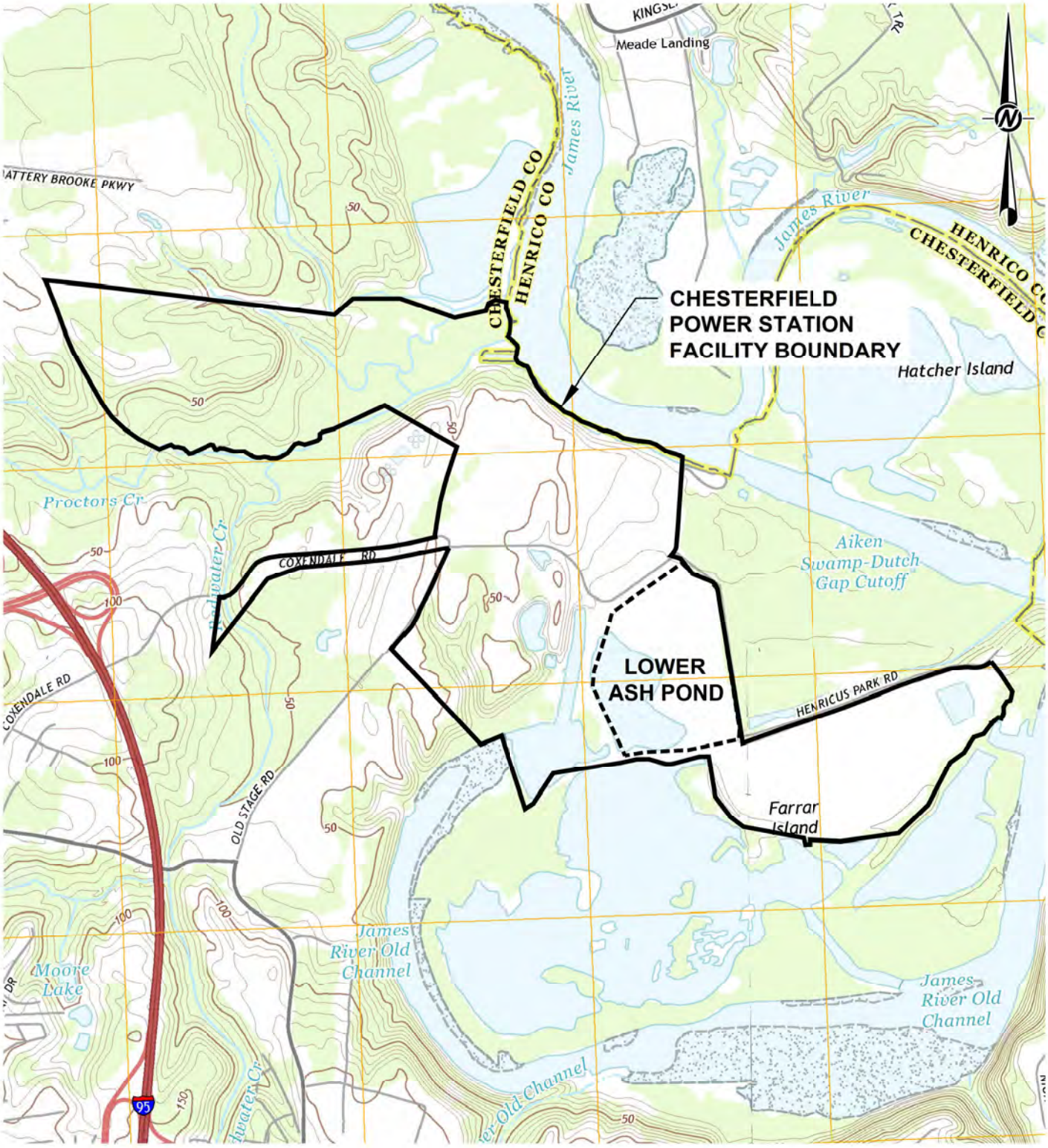
Notes:

ft msl = Feet above mean sea level
C = Degrees Celsius
ft btoc = Feet below top of casing
CCR = Coal Combustion Residuals
MDL = Method Detection Limit
PQL = Quantitation Limit

ug/L = Microgram per Liter
mg/L = Milligram per liter
uS/cm = MicroSiemen per centimeter
ntu = Nephelometric turbidity unit
pci/L = Picocurie per Liter
SU = Standard Unit
Bold font = Detected laboratory constituent
* - Groundwater Elevation data collected on 11/2/2020

Quals (Qual):
J = Estimated Result
J+ = Potential bias high
U = Sample not detected above the miniumum detection concentration

DRAWINGS



REFERENCE

BASE MAP CONSISTS OF 7.5-MINUTE USGS TOPOGRAPHIC QUADRANGLES NAMED HOPEWELL, CHESTER, DUTCH GAP, AND DREWRY'S BLUFF, VA, ALL DATED 2013.

2000 0 2000
SCALE FEET

CLIENT
DOMINION ENERGY

PROJECT
CHESTERFIELD POWER STATION
LOWER ASH POND

CONSULTANT
GOLDER

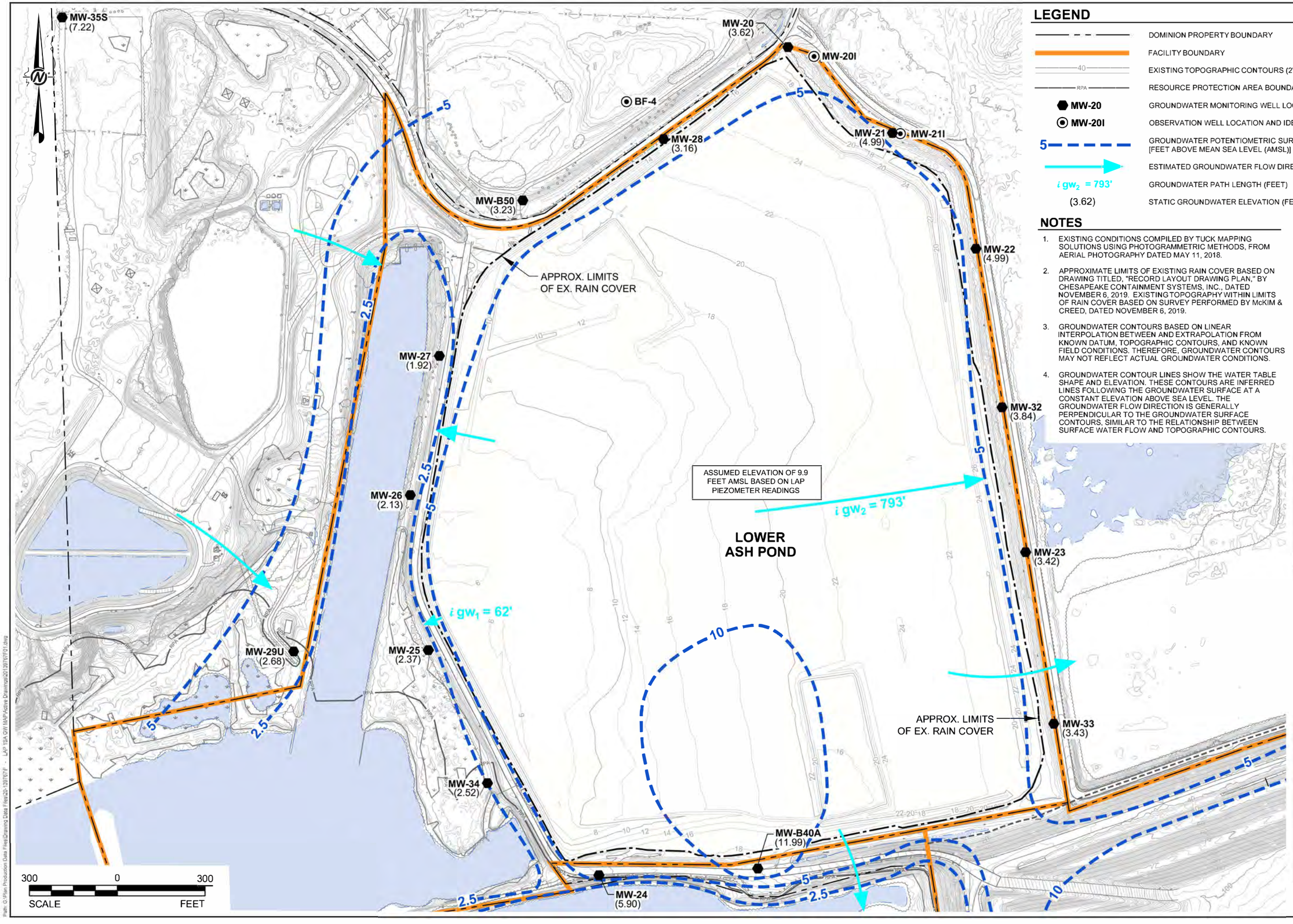
YYYY-MM-DD	2019-01-02
DESIGNED	-
PREPARED	BPG
REVIEWED	CJL
APPROVED	MGW

TITLE
SITE LOCATION MAP

PROJECT NO. 19-115050 | REV. 0 | DRAWING 1

Path: G:\Plan Production Data Files\Drawing Data Files\19-115050\F - LAP NOV 2019 GW MAP\Active Drawings\19115050F00.dwg

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



LEGEND

- DOMINION PROPERTY BOUNDARY
- FACILITY BOUNDARY
- 40 — EXISTING TOPOGRAPHIC CONTOURS (2' INTERVALS)
- RPA — RESOURCE PROTECTION AREA BOUNDARY
- MW-20 — GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
- MW-20I — OBSERVATION WELL LOCATION AND IDENTIFICATION
- 5 — GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR [FEET ABOVE MEAN SEA LEVEL (AMSL)]
- ESTIMATED GROUNDWATER FLOW DIRECTION
- $i\,gw_2$ = 793' — GROUNDWATER PATH LENGTH (FEET)
- (3.62) — STATIC GROUNDWATER ELEVATION (FEET AMSL)

NOTES

1. EXISTING CONDITIONS COMPILED BY TUCK MAPPING SOLUTIONS USING PHOTOGRAMMETRIC METHODS, FROM AERIAL PHOTOGRAPHY DATED MAY 11, 2018.
2. APPROXIMATE LIMITS OF EXISTING RAIN COVER BASED ON DRAWING TITLED, "RECORD LAYOUT DRAWING PLAN," BY CHESAPEAKE CONTAINMENT SYSTEMS, INC., DATED NOVEMBER 6, 2019. EXISTING TOPOGRAPHY WITHIN LIMITS OF RAIN COVER BASED ON SURVEY PERFORMED BY McKIM & CREED, DATED NOVEMBER 6, 2019.
3. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATUM, TOPOGRAPHIC CONTOURS, AND KNOWN FIELD CONDITIONS. THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS.
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.

	YYYY-MM-DD	2021-01-18
	DESIGNED	PKT
	PREPARED	BPG
	REVIEWED	MGW
	APPROVED	MGW

CLIENT
DOMINION ENERGY

CONSULTANT
GOLDER

PROJECT
CHESTERFIELD POWER STATION
CHESTERFIELD COUNTY, VIRGINIA
LOWER ASH POND

TITLE
GROUNDWATER POTENTIOMETRIC SURFACE MAP
UPPERMOST AQUIFER
MAY 4, 2020

PROJECT NO.
20-139767

REV.
0

DRAWING
2

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

1 in

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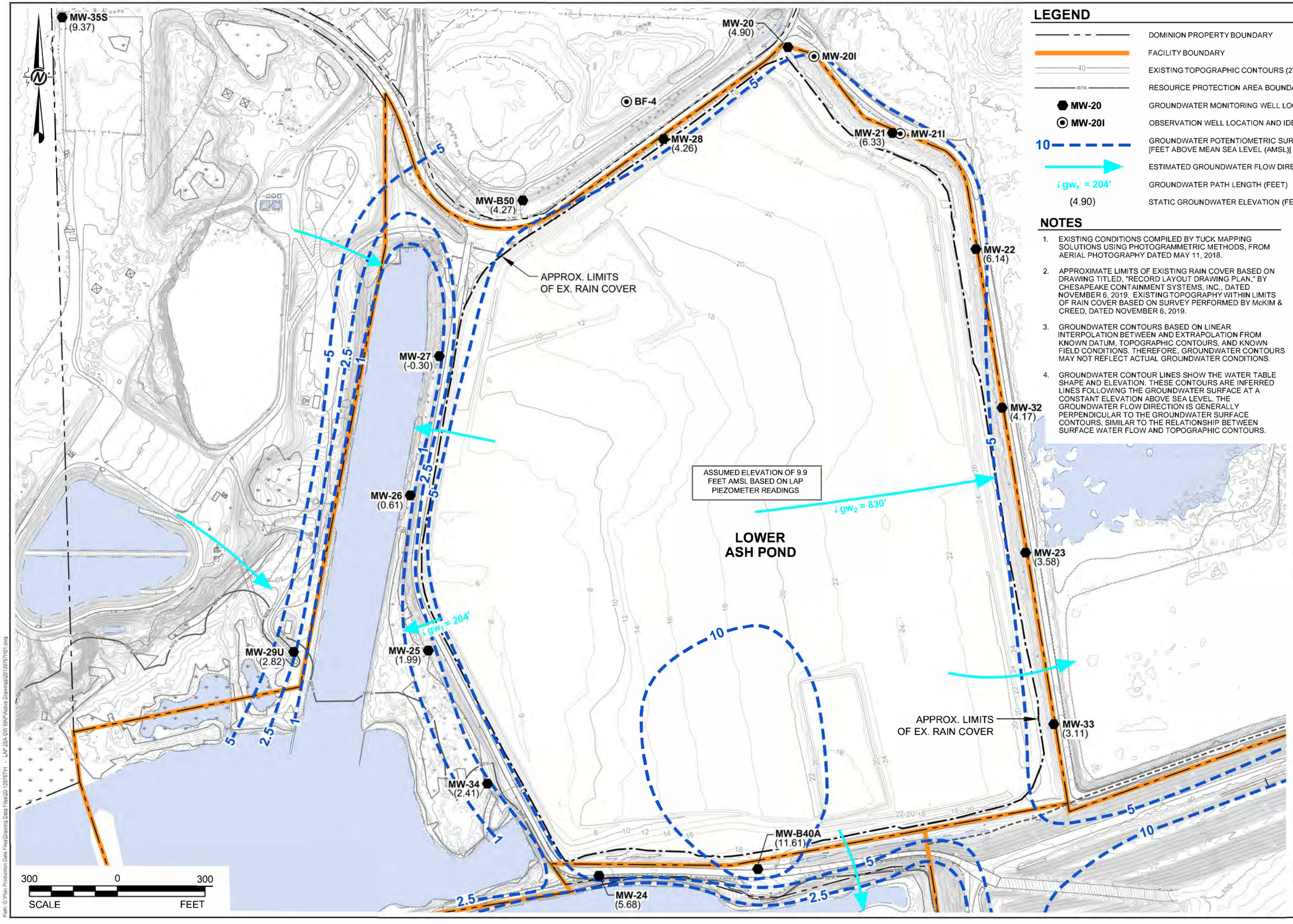

LEGEND

- DOMINION PROPERTY BOUNDARY
- FACILITY BOUNDARY
- 40 — EXISTING TOPOGRAPHIC CONTOURS (2' INTERVALS)
- RPA — RESOURCE PROTECTION AREA BOUNDARY
- MW-20 — GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
- MW-20I — OBSERVATION WELL LOCATION AND IDENTIFICATION
- 10 — GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR [FEET ABOVE MEAN SEA LEVEL (AMSL)]
- ESTIMATED GROUNDWATER FLOW DIRECTION
- $i\,gw_1 = 204'$ — GROUNDWATER PATH LENGTH (FEET)
- (4.90) — STATIC GROUNDWATER ELEVATION (FEET AMSL)

NOTES

1. EXISTING CONDITIONS COMPILED BY TUCK MAPPING SOLUTIONS USING PHOTOGRAMMETRIC METHODS, FROM AERIAL PHOTOGRAPHY DATED MAY 11, 2018.
2. APPROXIMATE LIMITS OF EXISTING RAIN COVER BASED ON DRAWING TITLED, "RECORD LAYOUT DRAWING PLAN," BY CHESAPEAKE CONTAINMENT SYSTEMS, INC., DATED NOVEMBER 6, 2019. EXISTING TOPOGRAPHY WITHIN LIMITS OF RAIN COVER BASED ON SURVEY PERFORMED BY McKIM & CREED, DATED NOVEMBER 6, 2019.
3. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATUM, TOPOGRAPHIC CONTOURS, AND KNOWN FIELD CONDITIONS. THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS.
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.

	YYYY-MM-DD	2021-01-18
	DESIGNED	CJL
	PREPARED	BPG
	REVIEWED	MGW
	APPROVED	MGW

CLIENT
DOMINION ENERGY

CONSULTANT
GOLDER

PROJECT
CHESTERFIELD POWER STATION
CHESTERFIELD COUNTY, VIRGINIA
LOWER ASH POND

TITLE
GROUNDWATER POTENTIOMETRIC SURFACE MAP
UPPERMOST AQUIFER
NOVEMBER 2, 2020

PROJECT NO.
20-139767

REV.
0

DRAWING
3

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

1 in

Path: G:\Plan Production Data Files\Drawing Data Files\20-139767\H - LAP ASH GW MAP-Active Drawings\20139767H01.dwg

APPENDIX A

SECOND 2019 SEMI-ANNUAL ASSESSMENT MONITORING PROGRAM VERIFICTION EVENT FIELD DATA SHEET, LABORATORY CERTIFICATES OF ANALYSIS, CHAIN-OF-CUSTODY FORMS, AND DATA VALIDATION FORMS

GOLDER

MICROPURGE SAMPLING LOG

Date: 12/30/19

Weather: cloudy 70s

Project Name: CRS

Project No./Task No.: 19115050.300A

Event: MW-32 Resample

Sampler(s): M. Antal

Well ID: MW-32

Field Calibration Completed: 0945 on 12/30/19

Well Diameter: 2.0 inches

Initial Depth to Water: 4.58 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- ☑ WL Indicator
- ☑ YSI ProDSS 16K102184
- ☐ In-Situ —
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☑ MP-15 Controller Box
- ☑ 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
1017	5.69	419.7	13.29	0.76	16.8	-34.9	6.60	100
1022	5.82	494.8	9.57	0.46	16.7	-86.1	6.91	100
1027	5.88	498.0	7.27	0.37	16.7	-92.8	7.30	100
1032	5.90	498.9	8.23	0.33	16.8	-92.2	7.75	100
1034				SAMPLE				
1043	5.92	489.6	9.64	0.30	16.9	-92.7	7.90	100

Purge Cycle (End): 54/6 sec @ 20 psi

Flow Rate (ml/min End): 100

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.17

Total Purge Volume (Gallons): ~0.5

Purge Water Management: onsite Containment

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

Purge time: 1012

Sample Time: 1034

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

Other Observations / Equipment Operation Problems:

DTP = 27.50'

Sampler Signature: [signature] Date: 12/30/19

QA/QC Signature: [signature] Date: 12/30/19

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

January 03, 2020

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

RE: Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

Dear Mike Williams:
Enclosed are the analytical results for sample(s) received by the laboratory on December 30, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92458902001	**MW-32**	Water	12/30/19 10:34	12/30/19 12:30

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92458902001	**MW-32**	EPA 6020B	JOR	1	PASI-A

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

SUMMARY OF DETECTION

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92458902001	**MW-32**					
EPA 6020B	Arsenic	29.5	ug/L	0.10	01/02/20 17:20	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

Sample: MW-32 **Lab ID: 92458902001** Collected: 12/30/19 10:34 Received: 12/30/19 12:30 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								
Arsenic	**29.5**	ug/L	0.10	0.060	1	01/02/20 00:54	01/02/20 17:20	7440-38-2	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

QC Batch: 517500 Analysis Method: EPA 6020B
QC Batch Method: EPA 3010A Analysis Description: 6020 MET
Associated Lab Samples: 92458902001

METHOD BLANK: 2770923 Matrix: Water
Associated Lab Samples: 92458902001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	0.10	0.060	01/02/20 13:07	

LABORATORY CONTROL SAMPLE: 2770924

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	10	9.7	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2770925 2770926

Parameter	Units	92458902001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	29.5	10	10	39.4	39.8	99	103	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

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.

LABORATORIES

PASI-A Pace Analytical Services - Asheville

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS LAP - MW-32 Resample
Pace Project No.: 92458902

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92458902001	**MW-32**	EPA 3010A	517500	EPA 6020B	517516

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 ☒ N

Sample Condition Upon Receipt

Client Name: Golder

Project #: **WO# : 92458902**

92458902

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

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

Date/Initials Person Examining Contents: 12-30-19

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

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

Thermometer: ☒ IR Gun ID: T-3

Type of Ice: ☑ Wet ☐ Blue ☐ None

Cooler Temp (°C): 14.9 Correction Factor: Add (Subtract) (°C) 0.1

Cooler Temp Corrected (°C): 14.8

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

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

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

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☑ Yes	☐ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Dissolved analysis: Samples Field Filtered?	☐ Yes	☐ No	☑ N/A	8.
Sample Labels Match COC?	☑ 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:** 1/3/20

Project Manager SRF Review: AMB **Date:** 1-3-20

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# : 92458902**

PM: NMG Due Date: 01/07/20

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)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)
1	\				\	\	\	\			\		\	\	\										\	\			
2	\				\	\	\	\			\		\	\	\										\	\			
3	\				\	\	\	\			\		\	\	\										\	\			
4	\				\	\	\	\			\		\	\	\										\	\			
5	\				\	\	\	\			\		\	\	\										\	\			
6	\				\	\	\	\			\		\	\	\										\	\			
7	\				\	\	\	\			\		\	\	\										\	\			
8	\				\	\	\	\			\		\	\	\										\	\			
9	\				\	\	\	\			\		\	\	\										\	\			
10	\				\	\	\	\			\		\	\	\										\	\			
11	\				\	\	\	\			\		\	\	\										\	\			
12	\				\	\	\	\			\		\	\	\										\	\			

pH Adjustment Log for Preserved Samples

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

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

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:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	Golder Associates, Inc.	Report To:	Martha Smith	Attention:	Accounts Payable
Address:	2108 W Laburnum Ave #200	Copy To:	Mike Williams	Company Name:	
	Richmond, VA 23227			Address:	
Email:	martha_smith@golder.com	Purchase Order #:		Pace Quote:	
Phone:	(804)358-7900 Fax: (804)358-2900	Project Name:	CPS LAP - MW-32 Resample	Pace Project Manager:	nicole.gasiorowski@pacelabs.com,
Requested Due Date:	5 Day TAT	Project #:	19115050.300A	Pace Profile #:	7295

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	Analyses Test: 6020 (As only)	Residual Chlorine (Y/N)	
1	MW-32	WT		12/30/19	1034	—	—		1			X							X	N	12458902
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

All samples preserved on ice
5 Day TAT
001

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)
Reporting Group A	[signature]/Golder	12/30/19	1230	Rachel Burrus	12-30-19	1230	14.8	Y	Y	Y
Level II Data Package										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Michael Antal

SIGNATURE of SAMPLER: [signature] DATE Signed: 12/30/19

Project Name: Chesterfield Power Station- LAP

Project Reference Number: 19115050

Sampling Event Date: 2SA19 CCR Verification Sampling

Review Date: 01/07/2020 *Initials:* MKS

*Review Date:*01/08/2020 *Initials:* CJL

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
- Evaluation of Radiochemistry Data Usability, April 1997

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- PS = Post Spike
- 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
- VPDES = Virginia Pollutant Discharge Elimination System

COMPLIANCE ANALYTE LIST

☐ Historical VPDES Parameters

☐ CCR Appendix III to Part 257

☐ CCR Appendix IV to Part 257 (Previous Detections)

☐ VSWMR Phase II Parameters: _____

☒ Other: Arsenic

Note: Data package 92458902

Golder Associates Inc.
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: The sample was received by the laboratory at cooler temperatures of 14.8ºC. Since the samples were submitted on ice the same day of sampling, data were not qualified.

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: 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).

Parameter	Method Blank Detection (µg/L)	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:

Parameter	Recovery Outside QC Limits	Batch	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

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

Yes Analytical results have been evaluated for variances +/- 25% compared to the average of the most recent eight datum.

Yes Analytical results with variances +/- 25% have been evaluated for trends.

Yes 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 are summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
--	--	--	--	--

6.0 DATA REPORTING

NA 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:

Sample ID	Parameter	Blank Detection (µg/L)	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

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 B

FIRST SEMI-ANNUAL 2020 ASSESSMENT MONITORING PROGRAM EVENT FIELD DATA SHEETS, LABORATORY CERTIFICATES OF ANALYSIS, CHAIN-OF-CUSTODY FORMS, AND DATA VALIDATION FORMS

Date: 5/4/2020

GOLDER

WELL GAUGING LOG

Project Name: C.P.S 1SA20 CCR

Project No./Task No.: 20139767.300A

Sampler(s): L Grimm / C. Joyner

Equipment: Water Level Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
MW-29U	LG	1408	4.45	-	✓OK Damaged	✓OK Damaged	✓OK Inadequate	✓Yes No	✓OK Damaged
MW-35S	CJ	1350	50.59	-	✓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: 5/4/2020

QA/QC Signature: [signature] Date: 5-8-2020

Page 1 of 1

Date: 5/4/2020

GOLDER

WELL GAUGING LOG

Project Name: CPS ISA20 LAP CCR

Project No./Task No.: 20139767.300 A

Sampler(s): L. Grimm

Equipment: WL Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
MW-20	LG	1230	17.68	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-21	LG	1235	6.92	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-22	LG	1245	7.34	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-23	LG	1304	4.95	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-24	LG	1129	12.76	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-25	LG	1140	10.27	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-26	LG	1145	7.58	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-27	LG	1155	15.23	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-28	LG	1225	18.85	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-B5D	LG	1202	22.60	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-32	LG	1250	4.53	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-33	LG	1314	9.30	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-34	LG	1137	7.18	-	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-B40A	LG	1125	6.50	-	☑ 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: _____ Date: 5/4/2020

QA/QC Signature: _____ Date: 5-8-2020

Page 1 of 1

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020
Weather: Cloudy, 50°

Project Name: C.D.S
Project No./Task No.: ~~201367~~ 20139767.300A
Event: ISA20 LAP CCR GW
Sampler(s): L. Grimm
Well ID: MW-20
Field Calibration Completed: @ 0750 on 5/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 17.68 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 16C103994
- [ ] 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
0953	5.02	541	215.71	2.24	15.9	155.8	17.69	~275
0958	4.66	516	230.12	1.09	16.2	145.0	17.79	~275
1003	4.71	518	58.82	1.00	16.5	143.1	17.77	~275
1008	4.74	30.49	518	0.58	16.7	142.3	17.71	~275
1013	4.67	~~26.7~~ 513	76.71	0.70	16.4	146.4	17.67	~275
1018	4.64	516	19.48	0.61	16.4	148.9	17.68	~275
1023	4.62	515	17.09	0.57	16.4	151.1	17.70	~275
1028	4.60	514	20.24	0.49	16.4	154.6	17.67	~275
1030	—	—	— SAMPLED —	—	—	—	—	—
1047	4.65	516	20.10	0.82	16.7	149.5	17.68	~275

Purge Cycle (End): 23/7 sec seconds @ 20 psi Flow Rate (ml/min End): ~275

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (29.35')(0.006 gal/ft) = ~0.18

Total Purge Volume (Gallons): ~3.5 Purge Water Management: On site Containment

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

Purge start: 0948 *Purge water begins to have small black particles @ 1025

Sample Time: 1030 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: CCR Appendix III constituents, CCR Appendix III constituents

Other Observations / Equipment Operation Problems:

D.T.P: 29.35'

Sampler Signature: Date: 5/6/2020 Page 1 of 1

QA/QC Signature: Date: 5-7-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020

Weather: Cloudy, 50's

Project Name: C.P.S

Project No./Task No.: 20139767.300A

Event: ISAZA LAP CCR GW

Sampler(s): L. Grimm

Well ID: MW-21

Field Calibration Completed: @ 0750 on 5/6/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 6.92 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 16C103994
- [ ] 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
1106	5.21	528	200.04	1.91	15.8	156.0	6.93	~225
1111	5.33	572	135.08	0.57	15.7	153.1	6.91	~225
1116	5.29	561	63.12	0.58	16.0	156.6	6.93	~225
1121	5.38	567	43.00	0.61	16.2	140.9	6.92	~225
1126	5.36	571	33.47	0.46	16.3	147.0	6.92	~225
1131	5.37	573	25.60	0.51	16.2	149.8	6.91	~225
1136	5.35	576	25.10	0.43	16.0	155.1	6.92	~225
1141	5.36	579	18.49	0.46	16.2	155.1	6.94	~225
1146	5.40	581	16.61	0.49	16.3	155.7	6.93	~225
1151	5.43	582	13.37	0.55	16.4	155.8	6.93	~225
1156	5.40	583	10.00	0.47	16.1	156.4	6.93	~225
1158	—	—	SAMPLED	—	—	—	—	—
1215	5.45	585	11.60	0.51	16.3	153.5	6.94	~225

Purge Cycle (End): 24/6 seconds @ 20 psi Flow Rate (ml/min End): ~225

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (23.16 ft)(0.006 gal/ft) = ~0.14

Total Purge Volume (Gallons): ~3.5 Purge Water Management: onsite containment

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

Purge start: 1103

Sample Time: 1158 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: CCR Appendix III constituents, CCR Appendix IV constituents

Other Observations / Equipment Operation Problems:

DTP: 23.16'

Sampler Signature: Date: 5/6/2020

QA/QC Signature: Date: 5-7-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020

Weather: Sunny, 60s

Project Name: C.P.S. | Project No./Task No.: 20139767.300A

Event: 1SA20 LAP CCR GW | Sampler(s): L. Grimm

Well ID: MW-22 | Field Calibration Completed: @0750 on 5/6/2020

Well Diameter: 2.0 inches | Initial Depth to Water: 7.35 feet

Depth to Bottom: - feet | Water Column Thickness: - feet

Equipment Used:
- ☒ WL Indicator
- ☒ YSI ProDSS 16C103594
- ☐ In-Situ
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☒ MP-15 Controller Box
- ☒ 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
1239	5.42	313.4	135.73	1.07	16.5	164.5	7.42	~250
1244	5.34	336.4	47.38	0.61	16.4	187.6	7.40	~250
1249	5.34	345.6	23.50	0.50	16.2	172.4	7.43	~250
1254	5.28	348.2	19.63	0.41	16.2	191.4	7.45	~250
1259	5.29	351.7	17.20	0.38	16.3	194.6	7.45	~250
1304	5.30	352.3	15.27	0.36	16.3	196.9	7.45	~250
1309	5.32	353.0	13.65	0.35	16.4	187.8	7.44	~250
1314	5.34	354.4	11.98	0.33	16.5	190.4	7.43	~250
1319	5.36	356.2	10.90	0.32	16.5	182.3	7.43	~250
1324	5.34	357.3	9.29	0.31	16.4	190.1	7.44	~250
1327~~1327~~			SAMPLED					
1343	5.38	361.1	11.04	0.71	16.2	180.3	7.45	~250

Purge Cycle (End): 23/7 sec @ 20 psi | Flow Rate (ml/min End): ~250

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (30.20 ft)(0.006 gal/ft) = ~0.18

Total Purge Volume (Gallons): ~3.5 | Purge Water Management: Onsite Containment

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

Purge start: 1235

Sample Time: 1327 | 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: CCR Appendix III constituents, CCR Appendix IV constituents

Other Observations / Equipment Operation Problems:

DTP: 30.20'

Sampler Signature: _____ Date: 5/6/2020

QA/QC Signature: _____ Date: 5-7-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5-5-2020

Weather: Sun, 70s

Project Name: CPS

Project No./Task No.: 20139767

Event: 1SA2020 CCR GW LAP

Sampler(s): O. Steele

Well ID: MW-23

Field Calibration Completed: 5-5-2020 @ 0800

Well Diameter: 2.0 inches

Initial Depth to Water: 5.18 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [X] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [X] Dedicated Bladder Pump
- [X] YSI ProDSS 17M102880
- [ ] 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)°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
1450	6.43	639	76.7	1.20	15.9	73.1	5.45	100
1455	6.44	638	36.4	0.76	16.0	23.9	5.50	150
1500	6.44	626	23.0	0.71	16.0	8.1	5.48	150
1505	6.44	616	23.7	0.70	16.0	-1.7	5.51	150
1510	6.45	609	19.0	0.63	16.0	-9.3	5.56	150
1515	6.45	602	17.0	0.62	16.0	-15.6	5.59	~~150~~ 100
1520	6.44	597	14.1	0.60	16.0	-20.2	5.55	100
1525	6.44	592	11.7	0.57	16.0	-23.7	5.50	100
1530	6.43	587	11.2	0.56	15.9	-26.0	5.51	100
1535	6.43	585	10.5	0.55	15.9	-26.6	5.60	100
1536	—	—	SAMPLE	—	—	—	—	—
1554	7.58	569	9.1	0.52	16.2	29.9	5.50	100

Purge Cycle (End): 24/6 @ 20 psi

Flow Rate (ml/min End): ~100-150

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.22

Total Purge Volume (Gallons): ~2.0

Purge Water Management: on site containment

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

purge time: 1442

Sample Time: 1536

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

Sample Parameters/Analyte(s):
- [ ] VSWMR Table 3.1 Column A VOCs
- [X] VSWMR Table 3.1 Column A Metals CJ
- [ ] VSWMR Table 3.1 Column B
- [X] Other: CCR Appendix III, IV

Other Observations / Equipment Operation Problems: DTP = 36.03'

Sampler Signature: [signature] Date: 5-5-2020

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/5/2020

Weather: Rain, 50°S

Project Name: C.P.S

Project No./Task No.: 20134767

Event: ISAZO LAP CCR

Sampler(s): L Grimm

Well ID: MW-24

Field Calibration Completed: @ 0830 on 5/5/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 12.90 feet

Depth to Bottom: ? feet

Water Column Thickness: — feet

Equipment Used:
- ☒ WL Indicator
- ☒ YSI Pro DSS 16C105994
- ☐ In-Situ —
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☒ MP-15 Controller Box
- ☒ 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
1237	6.00	602	192.12	0.54	17.1	-28.6	14.54	~225
1242	6.27	603	99.77	0.41	16.9	-69.5	14.94	~225
1247	6.40	602	56.22	0.40	16.9	-76.1	15.30	~225
1252	6.50	601	46.16	0.35	16.9	-99.0	15.50	~225
1257	6.57	601	31.33	0.31	16.9	-109.2	15.85	~225
1302	6.62	604	23.00	0.32	16.9	-112.9	15.97	~225
1307	6.61	606	18.26	0.31	16.8	-114.9	16.01	~225
1312	6.63	606	16.81	0.30	17.0	-117.5	15.99	~225
1317	6.65	606	16.00	0.31	17.0	-120.0	16.04	225
1322	6.66	606	17.55	0.30	17.0	-120.9	16.05	~225
1325	—	—	SAMPLED	—	—	—	—	—
1350	6.63	605	20.68	0.39	17.2	-81.2	16.13	225

Purge Cycle (End): 25/5 sec @ 20 psi

Flow Rate (ml/min End): ~225

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.2

Total Purge Volume (Gallons): ~3

Purge Water Management: onsite containment

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

Purge start: 1232

Sample Time: 1325

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: CCR Appendix III, CCR Appendix IV

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5/5/2020

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020
Weather: Cloudy, 50s

Project Name: CPS
Project No./Task No.: 20139767.300A
Event: ISA2020 LAP CCR
Sampler(s): M. Antel
Well ID: MW-25
Field Calibration Completed: 0750 on 5/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 10.27 feet
Depth to Bottom: ——— feet
Water Column Thickness: ——— feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 17M102881
- [ ] 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
0954	6.19	475.8	52.80	0.97	15.6	-31.9	10.34	200
0959	6.21	475.3	17.17	0.48	16.2	-51.7	10.39	200
1004	6.23	468.1	33.92	0.31	16.0	-58.9	10.40	200
1009	6.24	459.5	23.19	0.41	16.2	-60.1	10.42	200
1014	6.25	437.6	18.54	1.08	16.1	-62.5	10.44	200
1019	6.25	414.5	14.81	0.52	16.0	-63.6	10.46	200
1024	6.23	415.6	14.92	0.42	16.0	-63.4	10.47	200
1029	6.23	407.2	14.06	2.57	16.0	-62.5	10.55	200
1031				SAMPLE				
1115	6.30	366.5	6.26	0.77	16.7	-57.9	10.55	200

Purge Cycle (End): 25/5 seconds @ 35 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): 51.60 · 0.006 ≅ 0.31
Total Purge Volume (Gallons): ~ 2.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
purge time: 0949 DTP = 51.60'
Sample Time: 1031
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: CCR App III & CCR App IV constituents

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5/6/2020
QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/5/2020

Weather: Sunny, 50s

Project Name: CPS

Project No./Task No.: 20139767.3000A

Event: ISA2020 LAP CCR

Sampler(s): M. Antal

Well ID: MW-26

Field Calibration Completed: 0800 on 5/5/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 6.83 feet

Depth to Bottom: ——— feet

Water Column Thickness: ——— feet

Equipment Used: ☑ WL Indicator ☐ Turbidity Meter ☐ Air Tank ☑ Dedicated Bladder Pump

☑ YSI Pro DSS 17M102981 ☐ 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
1441	5.85	227.9	242.97	0.88	17.9	31.1	7.29	400
1444	5.95	212.4	178.54	1.19	18.2	21.9	7.39	500
1447	5.94	191.5	190.14	4.28	18.3	24.7	7.41	400
1450	5.91	174.6	173.64	1.81	18.2	30.1	7.43	400
1453	5.88	161.0	120.04	2.08	18.1	35.0	7.42	400
1456	5.83	159.6	115.14	0.70	18.2	33.3	7.42	400
1459	5.81	154.9	56.29	4.94	18.2	40.8	7.39	400
1502	5.81	148.9	43.91	0.67	18.2	43.0	7.30	400
1505	5.81	143.7	40.22	2.38	17.8	47.8	7.32	400
1508	5.81	145.8	44.21	2.92	18.0	57.7	7.33	400
1511	5.82	146.3	37.07	0.99	17.8	55.0	7.32	400
1514	5.78	137.6	48.77	0.83	17.7	56.7	7.34	400
1517	5.76	137.0	49.98	0.72	17.6	57.9	7.34	200
1520	5.75	137.1	45.98	0.26	17.6	58.6	7.29	200
1522	———	———	———	SAMPLE	———	———	———	———
1547	5.76	135.7	52.22	0.89	18.0	57.7	7.05	200

Purge Cycle (End): 25/5 sec @ 19 psi Flow Rate (ml/min End): ~~400~~ 200

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (26.95)(0.006) = 0.16

Total Purge Volume (Gallons): ~5.0 Purge Water Management: onsite containment

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

purge time: 1436 DTP = 26.95' Tiny particles suspended in water

Sample Time: 1522 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: CCR App III & CCR App IV

Other Observations / Equipment Operation Problems:

~~1517 * switch to five minute readings~~ NA

Sampler Signature: [signature] Date: 5/5/2020 Page 1 of 1

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020
Weather: Cloudy, 50s

Project Name: CPS
Project No./Task No.: 20139767.300A
Event: ISA2020 LAP CCR
Sampler(s): M. Antal
Well ID: MW-27
Field Calibration Completed: 0750 on 5/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 15.94 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 17M102581
- [ ] 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. (^{o}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
0837	5.40	372.0	25.92	1.82	17.5	227.5	16.04	200
0842	5.43	360.6	2.14	0.32	17.6	219.8	16.04	200
0847	5.50	356.6	1.95	0.24	17.6	213.7	16.05	200
0852	5.53	357.0	1.47	0.17	17.6	211.0	16.07	200
0854	—	—	—	SAMPLE	—	—	—	—
0912	5.53	354.6	1.38	0.24	17.4	209.5	16.02	200

Purge Cycle (End): 25|5 seconds @ 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): 28.20 · 0.006 = ~0.17

Total Purge Volume (Gallons): ~ 2.0 Purge Water Management: onsite containment

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

Purge time: 0832 DTP = 28.20'

Sample Time: 0854 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: CCR App III & CCR App IV constituents

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5/6/2020

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020
Weather: 50's, cloudy

Project Name: CPS
Project No./Task No.: 20139767.300A
Event: ISA20 LAP CCR GW
Sampler(s): L.Grimm
Well ID: MW-28
Field Calibration Completed: @ 0750 on 5/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 18.85 feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 16C103994
- [ ] 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
0845	6.71	617	108.28	1.82	19.0	28.1	18.92	~300
0850	6.60	619	40.61	1.00	19.1	-60.0	18.90	~300
0855	6.71	616	40.57	0.83	19.2	-92.3	18.92	~300
0900	6.80	602	33.55	0.78	19.2	-104.4	18.89	~300
0905	6.88	586	20.42	0.71	19.2	-110.3	18.94	~300
0910	6.91	568	17.30	0.69	19.2	-109.9	18.90	~300
0915	6.92	563	14.84	0.68	19.2	-107.6	18.91	~300
0920	6.93	554	9.70	0.68	19.2	-106.9	18.97	~300
0922	—	— SAMPLED —						—
0934	6.95	532	10.31	0.64	19.0	-99.3	18.91	~300

Purge Cycle (End): 23/7 sec 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): (29.95')(0.006 gal/ft) = ~0.18 gal
Total Purge Volume (Gallons): ~4
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge start: 0842

Sample Time: 0922
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: CCR Appendix III constituents, CCR Appendix IV constituents

Other Observations / Equipment Operation Problems:
DTP: 29.95'

Sampler Signature: [signature] Date: 5/6/2020
QA/QC Signature: [signature] Date: 5-7-2020

GOLDER

FIELD SAMPLING LOG

Date: 5/5/2020
Weather: Sunny, 50s

Project Name: CPS
Project No./Task No.: 20139767.200
Event: 2Q2020 UPDES/ISA2020 CCR GW
Sampler(s): M. Antal
Well ID: MW-B50
Field Calibration Completed: 0800 on 5/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 22.60 feet
Depth to Bottom: ——— feet
Water Column Thickness: ——— feet

Equipment Used:
- [x] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [x] Dedicated Bladder Pump
- [x] YSI Pro DSS17M102881
- [ ] 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
0847	6.28	887	60.26	0.55	17.6	40.1	23.50	400
0850	6.35	877	43.33	0.58	17.4	13.8	23.69	400
0853	6.37	868	55.37	0.18	17.5	2.0	23.40	400
0856	6.39	868	53.37	0.22	17.6	1.1	23.41	400
0859	6.40	862	50.13	0.28	17.5	0.5	23.51	400
0902	6.40	856	39.77	0.43	17.6	1.7	23.48	400
0905	6.41	850	27.17	0.49	17.6	1.7	23.35	400
0908	6.41	845	23.64	0.50	17.6	2.5	23.39	400
0911	6.42	841	20.59	0.46	17.6	2.6	23.30	400
0914	6.42	838	19.99	0.48	17.7	2.8	23.31	400
0917	6.42	837	20.42	0.53	17.7	3.0	23.33	400
0919	———	———	———	SAMPLE	———	———	———	———
0942	6.48	821	17.44	0.57	17.4	3.2	23.29	400

Purge Cycle (End): 27/3 seconds @ 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): 25.80' · 0.006 = ~0.15
Total Purge Volume (Gallons): ~6.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 0842 DTP = 25.80' pH = 6.42 SU Temp = 17.7°C
Sample Time: 0919
Field Filtered (0.45um): [x] Yes [ ] No

Sample Parameters/Analyte(s):
- [x] CCR App III
- [x] CCR APP IV
- [ ] CCR APP IV Detects
- [x] Other: Dissolved: (As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Mo, Se, Ag, V, Zn, chromium VI), ammonia, chloride, nitrate, sulfate, TDS, Total hardness

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5/5/2020
QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

FIELD SAMPLING LOG

Date: 5/6/2020

Weather: Cloudy, 60's

Project Name: C.P.S

Project No./Task No.: 20139767.300A

Event: ISA20 CAPCCR GW

Sampler(s): L. Grimm

Well ID: MW-32

Field Calibration Completed: @0750 on 5/6/2020

Well Diameter: 2.0 inches

Initial Depth to Water: ~~4.58~~ ~~5.58~~ feet 4.58

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ~~Pro DSS 16C103794~~
- [ ] 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
1426	6.10	472.0	48.04	1.47	16.3	-22.3	5.83	~200
1431	6.03	490.1	128.61	1.12	16.4	-50.7	6.59	~200
1436	6.08	485.2	46.02	1.06	16.4	-66.7	7.68	~200
1441	6.10	477.3	31.44	0.98	16.4	-69.3	8.32	~200
1446	6.12	460.4	29.79	0.98	16.4	-69.5	8.98	~200
1451	6.16	431.3	26.78	0.95	16.5	-69.6	9.52	~200
1456	6.21	405.1	24.30	1.01	16.5	-65.9	10.00	~150
1501	6.20	390.5	21.76	0.98	16.5	-62.8	10.35	~150
1506	6.23	383.8	19.44	0.97	16.6	-62.0	10.52	~150
1511	6.21	378.6	17.52	0.93	16.6	-60.4	10.68	~150
1516	6.20	376.5	14.42	0.94	16.6	-58.2	10.79	~150
1521	6.20	~~380.5~~ 368.3	15.85	1.12	16.7	-57.3	10.91	~150
1523	—	—	SAMPLED	—	—	—	—	—
1545	6.20	355.3	13.95	1.04	16.8	-49.9	~~12.13~~ 12.13	~~~150~~ 150

Purge Cycle (End): 25/5 seconds @ 20 psi Flow Rate (ml/min End): ~150

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (27.38 ft)(0.006 gal/ft) = ~0.16

Total Purge Volume (Gallons): ~4 Purge Water Management: onsite containment

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

Purge start: 1422

Sample Time: 1523 Field Filtered (0.45um): [ ] Yes [x] No

Sample Parameters/Analyte(s):
- [x] CCR App III
- [x] CCR APP IV
- [ ] CCR APP IV Detects
- [ ] Other:

Other Observations / Equipment Operation Problems:

DTP: 27.38' @1455 flow rate decreases to ~150 mL/min

Sampler Signature: Date: 5/6/2020 Page 1 of 1

QA/QC Signature: Date: 5-7-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5-5-2020

Weather: rain, cloudy

Project Name: CRS

Project No./Task No.: 20139107

Event: ISA 2020 CCR GW LAP

Sampler(s): D Steele

Well ID: MW-33

Field Calibration Completed: 5-5-2020 @ 0800

Well Diameter: 2.0 inches

Initial Depth to Water: 9.70 feet

Depth to Bottom: ——— feet

Water Column Thickness: ——— feet

Equipment Used:
- [X] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [X] Dedicated Bladder Pump
- [X] YSI ProDSS I3M 102880
- [ ] 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
1327	6.26	6.29	44.5	0.88	15.3	196.4	10.55	300
1330	6.48	6.26	52.3	0.66	15.4	175.3	10.56	300
1333	6.65	6.27	12.3	0.56	15.4	126.0	10.57	300
1336	6.68	6.26	6.7	0.53	15.4	90.0	10.55	300
1339	6.73	6.26	9.0	0.50	15.4	40.0	10.55	300
1340	———	———	SAMPLE	———	———	———	———	———
1353	6.90	6.26	14.8	2.58	15.6	40.3	10.71	300

Purge Cycle (End): 24/16 @ 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): ~0.195

Total Purge Volume (Gallons): ~0.75

Purge Water Management: Onsite containment

Purge Observations (color, odor, turbidity, sheen): Small brown floating solids, clear grab sample

purge time: 1322

Sample Time: 1340

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: CCR Appendix III + IV

Other Observations / Equipment Operation Problems: DTP = 32.60

Sampler Signature: [signature] Date: 5-5-2020

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020
Weather: Sunny

Project Name: CPS
Project No./Task No.: 20139767.300A
Event: ISA2020 LAP CCR
Sampler(s): M. Antal
Well ID: MW-34
Field Calibration Completed: 0750 on 5/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 7.21 feet
Depth to Bottom: ——— feet
Water Column Thickness: ——— feet

Equipment Used:
- [x] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [x] Dedicated Bladder Pump
- [x] YSI Pro DSS 17M102681
- [ ] 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. (^{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
1151	6.72	670	8.48	1.14	16.4	-111.4	7.25	200
1156	6.73	659	5.83	0.77	16.4	-111.1	7.31	200
1201	6.73	648	3.83	0.98	16.2	-109.8	7.40	200
1206	6.72	646	5.28	0.55	16.5	-113.4	7.43	200
1208				SAMPLE				
1244	6.72	614	14.35	0.44	16.8	-105.0	7.47	200

Purge Cycle (End): 25/5 seconds @ 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): 25.95 x 0.006 = ~0.16
Total Purge Volume (Gallons): ~2.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample - bubbles in samples
Purge time: 1146 DTP = 25.95'
Sample Time: 1208
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: CCR App III & CCR App IV constituents

Other Observations / Equipment Operation Problems: Bubbles formed around well cap towards end of pre-purge. Bubbles continued for pour over well casing throughout sampling.

Sampler Signature: [signature] Date: 5/6/2020 Page 1 of 1

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5-5-2020

Weather: cloudy, 60s

Project Name: CPS

Project No./Task No.: 20397167

Event: 1SA2020 1st CCR / 2Q2020 VPDES

Sampler(s): C. Joyner / O. Steele

Well ID: MW-B40A

Field Calibration Completed: 5-5-2020 @ 0800

Well Diameter: 2.0 inches

Initial Depth to Water: 6.56 feet

Depth to Bottom: — feet

Water Column Thickness: — feet

Equipment Used:
- [X] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [X] Dedicated Bladder Pump
- [X] YSI ProDSS 17M102880
- [ ] 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
0940	6.53	548	31.4	1.42	15.9	-25.5	10.12	450
0943	6.60	525	22.5	1.41	16.0	-44.9	10.50	450
0946	6.63	510	21.7	0.71	16.2	-58.7	10.80	450
0949	6.64	514	20.6	0.49	16.0	-63.7	11.32	450
0952	6.64	536	14.5	0.46	16.0	-69.3	12.02	450
0955	6.64	548	10.8	0.46	16.0	-71.2	12.05	450
0958	6.63	580	9.9	0.44	16.0	-74.7	12.79	450
1001	6.60	611	12.5	0.43	15.9	-76.0	13.20	450
1004	6.58	625	20.9	0.42	16.0	-77.0	13.65	300
1007	6.56	624	11.1	0.43	16.0	-77.7	14.02	300
1010	6.56	616	12.5	0.48	15.8	-77.9	14.30	300
1013	6.57	611	11.7	0.45	16.0	-78.2	BTOP	300
1015	—	—	— SAMPLE	—	—	—	—	—
1043	6.42	576	16.5	4.43	16.1	-18.9	BTOP	250
	5614							

Purge Cycle (End): ~~27/3~~ os seconds @ 20 psi Flow Rate (ml/min End): ~~450~~ os

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): 0.09

Total Purge Volume (Gallons): ~5.0 Purge Water Management: on site containment

Purge Observations (color, odor, turbidity, sheen): Slight swirly sheen in purge water, clear grab sample

Purge time: 0936

Sample Time: 1015 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: CCR Appendix III & IV, Dissolved Ca, Fe, Mo, Zn, Ammonia, Chloride, Nitrate, TDS, Sulfate, Total Hardness

Other Observations / Equipment Operation Problems: DTP = 14.65'

BTOP = Below Top of Pump pH = 6.57su @ 16.0°C

Sampler Signature: [signature] Date: 5-5-2020 Page 1 of

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5-5-2020
Weather: cloudy, 70s

Project Name: CPS
Project No./Task No.: 20139767
Event: ISA2020 CCR
Sampler(s): C. Joyner
Well ID: Field Blank - LAP
Field Calibration Completed: 5-5-2020 @ 0800
Well Diameter: — inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- ☐ WL Indicator
- ☐ YSI —
- ☐ In-Situ —
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☐ MP-15 Controller Box
- ☐ 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
1500	—	—	— 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 at MW-23 using lab supplied DI water
Sample Time: 1500
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: CCR Appendix III, IV

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5-5-2020
QA/QC Signature: [signature] Date: 5-5-2020

GOLDER

FIELD SAMPLING LOG

Date: 5/6/2020

Weather: cloudy, 50s

Project Name: CPS

Project No./Task No.: 20139767.300A

Event: ISA2020 LAP CCR

Sampler(s): M. Antal

Well ID: Equipment Blank-LAP

Field Calibration Completed: 0750 on 5/6/2020

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
0925				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: onsite containment

Purge Observations (color, odor, turbidity, sheen): Clear grab sample taken at MW-27 using laboratory provided DI water

Sample Time: 0925

Field Filtered (0.45um): ☐ Yes ☑ No

Sample Parameters/Analyte(s):
- ☐ CCR App III
- ☐ CCR APP IV
- ☐ CCR APP IV Detects
- ☑ Other: CCR App III & CCR App IV

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5/6/2020

QA/QC Signature: [signature] Date: 5-6-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 5/6/2020
Weather: sunny, 50s

Project Name: CPS
Project No./Task No.: 20139767.300A
Event: ISA2020 LAP CCR
Sampler(s): M. Antal
Well ID: Duplicate-LAP
Field Calibration Completed: 0750 on 5/6/2020
Well Diameter: — inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [x] Dedicated Bladder Pump
- [x] YSI ProDSS 17M102551
- [ ] 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
1040	—	—	—	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: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample taken at MW-25
See MW-25 field log for sampling details

Sample Time: 1040
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: CCR App III & CCR App IV constituents

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 5/6/2020
QA/QC Signature: [signature] Date: 5-6-2020

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

June 02, 2020

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

RE: Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory on May 06, 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 - Eden
- Pace Analytical Services - Greensburg

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

Sincerely,

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: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

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
Guam Certification
Florida: Cert E871149 SEKS WET
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 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

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SAMPLE SUMMARY

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92476393001	**MW-29U**	Water	05/04/20 15:18	05/06/20 10:15
92476393002	**MW-35S**	Water	05/04/20 14:20	05/06/20 10:15

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92476393001	**MW-29U**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS, SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476393002	**MW-35S**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS, SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A

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

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SUMMARY OF DETECTION

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476393001	**MW-29U**					
SM 2540C-2011	Total Dissolved Solids	422	mg/L	50.0	05/08/20 15:06	
EPA 6010D	Barium	374	ug/L	5.0	05/16/20 02:58	
EPA 6010D	Cadmium	0.95J	ug/L	1.0	05/16/20 02:58	
EPA 6010D	Calcium	49900	ug/L	100	05/16/20 02:58	M1
EPA 6010D	Lithium	0.68	ug/L	0.50	06/01/20 21:42	
EPA 6020B	Arsenic	25.1	ug/L	0.50	05/15/20 14:37	
EPA 6020B	Cobalt	2.4	ug/L	0.50	05/15/20 14:37	
EPA 6020B	Molybdenum	0.76J	ug/L	2.5	05/15/20 14:37	
EPA 9315	Radium-226	0.459 ± 0.382 (0.613) C:55% T:NA	pCi/L		05/19/20 07:28	
EPA 9320	Radium-228	0.950 ± 0.469 (0.819) C:73% T:82%	pCi/L		05/19/20 12:44	
Total Radium Calculation	Total Radium	1.41 ± 0.851 (1.43)	pCi/L		05/21/20 08:56	
EPA 9056A	Chloride	18.4	mg/L	1.0	05/09/20 16:51	
EPA 9056A	Fluoride	0.19	mg/L	0.10	05/09/20 16:51	
92476393002	**MW-35S**					
SM 2540C-2011	Total Dissolved Solids	89.0	mg/L	25.0	05/08/20 15:08	
EPA 6010D	Barium	27.6	ug/L	5.0	05/16/20 03:11	
EPA 6010D	Calcium	5180	ug/L	100	05/16/20 03:11	
EPA 6010D	Lithium	3.2	ug/L	0.50	06/01/20 21:55	
EPA 6020B	Arsenic	0.097J	ug/L	0.10	05/15/20 14:41	
EPA 6020B	Cobalt	0.36	ug/L	0.10	05/15/20 14:41	
EPA 6020B	Lead	0.094J	ug/L	0.10	05/15/20 14:41	
EPA 6020B	Molybdenum	0.13J	ug/L	0.50	05/15/20 14:41	
EPA 9315	Radium-226	0.548 ± 0.311 (0.329) C:89% T:NA	pCi/L		05/19/20 07:28	
EPA 9320	Radium-228	0.0573 ± 0.319 (0.730) C:80% T:76%	pCi/L		05/19/20 12:44	
Total Radium Calculation	Total Radium	0.605 ± 0.630 (1.06)	pCi/L		05/21/20 08:56	
EPA 9056A	Chloride	8.9	mg/L	1.0	05/09/20 17:33	
EPA 9056A	Sulfate	5.2	mg/L	1.0	05/09/20 17:33	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Sample: MW-29U **Lab ID: 92476393001** Collected: 05/04/20 15:18 Received: 05/06/20 10:15 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	**422**	mg/L	50.0	50.0	1		05/08/20 15:06		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**374**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 02:58	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 02:58	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 02:58	7440-42-8	
Cadmium	**0.95J**	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 02:58	7440-43-9	
Calcium	**49900**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 02:58	7440-70-2	M1
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 02:58	7440-47-3	
Lithium	**0.68**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 21:42	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 02:58	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	2.5	0.62	5	05/15/20 02:04	05/15/20 14:37	7440-36-0	D3
Arsenic	**25.1**	ug/L	0.50	0.43	5	05/15/20 02:04	05/15/20 14:37	7440-38-2	
Cobalt	**2.4**	ug/L	0.50	0.25	5	05/15/20 02:04	05/15/20 14:37	7440-48-4	
Lead	ND	ug/L	0.50	0.38	5	05/15/20 02:04	05/15/20 14:37	7439-92-1	D3
Molybdenum	**0.76J**	ug/L	2.5	0.55	5	05/15/20 02:04	05/15/20 14:37	7439-98-7	
Thallium	ND	ug/L	0.50	0.25	5	05/15/20 02:04	05/15/20 14:37	7440-28-0	D3
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 17:19	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**18.4**	mg/L	1.0	0.60	1		05/09/20 16:51	16887-00-6	
Fluoride	**0.19**	mg/L	0.10	0.050	1		05/09/20 16:51	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/09/20 16:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Sample: MW-35S **Lab ID: 92476393002** Collected: 05/04/20 14:20 Received: 05/06/20 10:15 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	**89.0**	mg/L	25.0	25.0	1		05/08/20 15:08		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**27.6**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:11	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:11	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:11	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:11	7440-43-9	
Calcium	**5180**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:11	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:11	7440-47-3	
Lithium	**3.2**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 21:55	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:11	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 14:41	7440-36-0	
Arsenic	**0.097J**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 14:41	7440-38-2	
Cobalt	**0.36**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 14:41	7440-48-4	
Lead	**0.094J**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 14:41	7439-92-1	
Molybdenum	**0.13J**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 14:41	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 14:41	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 17:21	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**8.9**	mg/L	1.0	0.60	1		05/09/20 17:33	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		05/09/20 17:33	16984-48-8	
Sulfate	**5.2**	mg/L	1.0	0.50	1		05/09/20 17:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 540537
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Eden
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 2881123 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	05/08/20 15:04	

LABORATORY CONTROL SAMPLE: 2881124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	242	97	90-110	

SAMPLE DUPLICATE: 2881125

Parameter	Units	92476393001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	422	420	0	25	

SAMPLE DUPLICATE: 2885646

Parameter	Units	92476217013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	186	216	15	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 540785
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 2882343 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	05/11/20 16:21	

LABORATORY CONTROL SAMPLE: 2882344

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882345 2882346

Parameter	Units	92476488001 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	105	106	75-125	1	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882347 2882348

Parameter	Units	92476875005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.7	2.6	105	102	75-125	3	25	

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QUALITY CONTROL DATA

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 541711
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 2886680 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	05/16/20 02:51	
Beryllium	ug/L	ND	1.0	0.70	05/16/20 02:51	
Boron	ug/L	ND	50.0	32.4	05/16/20 02:51	
Cadmium	ug/L	ND	1.0	0.40	05/16/20 02:51	
Calcium	ug/L	ND	100	94.2	05/16/20 02:51	
Chromium	ug/L	ND	5.0	3.7	05/16/20 02:51	
Selenium	ug/L	ND	10.0	4.7	05/16/20 02:51	

LABORATORY CONTROL SAMPLE: 2886681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	502	100	80-120	
Beryllium	ug/L	500	489	98	80-120	
Boron	ug/L	500	486	97	80-120	
Cadmium	ug/L	500	500	100	80-120	
Calcium	ug/L	5000	5010	100	80-120	
Chromium	ug/L	500	497	99	80-120	
Selenium	ug/L	500	491	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2886682 2886683

Parameter	Units	92476393001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	407	500	500	891	906	103	106	75-125	2	20	
Beryllium	ug/L	ND	500	500	511	516	102	103	75-125	1	20	
Boron	ug/L	0.041J mg/L	500	500	525	531	105	106	75-125	1	20	
Cadmium	ug/L	ND	500	500	521	524	104	105	75-125	1	20	
Calcium	ug/L	53.5 mg/L	5000	5000	55400	56500	110	132	75-125	2	20	M1
Chromium	ug/L	ND	500	500	526	530	105	106	75-125	1	20	
Selenium	ug/L	5.9J	500	500	522	527	104	105	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 543005
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 2892699 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lithium	ug/L	ND	0.50	0.070	06/01/20 21:35	

LABORATORY CONTROL SAMPLE: 2892700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lithium	ug/L	500	530	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2892701 2892702

Parameter	Units	92476393001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lithium	ug/L	0.68	500	500	583	596	117	119	75-125	2		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 541713
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 2886685 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	0.14J	0.50	0.12	05/15/20 14:09	
Arsenic	ug/L	ND	0.10	0.087	05/15/20 14:09	
Cobalt	ug/L	ND	0.10	0.050	05/15/20 14:09	
Lead	ug/L	ND	0.10	0.077	05/15/20 14:09	
Molybdenum	ug/L	ND	0.50	0.11	05/15/20 14:09	
Thallium	ug/L	ND	0.10	0.050	05/15/20 14:09	

LABORATORY CONTROL SAMPLE: 2886686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	52.8	106	80-120	
Arsenic	ug/L	10	10.5	105	80-120	
Cobalt	ug/L	10	10.3	103	80-120	
Lead	ug/L	50	51.5	103	80-120	
Molybdenum	ug/L	50	51.1	102	80-120	
Thallium	ug/L	10	10.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2886687 2886688

Parameter	Units	92476393002 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	50	50	53.5	52.4	107	105	75-125	2	20	
Arsenic	ug/L	0.097J	10	10	10.6	10.3	105	102	75-125	2	20	
Cobalt	ug/L	0.36	10	10	10.8	10.8	105	104	75-125	0	20	
Lead	ug/L	0.094J	50	50	53.0	51.8	106	103	75-125	2	20	
Molybdenum	ug/L	0.13J	50	50	52.1	51.5	104	103	75-125	1	20	
Thallium	ug/L	ND	10	10	10.6	10.4	106	104	75-125	1	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 540645
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 2881713 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	05/09/20 16:23	
Fluoride	mg/L	ND	0.10	0.050	05/09/20 16:23	
Sulfate	mg/L	ND	1.0	0.50	05/09/20 16:23	

LABORATORY CONTROL SAMPLE: 2881714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.2	98	90-110	
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881715 2881716

Parameter	Units	92476393001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	18.4	50	50	66.5	67.3	96	98	90-110	1	10	
Fluoride	mg/L	0.19	2.5	2.5	2.8	2.8	104	106	90-110	2	10	
Sulfate	mg/L	ND	50	50	51.9	52.5	104	105	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881717 2881718

Parameter	Units	2631613009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.2	50	50	56.1	56.7	104	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.9	2.8	114	112	90-110	1	10	M1
Sulfate	mg/L	3.0	50	50	54.3	54.6	103	103	90-110	0	10	

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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: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Sample: MW-29U **Lab ID: 92476393001** Collected: 05/04/20 15:18 Received: 05/06/20 10:15 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	**0.459 ± 0.382 (0.613) C:55% T:NA**	pCi/L	05/19/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.950 ± 0.469 (0.819) C:73% T:82%**	pCi/L	05/19/20 12:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.41 ± 0.851 (1.43)**	pCi/L	05/21/20 08:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Sample: MW-35S **Lab ID: 92476393002** Collected: 05/04/20 14:20 Received: 05/06/20 10:15 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	**0.548 ± 0.311 (0.329) C:89% T:NA**	pCi/L	05/19/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0573 ± 0.319 (0.730) C:80% T:76%**	pCi/L	05/19/20 12:44	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.605 ± 0.630 (1.06)**	pCi/L	05/21/20 08:56	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(704)875-9092

QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 396010
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 1918204 Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0444 ± 0.165 (0.428) C:87% T:NA	pCi/L	05/19/20 07:28	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

QC Batch: 396123
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92476393001, 92476393002

METHOD BLANK: 1918653
Matrix: Water
Associated Lab Samples: 92476393001, 92476393002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0246 ± 0.328 (0.759) C:73% T:84%	pCi/L	05/19/20 12:43	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALIFIERS

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

Act - Activity

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

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 1SA20 CCR (C)
Pace Project No.: 92476393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92476393001	**MW-29U**	SM 2540C-2011	540537		
92476393002	**MW-35S**	SM 2540C-2011	540537		
92476393001	**MW-29U**	EPA 3010A	541711	EPA 6010D	541734
92476393001	**MW-29U**	EPA 3010A	543005	EPA 6010D	543026
92476393002	**MW-35S**	EPA 3010A	541711	EPA 6010D	541734
92476393002	**MW-35S**	EPA 3010A	543005	EPA 6010D	543026
92476393001	**MW-29U**	EPA 3010A	541713	EPA 6020B	541726
92476393002	**MW-35S**	EPA 3010A	541713	EPA 6020B	541726
92476393001	**MW-29U**	EPA 7470A	540785	EPA 7470A	540831
92476393002	**MW-35S**	EPA 7470A	540785	EPA 7470A	540831
92476393001	**MW-29U**	EPA 9315	396010		
92476393002	**MW-35S**	EPA 9315	396010		
92476393001	**MW-29U**	EPA 9320	396123		
92476393002	**MW-35S**	EPA 9320	396123		
92476393001	**MW-29U**	Total Radium Calculation	397369		
92476393002	**MW-35S**	Total Radium Calculation	397369		
92476393001	**MW-29U**	EPA 9056A	540645		
92476393002	**MW-35S**	EPA 9056A	540645		

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Lc MTJL

WO# : 92476393

92476393

ALL SHADED AR

Company: Golder Associates Inc	Billing Information: Accounts Payable
Address: 2108 W Laburnum Ave Ste 200 Richmond 23227	
Report To: Martha Smith	Email To: martha_smith@golder.com
Copy To: Mike Williams	Site Collection Info/Address: 500 Coxendale Rd, Chester VA 23836
Customer Project Name/Number: 1SA2020 CCR BKG GPG / 2013976 7.30.20	State: VA County/City: Chesterfield Co Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET
Phone: 804-358-7900 Email: martha_smith@golder.com	Site/Facility ID #:
Collected By (print): C. Joyce-Ho, Steele	Purchase Order #: Quote #: 7295
Collected By (signature):	Turnaround Date Required: Standard
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [X] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

* 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
MW-29A	GW	G	5-4-2020	1518			N	6
MW-35S	GW	G	5-4-2020	1420			N	6

Container Preservative Type **

1	U	1	1	1	1	1	1	1	1

Analyses

Boron, Calcium	Chloride, Sulfate, TDS, Fluoride	Antimony, Barium, Arsenic	Beryllium, Cadmium, Chromium	Cobalt, Lead, Lithium	Mercury, Molybdenum, Selenium	Thallium	Radium 226	Radium 228	Total Radium
X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X

** 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 _____

Lab Project Manager:

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips:			
Sample pH Acceptable	Y	N	NA
pH Strips:			
Sulfide Present	Y	N	NA
Lead Acetate Strips:			

LAB USE ONLY:
Lab Sample # / Comments:

92476393

Lab Sample #	Comments
001	
002	

Customer Remarks / Special Conditions / Possible Hazards:
Level II Data Package
Report Group C
*All samples preserved on ice

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 #: 2326476

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: 2.9 oC
Cooler 1 Therm Corr. Factor: 0.0 oC
Cooler 1 Corrected Temp: 2.9 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	5-5-2020 1730		5-5-2020 1730
	5-6-2020 10:15		5-6-20 10:15
	5-6-20 10:50	Rachel Burrus	5-6-20 1050

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: 1 of: 1

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

September 28, 2020

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

RE: Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory between May 05, 2020 and May 07, 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 - Eden
- Pace Analytical Services - Greensburg

This revision was issued on 7/30/20 to correctly report the 6010 metals data for samples MW-32 (92476217-014) and ,MW-34 (92476217-015)

This revision was issued on 9/28/20 to update MS/MSD data in the 6020 fraction.

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: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

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
Guam Certification
Florida: Cert E871149 SEKS WET
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 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

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SAMPLE SUMMARY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92476217001	**MW-B50**	Water	05/05/20 09:19	05/05/20 15:23
92476217002	**MW-B40A**	Water	05/05/20 10:15	05/05/20 15:23
92476217003	**MW-33**	Water	05/05/20 13:40	05/05/20 15:23
92476217004	**MW-24**	Water	05/05/20 13:25	05/05/20 15:23
92476217005	**MW-23**	Water	05/05/20 15:36	05/06/20 10:15
92476217006	**Field Blank-LAP**	Water	05/05/20 15:00	05/06/20 10:15
92476217007	**MW-26**	Water	05/05/20 15:22	05/06/20 10:15
92476217008	**MW-20**	Water	05/06/20 10:30	05/07/20 10:00
92476217009	**MW-21**	Water	05/06/20 11:58	05/07/20 10:00
92476217010	**MW-28**	Water	05/06/20 09:22	05/07/20 10:00
92476217011	**MW-25**	Water	05/06/20 10:31	05/07/20 10:00
92476217012	**MW-27**	Water	05/06/20 08:54	05/07/20 10:00
92476217013	**MW-22**	Water	05/06/20 13:27	05/07/20 10:00
92476217014	**MW-32**	Water	05/06/20 15:23	05/07/20 10:00
92476217015	**MW-34**	Water	05/06/20 12:08	05/07/20 10:00
92476217016	**Equipment Blank-LAP**	Water	05/06/20 09:25	05/07/20 10:00
92476217017	**Duplicate-LAP**	Water	05/06/20 10:40	05/07/20 10:00

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92476217001	**MW-B50**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217002	**MW-B40A**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217003	**MW-33**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217004	**MW-24**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217005	**MW-23**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	LAL	1	PASI-PA

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
92476217006	**Field Blank-LAP**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217007	**MW-26**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217008	**MW-20**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217009	**MW-21**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	BRJ	3	PASI-A
92476217010	**MW-28**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A

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SAMPLE ANALYTE COUNT

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A
92476217011	**MW-25**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A
92476217012	**MW-27**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A
92476217013	**MW-22**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A
92476217014	**MW-32**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	DS	8	PASI-A
		EPA 6020B	BG2	6	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

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SAMPLE ANALYTE COUNT

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9056A	CDC	3	PASI-A
92476217015	**MW-34**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	DS	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A
92476217016	**Equipment Blank-LAP**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	RDT, SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A
92476217017	**Duplicate-LAP**	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	RDT, SH1	8	PASI-A
		EPA 6020B	BG2	6	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
		EPA 9056A	CDC	3	PASI-A

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

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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217001	**MW-B50**					
SM 2540C-2011	Total Dissolved Solids	472	mg/L	50.0	05/07/20 10:13	
EPA 6010D	Barium	121	ug/L	5.0	05/16/20 03:40	
EPA 6010D	Boron	370	ug/L	50.0	05/16/20 03:40	
EPA 6010D	Calcium	89700	ug/L	100	05/16/20 03:40	
EPA 6010D	Lithium	0.88	ug/L	0.50	06/01/20 22:14	
EPA 6020B	Arsenic	1.6	ug/L	0.10	05/15/20 15:26	
EPA 6020B	Cobalt	1.3	ug/L	0.10	05/15/20 15:26	
EPA 6020B	Lead	0.26	ug/L	0.10	05/15/20 15:26	
EPA 6020B	Molybdenum	0.48J	ug/L	0.50	05/15/20 15:26	
EPA 6020B	Thallium	0.11	ug/L	0.10	05/15/20 15:26	
EPA 9315	Radium-226	0.279 ± 0.237 (0.376) C:88% T:NA	pCi/L		05/19/20 07:28	
EPA 9320	Radium-228	0.278 ± 0.378 (0.809) C:72% T:83%	pCi/L		06/02/20 15:45	
Total Radium Calculation	Total Radium	0.557 ± 0.615 (1.19)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	119	mg/L	3.0	05/10/20 08:07	M1
EPA 9056A	Fluoride	0.11	mg/L	0.10	05/10/20 04:03	
EPA 9056A	Sulfate	46.9	mg/L	1.0	05/10/20 04:03	
92476217002	**MW-B40A**					
SM 2540C-2011	Total Dissolved Solids	251	mg/L	25.0	05/07/20 10:14	
EPA 6010D	Barium	178	ug/L	5.0	05/16/20 03:43	
EPA 6010D	Boron	1100	ug/L	50.0	05/16/20 03:43	
EPA 6010D	Calcium	34000	ug/L	100	05/16/20 03:43	
EPA 6010D	Lithium	0.13J	ug/L	0.50	06/01/20 22:17	
EPA 6020B	Arsenic	8.1	ug/L	0.10	05/15/20 15:30	
EPA 6020B	Cobalt	0.14	ug/L	0.10	05/15/20 15:30	
EPA 6020B	Lead	0.14	ug/L	0.10	05/15/20 15:30	
EPA 6020B	Molybdenum	0.73	ug/L	0.50	05/15/20 15:30	
EPA 9315	Radium-226	0.342 ± 0.239 (0.316) C:96% T:NA	pCi/L		05/19/20 07:28	
EPA 9320	Radium-228	0.487 ± 0.469 (0.971) C:66% T:89%	pCi/L		06/02/20 15:45	
Total Radium Calculation	Total Radium	0.829 ± 0.708 (1.29)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	46.6	mg/L	1.0	05/10/20 04:45	
EPA 9056A	Fluoride	0.12	mg/L	0.10	05/10/20 04:45	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217003	**MW-33**					
SM 2540C-2011	Total Dissolved Solids	117	mg/L	25.0	05/07/20 10:16	
EPA 6010D	Barium	173	ug/L	5.0	05/16/20 03:47	
EPA 6010D	Boron	43.8J	ug/L	50.0	05/16/20 03:47	
EPA 6010D	Calcium	24800	ug/L	100	05/16/20 03:47	
EPA 6010D	Lithium	0.15J	ug/L	0.50	06/01/20 22:21	
EPA 6020B	Arsenic	9.3	ug/L	0.10	05/15/20 15:34	
EPA 6020B	Cobalt	2.4	ug/L	0.10	05/15/20 15:34	
EPA 6020B	Lead	0.12	ug/L	0.10	05/15/20 15:34	
EPA 6020B	Molybdenum	2.3	ug/L	0.50	05/15/20 15:34	
EPA 9315	Radium-226	0.518 ± 0.285 (0.318) C:99% T:NA	pCi/L		05/19/20 07:29	
EPA 9320	Radium-228	1.19 ± 0.826 (1.65) C:70% T:88%	pCi/L		06/02/20 18:35	
Total Radium Calculation	Total Radium	1.71 ± 1.11 (1.97)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	22.6	mg/L	1.0	05/10/20 04:59	
EPA 9056A	Fluoride	0.11	mg/L	0.10	05/10/20 04:59	
92476217004	**MW-24**					
SM 2540C-2011	Total Dissolved Solids	253	mg/L	25.0	05/07/20 10:17	
EPA 6010D	Barium	328	ug/L	5.0	05/16/20 03:50	
EPA 6010D	Boron	556	ug/L	50.0	05/16/20 03:50	
EPA 6010D	Calcium	34800	ug/L	100	05/16/20 03:50	
EPA 6010D	Lithium	0.18J	ug/L	0.50	06/01/20 22:24	
EPA 6020B	Arsenic	10.3	ug/L	0.10	05/15/20 15:38	
EPA 6020B	Cobalt	1.5	ug/L	0.10	05/15/20 15:38	
EPA 6020B	Molybdenum	2.4	ug/L	0.50	05/15/20 15:38	
EPA 9315	Radium-226	0.629 ± 0.358 (0.450) C:81% T:NA	pCi/L		05/19/20 07:29	
EPA 9320	Radium-228	0.914 ± 0.479 (0.860) C:70% T:87%	pCi/L		06/02/20 15:45	
Total Radium Calculation	Total Radium	1.54 ± 0.837 (1.31)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	51.9	mg/L	1.0	05/10/20 05:13	
EPA 9056A	Fluoride	0.088J	mg/L	0.10	05/10/20 05:13	
92476217005	**MW-23**					
SM 2540C-2011	Total Dissolved Solids	328	mg/L	50.0	05/08/20 15:13	
EPA 6010D	Barium	215	ug/L	5.0	05/16/20 03:53	
EPA 6010D	Calcium	74200	ug/L	100	05/16/20 03:53	
EPA 6010D	Lithium	2.0	ug/L	0.50	06/01/20 22:27	

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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217005	**MW-23**					
EPA 6020B	Arsenic	18.0	ug/L	0.10	05/15/20 15:54	
EPA 6020B	Cobalt	2.0	ug/L	0.10	05/15/20 15:54	
EPA 6020B	Lead	0.11	ug/L	0.10	05/15/20 15:54	
EPA 6020B	Molybdenum	3.2	ug/L	0.50	05/15/20 15:54	
EPA 9315	Radium-226	0.286 ± 0.255 (0.436) C:86% T:NA	pCi/L		05/19/20 07:27	
EPA 9320	Radium-228	0.208 ± 0.676 (1.51) C:67% T:90%	pCi/L		06/02/20 18:35	
Total Radium Calculation	Total Radium	0.494 ± 0.931 (1.95)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	2.3	mg/L	1.0	05/10/20 05:27	
EPA 9056A	Fluoride	0.27	mg/L	0.10	05/10/20 05:27	
EPA 9056A	Sulfate	3.0	mg/L	1.0	05/10/20 05:27	
92476217006	**Field Blank-LAP**					
EPA 9315	Radium-226	-0.0354 ± 0.119 (0.426) C:81% T:NA	pCi/L		05/19/20 07:29	
EPA 9320	Radium-228	0.796 ± 0.713 (1.46) C:70% T:76%	pCi/L		06/02/20 18:35	
Total Radium Calculation	Total Radium	0.796 ± 0.832 (1.89)	pCi/L		06/03/20 10:38	
92476217007	**MW-26**					
SM 2540C-2011	Total Dissolved Solids	101	mg/L	25.0	05/08/20 15:15	
EPA 6010D	Barium	34.4	ug/L	5.0	05/16/20 04:06	
EPA 6010D	Calcium	6750	ug/L	100	05/16/20 04:06	
EPA 6010D	Lithium	2.7	ug/L	0.50	06/01/20 22:34	
EPA 6020B	Arsenic	5.8	ug/L	0.10	05/15/20 15:58	
EPA 6020B	Cobalt	2.6	ug/L	0.10	05/15/20 15:58	
EPA 6020B	Molybdenum	0.79	ug/L	0.50	05/15/20 15:58	
EPA 9315	Radium-226	0.288 ± 0.245 (0.402) C:89% T:NA	pCi/L		05/19/20 07:29	
EPA 9320	Radium-228	0.189 ± 0.802 (1.80) C:67% T:77%	pCi/L		06/02/20 18:35	
Total Radium Calculation	Total Radium	0.477 ± 1.05 (2.20)	pCi/L		06/03/20 10:38	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217007	**MW-26**					
EPA 9056A	Chloride	7.3	mg/L	1.0	05/10/20 05:55	
EPA 9056A	Fluoride	0.097J	mg/L	0.10	05/10/20 05:55	
EPA 9056A	Sulfate	2.4	mg/L	1.0	05/10/20 05:55	
92476217008	**MW-20**					
SM 2540C-2011	Total Dissolved Solids	392	mg/L	50.0	05/08/20 15:19	
EPA 6010D	Barium	19.4	ug/L	5.0	05/16/20 04:10	
EPA 6010D	Boron	429	ug/L	50.0	05/16/20 04:10	
EPA 6010D	Cadmium	0.98J	ug/L	1.0	05/16/20 04:10	
EPA 6010D	Calcium	34300	ug/L	100	05/16/20 04:10	
EPA 6010D	Lithium	3.5	ug/L	0.50	06/01/20 22:37	
EPA 6020B	Arsenic	0.66	ug/L	0.10	05/15/20 16:02	
EPA 6020B	Cobalt	77.8	ug/L	1.0	05/15/20 16:26	
EPA 6020B	Lead	0.42	ug/L	0.10	05/15/20 16:02	
EPA 6020B	Thallium	0.22	ug/L	0.10	05/15/20 16:02	
EPA 9315	Radium-226	0.216 ± 0.257 (0.521) C:82% T:NA	pCi/L		05/19/20 07:23	
EPA 9320	Radium-228	0.471 ± 0.543 (1.14) C:65% T:86%	pCi/L		06/02/20 18:25	
Total Radium Calculation	Total Radium	0.687 ± 0.800 (1.66)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	36.2	mg/L	1.0	05/10/20 06:09	
EPA 9056A	Fluoride	0.052J	mg/L	0.10	05/10/20 06:09	
EPA 9056A	Sulfate	159	mg/L	3.0	05/10/20 08:53	
92476217009	**MW-21**					
SM 2540C-2011	Total Dissolved Solids	438	mg/L	50.0	05/08/20 15:19	
EPA 6010D	Barium	48.9	ug/L	5.0	05/16/20 04:13	
EPA 6010D	Boron	455	ug/L	50.0	05/16/20 04:13	
EPA 6010D	Calcium	41200	ug/L	100	05/16/20 04:13	
EPA 6010D	Lithium	2.3	ug/L	0.50	06/01/20 22:40	
EPA 6020B	Arsenic	1.1	ug/L	0.10	05/15/20 16:06	
EPA 6020B	Cobalt	15.8	ug/L	0.10	05/15/20 16:06	
EPA 6020B	Lead	0.12	ug/L	0.10	05/15/20 16:06	
EPA 6020B	Molybdenum	0.25J	ug/L	0.50	05/15/20 16:06	
EPA 9315	Radium-226	0.275 ± 0.305 (0.630) C:91% T:NA	pCi/L		05/19/20 07:24	
EPA 9320	Radium-228	0.320 ± 0.638 (1.40) C:66% T:79%	pCi/L		06/02/20 18:31	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217009	**MW-21**					
Total Radium Calculation	Total Radium	0.595 ± 0.943 (2.03)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	57.8	mg/L	1.0	05/10/20 07:05	
EPA 9056A	Fluoride	0.058J	mg/L	0.10	05/10/20 07:05	
EPA 9056A	Sulfate	114	mg/L	2.0	05/10/20 09:09	
92476217010	**MW-28**					
SM 2540C-2011	Total Dissolved Solids	354	mg/L	50.0	05/08/20 15:20	
EPA 6010D	Barium	90.5	ug/L	5.0	05/16/20 04:16	
EPA 6010D	Boron	166	ug/L	50.0	05/16/20 04:16	
EPA 6010D	Calcium	64300	ug/L	100	05/16/20 04:16	
EPA 6010D	Lithium	16.6	ug/L	0.50	06/01/20 22:50	
EPA 6020B	Arsenic	172	ug/L	1.0	05/15/20 16:30	
EPA 6020B	Cobalt	4.4	ug/L	0.10	05/15/20 16:10	
EPA 6020B	Molybdenum	11.6	ug/L	0.50	05/15/20 16:10	
EPA 9315	Radium-226	0.465 ± 0.333 (0.524) C:78% T:NA	pCi/L		05/19/20 07:18	
EPA 9320	Radium-228	0.343 ± 0.472 (1.01) C:71% T:86%	pCi/L		06/02/20 18:24	
Total Radium Calculation	Total Radium	0.808 ± 0.805 (1.53)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	31.2	mg/L	1.0	05/12/20 20:00	
EPA 9056A	Fluoride	0.34	mg/L	0.10	05/12/20 20:00	
EPA 9056A	Sulfate	31.1	mg/L	1.0	05/12/20 20:00	
92476217011	**MW-25**					
SM 2540C-2011	Total Dissolved Solids	294	mg/L	50.0	05/08/20 15:22	
EPA 6010D	Barium	91.7	ug/L	5.0	05/16/20 04:19	
EPA 6010D	Calcium	32300	ug/L	100	05/16/20 04:19	
EPA 6010D	Lithium	1.8	ug/L	0.50	06/01/20 22:53	
EPA 6020B	Arsenic	9.9	ug/L	0.10	05/15/20 16:14	
EPA 6020B	Cobalt	0.70	ug/L	0.10	05/15/20 16:14	
EPA 6020B	Lead	0.16	ug/L	0.10	05/15/20 16:14	
EPA 6020B	Molybdenum	2.7	ug/L	0.50	05/15/20 16:14	
EPA 9315	Radium-226	0.248 ± 0.238 (0.448) C:96% T:NA	pCi/L		05/19/20 07:24	
EPA 9320	Radium-228	0.591 ± 0.562 (1.15) C:67% T:84%	pCi/L		06/02/20 18:26	

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Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217011	**MW-25**					
Total Radium Calculation	Total Radium	0.839 ± 0.800 (1.60)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	5.5	mg/L	1.0	05/12/20 21:27	
EPA 9056A	Fluoride	0.36	mg/L	0.10	05/12/20 21:27	
EPA 9056A	Sulfate	7.4	mg/L	1.0	05/12/20 21:27	
92476217012	**MW-27**					
SM 2540C-2011	Total Dissolved Solids	258	mg/L	50.0	05/08/20 15:23	
EPA 6010D	Barium	73.3	ug/L	5.0	05/16/20 04:23	
EPA 6010D	Boron	381	ug/L	50.0	05/16/20 04:23	
EPA 6010D	Calcium	19700	ug/L	100	05/16/20 04:23	
EPA 6010D	Lithium	2.0	ug/L	0.50	06/01/20 22:56	
EPA 6020B	Arsenic	0.17	ug/L	0.10	05/15/20 16:18	
EPA 6020B	Cobalt	9.9	ug/L	0.10	05/15/20 16:18	
EPA 9315	Radium-226	2.33 ± 0.673 (0.446) C:92% T:NA	pCi/L		05/19/20 07:18	
EPA 9320	Radium-228	2.64 ± 0.918 (1.30) C:68% T:78%	pCi/L		06/02/20 18:23	
Total Radium Calculation	Total Radium	4.97 ± 1.59 (1.75)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	40.0	mg/L	1.0	05/12/20 21:42	
EPA 9056A	Sulfate	28.1	mg/L	1.0	05/12/20 21:42	
92476217013	**MW-22**					
SM 2540C-2011	Total Dissolved Solids	186	mg/L	50.0	05/08/20 15:23	
EPA 6010D	Barium	128	ug/L	5.0	05/16/20 04:26	
EPA 6010D	Boron	529	ug/L	50.0	05/16/20 04:26	
EPA 6010D	Calcium	27100	ug/L	100	05/16/20 04:26	
EPA 6010D	Lithium	3.2	ug/L	0.50	06/01/20 22:59	
EPA 6020B	Arsenic	0.34	ug/L	0.10	05/15/20 16:22	
EPA 6020B	Cobalt	9.0	ug/L	0.10	05/15/20 16:22	
EPA 6020B	Lead	0.12	ug/L	0.10	05/15/20 16:22	
EPA 6020B	Molybdenum	0.12J	ug/L	0.50	05/15/20 16:22	
EPA 9315	Radium-226	1.20 ± 0.474 (0.488) C:94% T:NA	pCi/L		05/19/20 07:18	
EPA 9320	Radium-228	0.179 ± 0.540 (1.21) C:71% T:82%	pCi/L		06/02/20 18:31	
Total Radium Calculation	Total Radium	1.38 ± 1.01 (1.70)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	25.3	mg/L	1.0	05/12/20 21:56	
EPA 9056A	Fluoride	0.070J	mg/L	0.10	05/12/20 21:56	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217013	**MW-22**					
EPA 9056A	Sulfate	28.5	mg/L	1.0	05/12/20 21:56	
92476217014	**MW-32**					
SM 2540C-2011	Total Dissolved Solids	159	mg/L	25.0	05/11/20 13:54	
EPA 6010D	Barium	102	ug/L	5.0	06/17/20 17:28	
EPA 6010D	Calcium	28200	ug/L	100	06/17/20 17:28	
EPA 6010D	Lithium	2.1	ug/L	0.50	06/17/20 17:28	
EPA 6020B	Arsenic	12.5	ug/L	0.10	05/22/20 17:29	
EPA 6020B	Cobalt	1.4	ug/L	0.10	05/22/20 17:29	
EPA 6020B	Molybdenum	1.8	ug/L	0.50	05/22/20 17:29	
EPA 9315	Radium-226	-0.0372 ± 0.232 (0.654) C:94% T:NA	pCi/L		05/19/20 07:19	
EPA 9320	Radium-228	1.03 ± 0.595 (1.09) C:68% T:86%	pCi/L		06/02/20 18:31	
Total Radium Calculation	Total Radium	1.03 ± 0.827 (1.74)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	1.7	mg/L	1.0	05/12/20 22:11	
EPA 9056A	Fluoride	0.42	mg/L	0.10	05/12/20 22:11	
EPA 9056A	Sulfate	0.80J	mg/L	1.0	05/12/20 22:11	
92476217015	**MW-34**					
SM 2540C-2011	Total Dissolved Solids	341	mg/L	25.0	05/11/20 13:57	
EPA 6010D	Barium	230	ug/L	5.0	06/17/20 17:48	
EPA 6010D	Boron	1170	ug/L	50.0	06/17/20 17:48	
EPA 6010D	Calcium	47700	ug/L	100	06/17/20 17:48	
EPA 6010D	Lithium	0.25J	ug/L	0.50	06/17/20 17:48	
EPA 6020B	Arsenic	9.7	ug/L	0.10	05/22/20 17:33	
EPA 6020B	Cobalt	2.4	ug/L	0.10	05/22/20 17:33	
EPA 6020B	Lead	0.55	ug/L	0.10	05/22/20 17:33	
EPA 6020B	Molybdenum	1.6	ug/L	0.50	05/22/20 17:33	
EPA 9315	Radium-226	0.0204 ± 0.227 (0.632) C:62% T:NA	pCi/L		05/19/20 07:18	
EPA 9320	Radium-228	0.287 ± 0.563 (1.24) C:66% T:83%	pCi/L		06/02/20 18:30	
Total Radium Calculation	Total Radium	0.307 ± 0.790 (1.87)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	100	mg/L	1.0	05/12/20 22:25	
EPA 9056A	Fluoride	0.10	mg/L	0.10	05/12/20 22:25	

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SUMMARY OF DETECTION

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92476217016	**Equipment Blank-LAP**					
EPA 9315	Radium-226	-0.0901 ± 0.225 (0.677) C:81% T:NA	pCi/L		05/19/20 07:23	
EPA 9320	Radium-228	0.914 ± 0.602 (1.14) C:67% T:81%	pCi/L		06/02/20 18:25	
Total Radium Calculation	Total Radium	0.914 ± 0.827 (1.82)	pCi/L		06/03/20 10:38	
92476217017	**Duplicate-LAP**					
SM 2540C-2011	Total Dissolved Solids	211	mg/L	25.0	05/11/20 13:59	
EPA 6010D	Barium	84.4	ug/L	5.0	05/24/20 18:23	
EPA 6010D	Calcium	27900	ug/L	100	05/24/20 18:23	
EPA 6010D	Lithium	1.8	ug/L	0.50	06/01/20 23:12	
EPA 6020B	Arsenic	9.0	ug/L	0.10	05/22/20 17:37	
EPA 6020B	Cobalt	0.64	ug/L	0.10	05/22/20 17:37	
EPA 6020B	Lead	0.11	ug/L	0.10	05/22/20 17:37	
EPA 6020B	Molybdenum	2.5	ug/L	0.50	05/22/20 17:37	
EPA 9315	Radium-226	0.317 ± 0.278 (0.507) C:89% T:NA	pCi/L		05/19/20 07:24	
EPA 9320	Radium-228	0.666 ± 0.547 (1.09) C:70% T:83%	pCi/L		06/02/20 18:26	
Total Radium Calculation	Total Radium	0.983 ± 0.825 (1.60)	pCi/L		06/03/20 10:38	
EPA 9056A	Chloride	5.7	mg/L	1.0	05/12/20 22:54	
EPA 9056A	Fluoride	0.34	mg/L	0.10	05/12/20 22:54	
EPA 9056A	Sulfate	6.6	mg/L	1.0	05/12/20 22:54	

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-B50 **Lab ID: 92476217001** Collected: 05/05/20 09:19 Received: 05/05/20 15:23 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	**472**	mg/L	50.0	50.0	1		05/07/20 10:13		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**121**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:40	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:40	7440-41-7	
Boron	**370**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:40	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:40	7440-43-9	
Calcium	**89700**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:40	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:40	7440-47-3	
Lithium	**0.88**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:14	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:40	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 15:26	7440-36-0	
Arsenic	**1.6**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 15:26	7440-38-2	
Cobalt	**1.3**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:26	7440-48-4	
Lead	**0.26**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 15:26	7439-92-1	
Molybdenum	**0.48J**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 15:26	7439-98-7	
Thallium	**0.11**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:02	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**119**	mg/L	3.0	1.8	3		05/10/20 08:07	16887-00-6	M1
Fluoride	**0.11**	mg/L	0.10	0.050	1		05/10/20 04:03	16984-48-8	
Sulfate	**46.9**	mg/L	1.0	0.50	1		05/10/20 04:03	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-B40A **Lab ID: 92476217002** Collected: 05/05/20 10:15 Received: 05/05/20 15:23 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	**251**	mg/L	25.0	25.0	1		05/07/20 10:14		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**178**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:43	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:43	7440-41-7	
Boron	**1100**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:43	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:43	7440-43-9	
Calcium	**34000**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:43	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:43	7440-47-3	
Lithium	**0.13J**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:17	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:43	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 15:30	7440-36-0	
Arsenic	**8.1**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 15:30	7440-38-2	
Cobalt	**0.14**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:30	7440-48-4	
Lead	**0.14**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 15:30	7439-92-1	
Molybdenum	**0.73**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 15:30	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:05	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**46.6**	mg/L	1.0	0.60	1		05/10/20 04:45	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.050	1		05/10/20 04:45	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/10/20 04:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-33 **Lab ID: 92476217003** Collected: 05/05/20 13:40 Received: 05/05/20 15:23 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	**117**	mg/L	25.0	25.0	1		05/07/20 10:16		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**173**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:47	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:47	7440-41-7	
Boron	**43.8J**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:47	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:47	7440-43-9	
Calcium	**24800**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:47	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:47	7440-47-3	
Lithium	**0.15J**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:21	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:47	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 15:34	7440-36-0	
Arsenic	**9.3**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 15:34	7440-38-2	
Cobalt	**2.4**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:34	7440-48-4	
Lead	**0.12**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 15:34	7439-92-1	
Molybdenum	**2.3**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 15:34	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:34	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:07	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**22.6**	mg/L	1.0	0.60	1		05/10/20 04:59	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.050	1		05/10/20 04:59	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/10/20 04:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-24 **Lab ID: 92476217004** Collected: 05/05/20 13:25 Received: 05/05/20 15:23 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	**253**	mg/L	25.0	25.0	1		05/07/20 10:17		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**328**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:50	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:50	7440-41-7	
Boron	**556**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:50	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:50	7440-43-9	
Calcium	**34800**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:50	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:50	7440-47-3	
Lithium	**0.18J**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:24	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:50	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 15:38	7440-36-0	
Arsenic	**10.3**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 15:38	7440-38-2	
Cobalt	**1.5**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:38	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 15:38	7439-92-1	
Molybdenum	**2.4**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 15:38	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:10	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**51.9**	mg/L	1.0	0.60	1		05/10/20 05:13	16887-00-6	
Fluoride	**0.088J**	mg/L	0.10	0.050	1		05/10/20 05:13	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/10/20 05:13	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-23 **Lab ID: 92476217005** Collected: 05/05/20 15:36 Received: 05/06/20 10:15 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	**328**	mg/L	50.0	50.0	1		05/08/20 15:13		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**215**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:53	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:53	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:53	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:53	7440-43-9	
Calcium	**74200**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:53	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:53	7440-47-3	
Lithium	**2.0**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:27	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:53	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 15:54	7440-36-0	
Arsenic	**18.0**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 15:54	7440-38-2	
Cobalt	**2.0**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:54	7440-48-4	
Lead	**0.11**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 15:54	7439-92-1	
Molybdenum	**3.2**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 15:54	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:12	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**2.3**	mg/L	1.0	0.60	1		05/10/20 05:27	16887-00-6	
Fluoride	**0.27**	mg/L	0.10	0.050	1		05/10/20 05:27	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	0.50	1		05/10/20 05:27	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: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: Field Blank-LAP **Lab ID: 92476217006** Collected: 05/05/20 15:00 Received: 05/06/20 10:15 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		05/08/20 15:13		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	ND	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 03:57	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 03:57	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 03:57	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 03:57	7440-43-9	
Calcium	ND	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 03:57	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 03:57	7440-47-3	
Lithium	ND	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:30	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 03:57	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 14:29	7440-36-0	
Arsenic	ND	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 14:29	7440-38-2	
Cobalt	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 14:29	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 14:29	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 14:29	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 14:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:19	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		05/10/20 05:41	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		05/10/20 05:41	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/10/20 05:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-26 **Lab ID: 92476217007** Collected: 05/05/20 15:22 Received: 05/06/20 10:15 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	**101**	mg/L	25.0	25.0	1		05/08/20 15:15		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**34.4**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:06	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:06	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:06	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:06	7440-43-9	
Calcium	**6750**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:06	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:06	7440-47-3	
Lithium	**2.7**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:34	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:06	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 15:58	7440-36-0	
Arsenic	**5.8**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 15:58	7440-38-2	
Cobalt	**2.6**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:58	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 15:58	7439-92-1	
Molybdenum	**0.79**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 15:58	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 15:58	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:21	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**7.3**	mg/L	1.0	0.60	1		05/10/20 05:55	16887-00-6	
Fluoride	**0.097J**	mg/L	0.10	0.050	1		05/10/20 05:55	16984-48-8	
Sulfate	**2.4**	mg/L	1.0	0.50	1		05/10/20 05:55	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-20 **Lab ID: 92476217008** Collected: 05/06/20 10:30 Received: 05/07/20 10:00 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	**392**	mg/L	50.0	50.0	1		05/08/20 15:19		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**19.4**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:10	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:10	7440-41-7	
Boron	**429**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:10	7440-42-8	
Cadmium	**0.98J**	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:10	7440-43-9	
Calcium	**34300**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:10	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:10	7440-47-3	
Lithium	**3.5**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:37	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:10	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 16:02	7440-36-0	
Arsenic	**0.66**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 16:02	7440-38-2	
Cobalt	**77.8**	ug/L	1.0	0.50	10	05/15/20 02:04	05/15/20 16:26	7440-48-4	
Lead	**0.42**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 16:02	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 16:02	7439-98-7	
Thallium	**0.22**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:02	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:24	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**36.2**	mg/L	1.0	0.60	1		05/10/20 06:09	16887-00-6	
Fluoride	**0.052J**	mg/L	0.10	0.050	1		05/10/20 06:09	16984-48-8	
Sulfate	**159**	mg/L	3.0	1.5	3		05/10/20 08:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-21 **Lab ID: 92476217009** Collected: 05/06/20 11:58 Received: 05/07/20 10:00 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	**438**	mg/L	50.0	50.0	1		05/08/20 15:19		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**48.9**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:13	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:13	7440-41-7	
Boron	**455**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:13	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:13	7440-43-9	
Calcium	**41200**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:13	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:13	7440-47-3	
Lithium	**2.3**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:40	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:13	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 16:06	7440-36-0	
Arsenic	**1.1**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 16:06	7440-38-2	
Cobalt	**15.8**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:06	7440-48-4	
Lead	**0.12**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 16:06	7439-92-1	
Molybdenum	**0.25J**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 16:06	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:06	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/11/20 10:28	05/11/20 19:26	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**57.8**	mg/L	1.0	0.60	1		05/10/20 07:05	16887-00-6	
Fluoride	**0.058J**	mg/L	0.10	0.050	1		05/10/20 07:05	16984-48-8	
Sulfate	**114**	mg/L	2.0	1.0	2		05/10/20 09:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-28 **Lab ID: 92476217010** Collected: 05/06/20 09:22 Received: 05/07/20 10:00 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	**354**	mg/L	50.0	50.0	1		05/08/20 15:20		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**90.5**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:16	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:16	7440-41-7	
Boron	**166**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:16	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:16	7440-43-9	
Calcium	**64300**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:16	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:16	7440-47-3	
Lithium	**16.6**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:50	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:16	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 16:10	7440-36-0	
Arsenic	**172**	ug/L	1.0	0.87	10	05/15/20 02:04	05/15/20 16:30	7440-38-2	
Cobalt	**4.4**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:10	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 16:10	7439-92-1	
Molybdenum	**11.6**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 16:10	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:10	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:17	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**31.2**	mg/L	1.0	0.60	1		05/12/20 20:00	16887-00-6	
Fluoride	**0.34**	mg/L	0.10	0.050	1		05/12/20 20:00	16984-48-8	
Sulfate	**31.1**	mg/L	1.0	0.50	1		05/12/20 20:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-25 **Lab ID: 92476217011** Collected: 05/06/20 10:31 Received: 05/07/20 10:00 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	**294**	mg/L	50.0	50.0	1		05/08/20 15:22		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**91.7**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:19	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:19	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:19	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:19	7440-43-9	
Calcium	**32300**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:19	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:19	7440-47-3	
Lithium	**1.8**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:53	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:19	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 16:14	7440-36-0	
Arsenic	**9.9**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 16:14	7440-38-2	
Cobalt	**0.70**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:14	7440-48-4	
Lead	**0.16**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 16:14	7439-92-1	
Molybdenum	**2.7**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 16:14	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:14	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:24	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**5.5**	mg/L	1.0	0.60	1		05/12/20 21:27	16887-00-6	
Fluoride	**0.36**	mg/L	0.10	0.050	1		05/12/20 21:27	16984-48-8	
Sulfate	**7.4**	mg/L	1.0	0.50	1		05/12/20 21:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-27 **Lab ID: 92476217012** Collected: 05/06/20 08:54 Received: 05/07/20 10:00 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	**258**	mg/L	50.0	50.0	1		05/08/20 15:23		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**73.3**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:23	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:23	7440-41-7	
Boron	**381**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:23	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:23	7440-43-9	
Calcium	**19700**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:23	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:23	7440-47-3	
Lithium	**2.0**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:56	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:23	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 16:18	7440-36-0	
Arsenic	**0.17**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 16:18	7440-38-2	
Cobalt	**9.9**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:18	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 16:18	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 16:18	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:18	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:27	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**40.0**	mg/L	1.0	0.60	1		05/12/20 21:42	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		05/12/20 21:42	16984-48-8	
Sulfate	**28.1**	mg/L	1.0	0.50	1		05/12/20 21:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-22 **Lab ID: 92476217013** Collected: 05/06/20 13:27 Received: 05/07/20 10:00 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	**186**	mg/L	50.0	50.0	1		05/08/20 15:23		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**128**	ug/L	5.0	3.5	1	05/15/20 03:04	05/16/20 04:26	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/15/20 03:04	05/16/20 04:26	7440-41-7	
Boron	**529**	ug/L	50.0	32.4	1	05/15/20 03:04	05/16/20 04:26	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/15/20 03:04	05/16/20 04:26	7440-43-9	
Calcium	**27100**	ug/L	100	94.2	1	05/15/20 03:04	05/16/20 04:26	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/15/20 03:04	05/16/20 04:26	7440-47-3	
Lithium	**3.2**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 22:59	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/15/20 03:04	05/16/20 04:26	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/15/20 02:04	05/15/20 16:22	7440-36-0	
Arsenic	**0.34**	ug/L	0.10	0.087	1	05/15/20 02:04	05/15/20 16:22	7440-38-2	
Cobalt	**9.0**	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:22	7440-48-4	
Lead	**0.12**	ug/L	0.10	0.077	1	05/15/20 02:04	05/15/20 16:22	7439-92-1	
Molybdenum	**0.12J**	ug/L	0.50	0.11	1	05/15/20 02:04	05/15/20 16:22	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/15/20 02:04	05/15/20 16:22	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:29	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**25.3**	mg/L	1.0	0.60	1		05/12/20 21:56	16887-00-6	
Fluoride	**0.070J**	mg/L	0.10	0.050	1		05/12/20 21:56	16984-48-8	
Sulfate	**28.5**	mg/L	1.0	0.50	1		05/12/20 21:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-32 **Lab ID: 92476217014** Collected: 05/06/20 15:23 Received: 05/07/20 10:00 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	**159**	mg/L	25.0	25.0	1		05/11/20 13:54		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**102**	ug/L	5.0	3.5	1	06/17/20 01:22	06/17/20 17:28	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	06/17/20 01:22	06/17/20 17:28	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	06/17/20 01:22	06/17/20 17:28	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	06/17/20 01:22	06/17/20 17:28	7440-43-9	
Calcium	**28200**	ug/L	100	94.2	1	06/17/20 01:22	06/17/20 17:28	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	06/17/20 01:22	06/17/20 17:28	7440-47-3	
Lithium	**2.1**	ug/L	0.50	0.070	1	06/17/20 01:22	06/17/20 17:28	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	06/17/20 01:22	06/17/20 17:28	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/22/20 01:18	05/22/20 17:29	7440-36-0	
Arsenic	**12.5**	ug/L	0.10	0.087	1	05/22/20 01:18	05/22/20 17:29	7440-38-2	
Cobalt	**1.4**	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 17:29	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/22/20 01:18	05/22/20 17:29	7439-92-1	
Molybdenum	**1.8**	ug/L	0.50	0.11	1	05/22/20 01:18	05/22/20 17:29	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 17:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:31	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**1.7**	mg/L	1.0	0.60	1		05/12/20 22:11	16887-00-6	
Fluoride	**0.42**	mg/L	0.10	0.050	1		05/12/20 22:11	16984-48-8	
Sulfate	**0.80J**	mg/L	1.0	0.50	1		05/12/20 22:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-34 **Lab ID: 92476217015** Collected: 05/06/20 12:08 Received: 05/07/20 10:00 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	**341**	mg/L	25.0	25.0	1		05/11/20 13:57		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**230**	ug/L	5.0	3.5	1	06/17/20 01:22	06/17/20 17:48	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	06/17/20 01:22	06/17/20 17:48	7440-41-7	
Boron	**1170**	ug/L	50.0	32.4	1	06/17/20 01:22	06/17/20 17:48	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	06/17/20 01:22	06/17/20 17:48	7440-43-9	
Calcium	**47700**	ug/L	100	94.2	1	06/17/20 01:22	06/17/20 17:48	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	06/17/20 01:22	06/17/20 17:48	7440-47-3	
Lithium	**0.25J**	ug/L	0.50	0.070	1	06/17/20 01:22	06/17/20 17:48	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	06/17/20 01:22	06/17/20 17:48	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/22/20 01:18	05/22/20 17:33	7440-36-0	
Arsenic	**9.7**	ug/L	0.10	0.087	1	05/22/20 01:18	05/22/20 17:33	7440-38-2	
Cobalt	**2.4**	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 17:33	7440-48-4	
Lead	**0.55**	ug/L	0.10	0.077	1	05/22/20 01:18	05/22/20 17:33	7439-92-1	
Molybdenum	**1.6**	ug/L	0.50	0.11	1	05/22/20 01:18	05/22/20 17:33	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 17:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:34	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**100**	mg/L	1.0	0.60	1		05/12/20 22:25	16887-00-6	
Fluoride	**0.10**	mg/L	0.10	0.050	1		05/12/20 22:25	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/12/20 22:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: Equipment Blank-LAP **Lab ID: 92476217016** Collected: 05/06/20 09:25 Received: 05/07/20 10:00 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		05/11/20 13:58		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	ND	ug/L	5.0	3.5	1	05/22/20 02:27	05/24/20 18:20	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/22/20 02:27	05/24/20 18:20	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/22/20 02:27	05/24/20 18:20	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/22/20 02:27	05/24/20 18:20	7440-43-9	
Calcium	ND	ug/L	100	94.2	1	05/22/20 02:27	05/24/20 18:20	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/22/20 02:27	05/24/20 18:20	7440-47-3	
Lithium	ND	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 23:09	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/22/20 02:27	05/24/20 18:20	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/22/20 01:18	05/22/20 16:22	7440-36-0	
Arsenic	ND	ug/L	0.10	0.087	1	05/22/20 01:18	05/22/20 16:22	7440-38-2	
Cobalt	ND	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 16:22	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	05/22/20 01:18	05/22/20 16:22	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	05/22/20 01:18	05/22/20 16:22	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 16:22	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:41	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		05/12/20 22:39	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		05/12/20 22:39	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		05/12/20 22:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: Duplicate-LAP **Lab ID: 92476217017** Collected: 05/06/20 10:40 Received: 05/07/20 10:00 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	**211**	mg/L	25.0	25.0	1		05/11/20 13:59		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**84.4**	ug/L	5.0	3.5	1	05/22/20 02:27	05/24/20 18:23	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	05/22/20 02:27	05/24/20 18:23	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	05/22/20 02:27	05/24/20 18:23	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	05/22/20 02:27	05/24/20 18:23	7440-43-9	
Calcium	**27900**	ug/L	100	94.2	1	05/22/20 02:27	05/24/20 18:23	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	05/22/20 02:27	05/24/20 18:23	7440-47-3	
Lithium	**1.8**	ug/L	0.50	0.070	1	05/22/20 02:27	06/01/20 23:12	7439-93-2	
Selenium	ND	ug/L	10.0	4.7	1	05/22/20 02:27	05/24/20 18:23	7782-49-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	0.50	0.12	1	05/22/20 01:18	05/22/20 17:37	7440-36-0	
Arsenic	**9.0**	ug/L	0.10	0.087	1	05/22/20 01:18	05/22/20 17:37	7440-38-2	
Cobalt	**0.64**	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 17:37	7440-48-4	
Lead	**0.11**	ug/L	0.10	0.077	1	05/22/20 01:18	05/22/20 17:37	7439-92-1	
Molybdenum	**2.5**	ug/L	0.50	0.11	1	05/22/20 01:18	05/22/20 17:37	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	05/22/20 01:18	05/22/20 17:37	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	05/21/20 12:52	05/21/20 17:43	7439-97-6	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**5.7**	mg/L	1.0	0.60	1		05/12/20 22:54	16887-00-6	
Fluoride	**0.34**	mg/L	0.10	0.050	1		05/12/20 22:54	16984-48-8	
Sulfate	**6.6**	mg/L	1.0	0.50	1		05/12/20 22:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 540191 | 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: 92476217001, 92476217002, 92476217003, 92476217004

METHOD BLANK: 2879114 Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	05/07/20 10:01	

LABORATORY CONTROL SAMPLE: 2879116

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

SAMPLE DUPLICATE: 2879117

Parameter	Units	92476058001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 2879118

Parameter	Units	92476058011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	430	360	18	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 540537 | 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: 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013

METHOD BLANK: 2881123 Matrix: Water
Associated Lab Samples: 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	05/08/20 15:04	

LABORATORY CONTROL SAMPLE: 2881124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	242	97	90-110	

SAMPLE DUPLICATE: 2881125

Parameter	Units	92476393001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	422	420	0	25	

SAMPLE DUPLICATE: 2885646

Parameter	Units	92476217013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	186	216	15	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 540538
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Eden
Associated Lab Samples: 92476217014, 92476217015, 92476217016, 92476217017

METHOD BLANK: 2881131 Matrix: Water
Associated Lab Samples: 92476217014, 92476217015, 92476217016, 92476217017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	05/11/20 13:52	

LABORATORY CONTROL SAMPLE: 2881132

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	230	92	90-110	

SAMPLE DUPLICATE: 2881133

Parameter	Units	92476217014 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	159	180	12	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 540786 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009

METHOD BLANK: 2882361 Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	05/11/20 18:22	

LABORATORY CONTROL SAMPLE: 2882362

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: 2882363 2882364

Parameter	Units	92476875006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2.5	2.5	2.3	2.4	86	91	75-125	6	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 542873
QC Batch Method: EPA 7470A
Analysis Method: EPA 7470A
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

METHOD BLANK: 2891968 Matrix: Water
Associated Lab Samples: 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	05/21/20 17:12	

LABORATORY CONTROL SAMPLE: 2891969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.7	108	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2891970 2891971

Parameter	Units	92476217010 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	2	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2891972 2891973

Parameter	Units	92477561004 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	110	75-125	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 541711
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013

METHOD BLANK: 2886680 Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	05/16/20 02:51	
Beryllium	ug/L	ND	1.0	0.70	05/16/20 02:51	
Boron	ug/L	ND	50.0	32.4	05/16/20 02:51	
Cadmium	ug/L	ND	1.0	0.40	05/16/20 02:51	
Calcium	ug/L	ND	100	94.2	05/16/20 02:51	
Chromium	ug/L	ND	5.0	3.7	05/16/20 02:51	
Selenium	ug/L	ND	10.0	4.7	05/16/20 02:51	

LABORATORY CONTROL SAMPLE: 2886681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	502	100	80-120	
Beryllium	ug/L	500	489	98	80-120	
Boron	ug/L	500	486	97	80-120	
Cadmium	ug/L	500	500	100	80-120	
Calcium	ug/L	5000	5010	100	80-120	
Chromium	ug/L	500	497	99	80-120	
Selenium	ug/L	500	491	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2886682 2886683

Parameter	Units	92476393001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	407	500	500	891	906	103	106	75-125	2	20	
Beryllium	ug/L	ND	500	500	511	516	102	103	75-125	1	20	
Boron	ug/L	0.041J mg/L	500	500	525	531	105	106	75-125	1	20	
Cadmium	ug/L	ND	500	500	521	524	104	105	75-125	1	20	
Calcium	ug/L	53.5 mg/L	5000	5000	55400	56500	110	132	75-125	2	20	M1
Chromium	ug/L	ND	500	500	526	530	105	106	75-125	1	20	
Selenium	ug/L	5.9J	500	500	522	527	104	105	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 543005
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013, 92476217016, 92476217017

METHOD BLANK: 2892699 Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013, 92476217016, 92476217017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	06/01/20 21:35	
Beryllium	ug/L	ND	1.0	0.70	06/01/20 21:35	
Boron	ug/L	ND	50.0	32.4	06/01/20 21:35	
Cadmium	ug/L	ND	1.0	0.40	06/01/20 21:35	
Calcium	ug/L	ND	100	94.2	06/01/20 21:35	
Chromium	ug/L	ND	5.0	3.7	06/01/20 21:35	
Lithium	ug/L	ND	0.50	0.070	06/01/20 21:35	
Selenium	ug/L	ND	10.0	4.7	06/01/20 21:35	

LABORATORY CONTROL SAMPLE: 2892700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	558	112	80-120	
Beryllium	ug/L	500	548	110	80-120	
Boron	ug/L	500	510	102	80-120	
Cadmium	ug/L	500	541	108	80-120	
Calcium	ug/L	5000	5350	107	80-120	
Chromium	ug/L	500	521	104	80-120	
Lithium	ug/L	500	530	106	80-120	
Selenium	ug/L	500	564	113	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2892701 2892702

Parameter	Units	92476393001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	407	500	500	943	963	107	111	75-125	2	20	
Beryllium	ug/L	ND	500	500	546	557	109	111	75-125	2	20	
Boron	ug/L	0.041J mg/L	500	500	568	575	105	107	75-125	1	20	
Cadmium	ug/L	ND	500	500	559	566	112	113	75-125	1	20	
Calcium	ug/L	53.5 mg/L	5000	5000	56100	57800	52	85	75-125	3	20	M1
Chromium	ug/L	ND	500	500	527	536	105	107	75-125	2	20	
Lithium	ug/L	0.68	500	500	583	596	117	119	75-125	2		
Selenium	ug/L	5.9J	500	500	588	596	116	118	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 547741
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217014, 92476217015

METHOD BLANK: 2914788 Matrix: Water
Associated Lab Samples: 92476217014, 92476217015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	06/17/20 17:22	
Beryllium	ug/L	ND	1.0	0.70	06/17/20 17:22	
Boron	ug/L	ND	50.0	32.4	06/17/20 17:22	
Cadmium	ug/L	ND	1.0	0.40	06/17/20 17:22	
Calcium	ug/L	ND	100	94.2	06/17/20 17:22	
Chromium	ug/L	ND	5.0	3.7	06/17/20 17:22	
Lithium	ug/L	ND	0.50	0.070	06/17/20 17:22	
Selenium	ug/L	ND	10.0	4.7	06/17/20 17:22	

LABORATORY CONTROL SAMPLE: 2914789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	501	100	80-120	
Beryllium	ug/L	500	508	102	80-120	
Boron	ug/L	500	506	101	80-120	
Cadmium	ug/L	500	506	101	80-120	
Calcium	ug/L	5000	4870	97	80-120	
Chromium	ug/L	500	509	102	80-120	
Lithium	ug/L	500	482	96	80-120	
Selenium	ug/L	500	497	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2914790 2914791

Parameter	Units	92476217014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	102	500	500	627	616	105	103	75-125	2	20	
Beryllium	ug/L	ND	500	500	528	522	106	104	75-125	1	20	
Boron	ug/L	ND	500	500	553	546	107	106	75-125	1	20	
Cadmium	ug/L	ND	500	500	541	527	108	105	75-125	3	20	
Calcium	ug/L	28200	5000	5000	34400	34000	125	116	75-125	1	20	
Chromium	ug/L	ND	500	500	523	524	105	105	75-125	0	20	
Lithium	ug/L	2.1	500	500	570	559	114	111	75-125	2		
Selenium	ug/L	ND	500	500	553	538	111	108	75-125	3	20	

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 541713
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013

METHOD BLANK: 2886685 Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	0.14J	0.50	0.12	05/15/20 14:09	
Arsenic	ug/L	ND	0.10	0.087	05/15/20 14:09	
Cobalt	ug/L	ND	0.10	0.050	05/15/20 14:09	
Lead	ug/L	ND	0.10	0.077	05/15/20 14:09	
Molybdenum	ug/L	ND	0.50	0.11	05/15/20 14:09	
Thallium	ug/L	ND	0.10	0.050	05/15/20 14:09	

LABORATORY CONTROL SAMPLE: 2886686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	52.8	106	80-120	
Arsenic	ug/L	10	10.5	105	80-120	
Cobalt	ug/L	10	10.3	103	80-120	
Lead	ug/L	50	51.5	103	80-120	
Molybdenum	ug/L	50	51.1	102	80-120	
Thallium	ug/L	10	10.3	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2886687 2886688

Parameter	Units	92476393002 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	50	50	53.5	52.4	107	105	75-125	2	20	
Arsenic	ug/L	0.097J	10	10	10.6	10.3	105	102	75-125	2	20	
Cobalt	ug/L	0.36	10	10	10.8	10.8	105	104	75-125	0	20	
Lead	ug/L	0.094J	50	50	53.0	51.8	106	103	75-125	2	20	
Molybdenum	ug/L	0.13J	50	50	52.1	51.5	104	103	75-125	1	20	
Thallium	ug/L	ND	10	10	10.6	10.4	106	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 543012
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217014, 92476217015, 92476217016, 92476217017

METHOD BLANK: 2892721 Matrix: Water
Associated Lab Samples: 92476217014, 92476217015, 92476217016, 92476217017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	0.12	05/22/20 15:48	
Arsenic	ug/L	ND	0.10	0.087	05/22/20 15:48	
Cobalt	ug/L	ND	0.10	0.050	05/22/20 15:48	
Lead	ug/L	ND	0.10	0.077	05/22/20 15:48	
Molybdenum	ug/L	0.14J	0.50	0.11	05/22/20 15:48	
Thallium	ug/L	ND	0.10	0.050	05/22/20 15:48	

LABORATORY CONTROL SAMPLE: 2892722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	51.9	104	80-120	
Arsenic	ug/L	10	10	100	80-120	
Cobalt	ug/L	10	10.3	103	80-120	
Lead	ug/L	50	49.9	100	80-120	
Molybdenum	ug/L	50	49.4	99	80-120	
Thallium	ug/L	10	9.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2892723 2892724

Parameter	Units	92476063001 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	50	50	57.3	54.0	115	108	75-125	6	20	
Arsenic	ug/L	24.3	10	10	36.8	36.1	125	117	75-125	2	20	
Cobalt	ug/L	2.7	10	10	13.8	13.6	111	109	75-125	1	20	
Lead	ug/L	ND	50	50	51.8	52.1	103	104	75-125	1	20	
Molybdenum	ug/L	1.6J	50	50	56.0	54.9	109	106	75-125	2	20	
Thallium	ug/L	ND	10	10	10.4	10.4	104	104	75-125	0	20	

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 540646
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009

METHOD BLANK: 2881719 Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	05/09/20 23:37	
Fluoride	mg/L	ND	0.10	0.050	05/09/20 23:37	
Sulfate	mg/L	ND	1.0	0.50	05/09/20 23:37	

LABORATORY CONTROL SAMPLE: 2881720

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.3	101	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	50.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881721 2881722

Parameter	Units	2631613019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.9	50	50	53.8	54.5	104	105	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.6	2.5	103	101	90-110	2	10	
Sulfate	mg/L	ND	50	50	51.9	52.5	103	105	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2881723 2881724

Parameter	Units	92476217001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	119	50	50	164	163	89	87	90-110	0	10	M1
Fluoride	mg/L	0.11	2.5	2.5	2.4	2.4	90	92	90-110	2	10	
Sulfate	mg/L	46.9	50	50	97.0	97.5	100	101	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 540729
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

METHOD BLANK: 2882045 Matrix: Water
Associated Lab Samples: 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	05/12/20 19:31	
Fluoride	mg/L	ND	0.10	0.050	05/12/20 19:31	
Sulfate	mg/L	ND	1.0	0.50	05/12/20 19:31	

LABORATORY CONTROL SAMPLE: 2882046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.3	105	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	50	52.9	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882047 2882048

Parameter	Units	92476217010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	31.2	50	50	81.3	81.9	100	101	90-110	1	10	
Fluoride	mg/L	0.34	2.5	2.5	2.8	2.8	98	100	90-110	2	10	
Sulfate	mg/L	31.1	50	50	81.7	81.8	101	101	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2882049 2882050

Parameter	Units	92476063003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	9.7	50	50	61.1	61.3	103	103	90-110	0	10	
Fluoride	mg/L	0.14	2.5	2.5	2.7	2.8	103	104	90-110	1	10	
Sulfate	mg/L	43.3	50	50	93.7	93.8	101	101	90-110	0	10	

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

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-B50 **Lab ID: 92476217001** Collected: 05/05/20 09:19 Received: 05/05/20 15:23 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	**0.279 ± 0.237 (0.376) C:88% T:NA**	pCi/L	05/19/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.278 ± 0.378 (0.809) C:72% T:83%**	pCi/L	06/02/20 15:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.557 ± 0.615 (1.19)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-B40A **Lab ID: 92476217002** Collected: 05/05/20 10:15 Received: 05/05/20 15:23 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	**0.342 ± 0.239 (0.316) C:96% T:NA**	pCi/L	05/19/20 07:28	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.487 ± 0.469 (0.971) C:66% T:89%**	pCi/L	06/02/20 15:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.829 ± 0.708 (1.29)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-33 **Lab ID: 92476217003** Collected: 05/05/20 13:40 Received: 05/05/20 15:23 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	**0.518 ± 0.285 (0.318) C:99% T:NA**	pCi/L	05/19/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.19 ± 0.826 (1.65) C:70% T:88%**	pCi/L	06/02/20 18:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.71 ± 1.11 (1.97)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-24 **Lab ID: 92476217004** Collected: 05/05/20 13:25 Received: 05/05/20 15:23 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	**0.629 ± 0.358 (0.450) C:81% T:NA**	pCi/L	05/19/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.914 ± 0.479 (0.860) C:70% T:87%**	pCi/L	06/02/20 15:45	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.54 ± 0.837 (1.31)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-23 **Lab ID: 92476217005** Collected: 05/05/20 15:36 Received: 05/06/20 10:15 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	**0.286 ± 0.255 (0.436) C:86% T:NA**	pCi/L	05/19/20 07:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.208 ± 0.676 (1.51) C:67% T:90%**	pCi/L	06/02/20 18:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.494 ± 0.931 (1.95)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: Field Blank-LAP **Lab ID: 92476217006** Collected: 05/05/20 15:00 Received: 05/06/20 10:15 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	**-0.0354 ± 0.119 (0.426) C:81% T:NA**	pCi/L	05/19/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.796 ± 0.713 (1.46) C:70% T:76%**	pCi/L	06/02/20 18:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.796 ± 0.832 (1.89)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-26 **Lab ID: 92476217007** Collected: 05/05/20 15:22 Received: 05/06/20 10:15 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	**0.288 ± 0.245 (0.402) C:89% T:NA**	pCi/L	05/19/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.189 ± 0.802 (1.80) C:67% T:77%**	pCi/L	06/02/20 18:35	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.477 ± 1.05 (2.20)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-20 **Lab ID: 92476217008** Collected: 05/06/20 10:30 Received: 05/07/20 10:00 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	**0.216 ± 0.257 (0.521) C:82% T:NA**	pCi/L	05/19/20 07:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.471 ± 0.543 (1.14) C:65% T:86%**	pCi/L	06/02/20 18:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.687 ± 0.800 (1.66)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-21 **Lab ID: 92476217009** Collected: 05/06/20 11:58 Received: 05/07/20 10:00 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	**0.275 ± 0.305 (0.630) C:91% T:NA**	pCi/L	05/19/20 07:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.320 ± 0.638 (1.40) C:66% T:79%**	pCi/L	06/02/20 18:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.595 ± 0.943 (2.03)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-28 **Lab ID: 92476217010** Collected: 05/06/20 09:22 Received: 05/07/20 10:00 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	**0.465 ± 0.333 (0.524) C:78% T:NA**	pCi/L	05/19/20 07:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.343 ± 0.472 (1.01) C:71% T:86%**	pCi/L	06/02/20 18:24	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.808 ± 0.805 (1.53)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-25 **Lab ID: 92476217011** Collected: 05/06/20 10:31 Received: 05/07/20 10:00 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	**0.248 ± 0.238 (0.448) C:96% T:NA**	pCi/L	05/19/20 07:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.591 ± 0.562 (1.15) C:67% T:84%**	pCi/L	06/02/20 18:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.839 ± 0.800 (1.60)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-27 **Lab ID: 92476217012** Collected: 05/06/20 08:54 Received: 05/07/20 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**2.33 ± 0.673 (0.446) C:92% T:NA**	pCi/L	05/19/20 07:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**2.64 ± 0.918 (1.30) C:68% T:78%**	pCi/L	06/02/20 18:23	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**4.97 ± 1.59 (1.75)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-22 **Lab ID: 92476217013** Collected: 05/06/20 13:27 Received: 05/07/20 10:00 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	**1.20 ± 0.474 (0.488) C:94% T:NA**	pCi/L	05/19/20 07:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.179 ± 0.540 (1.21) C:71% T:82%**	pCi/L	06/02/20 18:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.38 ± 1.01 (1.70)**	pCi/L	06/03/20 10:38	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-32 **Lab ID: 92476217014** Collected: 05/06/20 15:23 Received: 05/07/20 10:00 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	**-0.0372 ± 0.232 (0.654) C:94% T:NA**	pCi/L	05/19/20 07:19	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.03 ± 0.595 (1.09) C:68% T:86%**	pCi/L	06/02/20 18:31	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.03 ± 0.827 (1.74)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: MW-34 **Lab ID: 92476217015** Collected: 05/06/20 12:08 Received: 05/07/20 10:00 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	**0.0204 ± 0.227 (0.632) C:62% T:NA**	pCi/L	05/19/20 07:18	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.287 ± 0.563 (1.24) C:66% T:83%**	pCi/L	06/02/20 18:30	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.307 ± 0.790 (1.87)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: Equipment Blank-LAP **Lab ID: 92476217016** Collected: 05/06/20 09:25 Received: 05/07/20 10:00 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	**-0.0901 ± 0.225 (0.677) C:81% T:NA**	pCi/L	05/19/20 07:23	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.914 ± 0.602 (1.14) C:67% T:81%**	pCi/L	06/02/20 18:25	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.914 ± 0.827 (1.82)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Sample: Duplicate-LAP **Lab ID: 92476217017** Collected: 05/06/20 10:40 Received: 05/07/20 10:00 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	**0.317 ± 0.278 (0.507) C:89% T:NA**	pCi/L	05/19/20 07:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.666 ± 0.547 (1.09) C:70% T:83%**	pCi/L	06/02/20 18:26	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.983 ± 0.825 (1.60)**	pCi/L	06/03/20 10:38	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 396126
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

METHOD BLANK: 1918656
Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.404 ± 0.379 (0.773) C:71% T:85%	pCi/L	06/02/20 15:45	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

QC Batch: 396010
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

METHOD BLANK: 1918204
Matrix: Water
Associated Lab Samples: 92476217001, 92476217002, 92476217003, 92476217004, 92476217005, 92476217006, 92476217007, 92476217008, 92476217009, 92476217010, 92476217011, 92476217012, 92476217013, 92476217014, 92476217015, 92476217016, 92476217017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0444 ± 0.165 (0.428) C:87% T:NA	pCi/L	05/19/20 07:28	

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QUALIFIERS

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92476217001	**MW-B50**	SM 2540C-2011	540191		
92476217002	**MW-B40A**	SM 2540C-2011	540191		
92476217003	**MW-33**	SM 2540C-2011	540191		
92476217004	**MW-24**	SM 2540C-2011	540191		
92476217005	**MW-23**	SM 2540C-2011	540537		
92476217006	**Field Blank-LAP**	SM 2540C-2011	540537		
92476217007	**MW-26**	SM 2540C-2011	540537		
92476217008	**MW-20**	SM 2540C-2011	540537		
92476217009	**MW-21**	SM 2540C-2011	540537		
92476217010	**MW-28**	SM 2540C-2011	540537		
92476217011	**MW-25**	SM 2540C-2011	540537		
92476217012	**MW-27**	SM 2540C-2011	540537		
92476217013	**MW-22**	SM 2540C-2011	540537		
92476217014	**MW-32**	SM 2540C-2011	540538		
92476217015	**MW-34**	SM 2540C-2011	540538		
92476217016	**Equipment Blank-LAP**	SM 2540C-2011	540538		
92476217017	**Duplicate-LAP**	SM 2540C-2011	540538		
92476217001	**MW-B50**	EPA 3010A	541711	EPA 6010D	541734
92476217001	**MW-B50**	EPA 3010A	543005	EPA 6010D	543026
92476217002	**MW-B40A**	EPA 3010A	541711	EPA 6010D	541734
92476217002	**MW-B40A**	EPA 3010A	543005	EPA 6010D	543026
92476217003	**MW-33**	EPA 3010A	541711	EPA 6010D	541734
92476217003	**MW-33**	EPA 3010A	543005	EPA 6010D	543026
92476217004	**MW-24**	EPA 3010A	541711	EPA 6010D	541734
92476217004	**MW-24**	EPA 3010A	543005	EPA 6010D	543026
92476217005	**MW-23**	EPA 3010A	541711	EPA 6010D	541734
92476217005	**MW-23**	EPA 3010A	543005	EPA 6010D	543026
92476217006	**Field Blank-LAP**	EPA 3010A	541711	EPA 6010D	541734
92476217006	**Field Blank-LAP**	EPA 3010A	543005	EPA 6010D	543026
92476217007	**MW-26**	EPA 3010A	541711	EPA 6010D	541734
92476217007	**MW-26**	EPA 3010A	543005	EPA 6010D	543026
92476217008	**MW-20**	EPA 3010A	541711	EPA 6010D	541734
92476217008	**MW-20**	EPA 3010A	543005	EPA 6010D	543026
92476217009	**MW-21**	EPA 3010A	541711	EPA 6010D	541734
92476217009	**MW-21**	EPA 3010A	543005	EPA 6010D	543026
92476217010	**MW-28**	EPA 3010A	541711	EPA 6010D	541734
92476217010	**MW-28**	EPA 3010A	543005	EPA 6010D	543026

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92476217011	**MW-25**	EPA 3010A	541711	EPA 6010D	541734
92476217011	**MW-25**	EPA 3010A	543005	EPA 6010D	543026
92476217012	**MW-27**	EPA 3010A	541711	EPA 6010D	541734
92476217012	**MW-27**	EPA 3010A	543005	EPA 6010D	543026
92476217013	**MW-22**	EPA 3010A	541711	EPA 6010D	541734
92476217013	**MW-22**	EPA 3010A	543005	EPA 6010D	543026
92476217014	**MW-32**	EPA 3010A	547741	EPA 6010D	547759
92476217015	**MW-34**	EPA 3010A	547741	EPA 6010D	547759
92476217016	**Equipment Blank-LAP**	EPA 3010A	543005	EPA 6010D	543026
92476217017	**Duplicate-LAP**	EPA 3010A	543005	EPA 6010D	543026
92476217001	**MW-B50**	EPA 3010A	541713	EPA 6020B	541726
92476217002	**MW-B40A**	EPA 3010A	541713	EPA 6020B	541726
92476217003	**MW-33**	EPA 3010A	541713	EPA 6020B	541726
92476217004	**MW-24**	EPA 3010A	541713	EPA 6020B	541726
92476217005	**MW-23**	EPA 3010A	541713	EPA 6020B	541726
92476217006	**Field Blank-LAP**	EPA 3010A	541713	EPA 6020B	541726
92476217007	**MW-26**	EPA 3010A	541713	EPA 6020B	541726
92476217008	**MW-20**	EPA 3010A	541713	EPA 6020B	541726
92476217009	**MW-21**	EPA 3010A	541713	EPA 6020B	541726
92476217010	**MW-28**	EPA 3010A	541713	EPA 6020B	541726
92476217011	**MW-25**	EPA 3010A	541713	EPA 6020B	541726
92476217012	**MW-27**	EPA 3010A	541713	EPA 6020B	541726
92476217013	**MW-22**	EPA 3010A	541713	EPA 6020B	541726
92476217014	**MW-32**	EPA 3010A	543012	EPA 6020B	543029
92476217015	**MW-34**	EPA 3010A	543012	EPA 6020B	543029
92476217016	**Equipment Blank-LAP**	EPA 3010A	543012	EPA 6020B	543029
92476217017	**Duplicate-LAP**	EPA 3010A	543012	EPA 6020B	543029
92476217001	**MW-B50**	EPA 7470A	540786	EPA 7470A	540832
92476217002	**MW-B40A**	EPA 7470A	540786	EPA 7470A	540832
92476217003	**MW-33**	EPA 7470A	540786	EPA 7470A	540832
92476217004	**MW-24**	EPA 7470A	540786	EPA 7470A	540832
92476217005	**MW-23**	EPA 7470A	540786	EPA 7470A	540832
92476217006	**Field Blank-LAP**	EPA 7470A	540786	EPA 7470A	540832
92476217007	**MW-26**	EPA 7470A	540786	EPA 7470A	540832
92476217008	**MW-20**	EPA 7470A	540786	EPA 7470A	540832
92476217009	**MW-21**	EPA 7470A	540786	EPA 7470A	540832
92476217010	**MW-28**	EPA 7470A	542873	EPA 7470A	542917
92476217011	**MW-25**	EPA 7470A	542873	EPA 7470A	542917
92476217012	**MW-27**	EPA 7470A	542873	EPA 7470A	542917
92476217013	**MW-22**	EPA 7470A	542873	EPA 7470A	542917
92476217014	**MW-32**	EPA 7470A	542873	EPA 7470A	542917
92476217015	**MW-34**	EPA 7470A	542873	EPA 7470A	542917
92476217016	**Equipment Blank-LAP**	EPA 7470A	542873	EPA 7470A	542917

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92476217017	**Duplicate-LAP**	EPA 7470A	542873	EPA 7470A	542917
92476217001	**MW-B50**	EPA 9315	396010		
92476217002	**MW-B40A**	EPA 9315	396010		
92476217003	**MW-33**	EPA 9315	396010		
92476217004	**MW-24**	EPA 9315	396010		
92476217005	**MW-23**	EPA 9315	396010		
92476217006	**Field Blank-LAP**	EPA 9315	396010		
92476217007	**MW-26**	EPA 9315	396010		
92476217008	**MW-20**	EPA 9315	396010		
92476217009	**MW-21**	EPA 9315	396010		
92476217010	**MW-28**	EPA 9315	396010		
92476217011	**MW-25**	EPA 9315	396010		
92476217012	**MW-27**	EPA 9315	396010		
92476217013	**MW-22**	EPA 9315	396010		
92476217014	**MW-32**	EPA 9315	396010		
92476217015	**MW-34**	EPA 9315	396010		
92476217016	**Equipment Blank-LAP**	EPA 9315	396010		
92476217017	**Duplicate-LAP**	EPA 9315	396010		
92476217001	**MW-B50**	EPA 9320	396126		
92476217002	**MW-B40A**	EPA 9320	396126		
92476217003	**MW-33**	EPA 9320	396126		
92476217004	**MW-24**	EPA 9320	396126		
92476217005	**MW-23**	EPA 9320	396126		
92476217006	**Field Blank-LAP**	EPA 9320	396126		
92476217007	**MW-26**	EPA 9320	396126		
92476217008	**MW-20**	EPA 9320	396126		
92476217009	**MW-21**	EPA 9320	396126		
92476217010	**MW-28**	EPA 9320	396126		
92476217011	**MW-25**	EPA 9320	396126		
92476217012	**MW-27**	EPA 9320	396126		
92476217013	**MW-22**	EPA 9320	396126		
92476217014	**MW-32**	EPA 9320	396126		
92476217015	**MW-34**	EPA 9320	396126		
92476217016	**Equipment Blank-LAP**	EPA 9320	396126		
92476217017	**Duplicate-LAP**	EPA 9320	396126		
92476217001	**MW-B50**	Total Radium Calculation	399145		
92476217002	**MW-B40A**	Total Radium Calculation	399145		
92476217003	**MW-33**	Total Radium Calculation	399145		
92476217004	**MW-24**	Total Radium Calculation	399145		
92476217005	**MW-23**	Total Radium Calculation	399145		
92476217006	**Field Blank-LAP**	Total Radium Calculation	399145		
92476217007	**MW-26**	Total Radium Calculation	399145		
92476217008	**MW-20**	Total Radium Calculation	399145		
92476217009	**MW-21**	Total Radium Calculation	399145		
92476217010	**MW-28**	Total Radium Calculation	399145		
92476217011	**MW-25**	Total Radium Calculation	399145		
92476217012	**MW-27**	Total Radium Calculation	399145		

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: CPS 1SA20 LAP CCR (D)-Revised Report
Pace Project No.: 92476217

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92476217013	**MW-22**	Total Radium Calculation	399145		
92476217014	**MW-32**	Total Radium Calculation	399145		
92476217015	**MW-34**	Total Radium Calculation	399145		
92476217016	**Equipment Blank-LAP**	Total Radium Calculation	399145		
92476217017	**Duplicate-LAP**	Total Radium Calculation	399145		
92476217001	**MW-B50**	EPA 9056A	540646		
92476217002	**MW-B40A**	EPA 9056A	540646		
92476217003	**MW-33**	EPA 9056A	540646		
92476217004	**MW-24**	EPA 9056A	540646		
92476217005	**MW-23**	EPA 9056A	540646		
92476217006	**Field Blank-LAP**	EPA 9056A	540646		
92476217007	**MW-26**	EPA 9056A	540646		
92476217008	**MW-20**	EPA 9056A	540646		
92476217009	**MW-21**	EPA 9056A	540646		
92476217010	**MW-28**	EPA 9056A	540729		
92476217011	**MW-25**	EPA 9056A	540729		
92476217012	**MW-27**	EPA 9056A	540729		
92476217013	**MW-22**	EPA 9056A	540729		
92476217014	**MW-32**	EPA 9056A	540729		
92476217015	**MW-34**	EPA 9056A	540729		
92476217016	**Equipment Blank-LAP**	EPA 9056A	540729		
92476217017	**Duplicate-LAP**	EPA 9056A	540729		

WO# : 92476217

92476217

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Lo
MTJL

ALL SHADED ARL

Company: Golder Associates Inc	Billing Information: Accounts Payable
Address: 2108 W Laburnum Ave Ste 200 Richmond VA 23227	
Report To: Martha Smith	Email To: Marthasmith@golder.com
Copy To: Mike Williams	Site Collection Info/Address: 500 Lucender Rd Chester VA 23836
Customer Project Name/Number: ISA2020 LAP CLR CPS / 20137617	State: VA County/City: Chesterfield Co Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 804-358-7900 Email: marthasmith@golder.com	Site/Facility ID #:
Collected By (print): L. Williams C. Jones/O. Steele/A. Antel	Purchase Order #: Quote #: 7795
Collected By (signature):	Turnaround Date Required: ~~7-15~~ 15 standard
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [X] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

* 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	Boron, Calcium	Chloride, Sulfate, TDS, Fluoride	Antimony, Arsenic, Barium	Beryllium, Cadmium, Chromium	Cobalt, Lead, Molybdenum	Selenium, Lithium, Mercury	Thallium	Radium 226	Radium 228	Total Radium	Lab Sample # / Comments
MW-B50	GW	G	5-5-2020	0919			N	6	X	X	X	X	X	X	X	X	X	X	001
MW-B40A	GW	G	5-5-2020	1015			N	6	X	X	X	X	X	X	X	X	X		002
MW-33	GW	G	5-5-2020	1340			N	6	X	X	X	X	X	X	X	X	X	X	003
MW-24	GW	G	5-5-2020	1325			N	6	X	X	X	X	X	X	X	X	X	X	004

Container Preservative Type **

1	U	1	1	1	1	1	1	1	1

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 _____

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	Y	N	~~NA~~
USDA Regulated Soils	Y	N	~~NA~~
Samples in Holding Time	X	N	NA
Residual Chlorine Present	Y	N	~~NA~~
Cl Strips: _____			
Sample pH Acceptable	X	N	NA
pH Strips: _____			
Sulfide Present	Y	N	~~NA~~
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:
92476217

Customer Remarks / Special Conditions / Possible Hazards:
Level II Data Package
All samples preserved on ice
Report Group D

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 #: 2326480

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: 3.2 oC
Cooler 1 Therm Corr. Factor: 0.0 oC
Cooler 1 Corrected Temp: 3.2 oC
Comments:

Relinquished by/Company: (Signature) Golder	Date/Time: 5/5/2020 1523	Received by/Company: (Signature) Rachel Burruss	Date/Time: 5-5-20 1523
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: 4 of: 4

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/L
MTJL

WO# : 92476217

PM: NMG Due Date: 06/01/20

CLIENT: 92-Golder

ALL SHADED AR

Company: Golder Associates Inc	Billing Information: Accounts Payable
Address: 2108 W Laburnum Ave Ste 206 Richmond VA 23227	
Report To: Martha Smith	Email To: martha_smith@golder.com
Copy To: Mike Williams	Site Collection Info/Address: 300 Lovendale Rd Chester VA 23836
Customer Project Name/Number: ISA2020 LAP CCR CBS / 20139767	State: VA County/City: Chesterfield Co Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 804-359-7900 Email: martha_smith@golder.com	Site/Facility ID #:
Collected By (print): C. Joyce / D. Steele / M. Antal	Purchase Order #: Quote #: 7795
Collected By (signature):	Turnaround Date Required: Standard
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [X] Yes [ ] No

DW PWS ID #:

DW Location Code:

Immediately Packed on Ice: [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

Container Preservative Type **: 2 4 1 1 1 1 1 1 1 1

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 _____

* 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	Boron, Calcium	Chloride, Sulfate, TDS, Fluoride	Antimony, Arsenic, Barium	Beryllium, Cadmium, Chromium	Cobalt, Lead, Lithium	Mercury, Molybdenum, Selenium	Thallium	Radium 226	Radium 228	Total Radium	Lab Profile/Line:
MW-23	GW	G	5-5-2020	1536			N	6	X	X	X	X	X	X	X	X	X	X	005
Field Blank-LAP	GW	G	5-5-2020	1500			N	6	X	X	X	X	X	X	X	X	X	X	006
MW-26	GW	G	5-5-2020	1522			N	6	X	X	X	X	X	X	X	X	X	X	007

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: _____			
Sulfide Present	Y	N	~~NA~~
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:
92476217

Customer Remarks / Special Conditions / Possible Hazards:
Level II Data Package
All samples preserved on ice
Reporting Group P

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 #: 2326490

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: 2.9 oC
Cooler 1 Therm Corr. Factor: 0.0 oC
Cooler 1 Corrected Temp: 2.9 oC
Comments:

	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	5-5-2020 1730		5-5-2020 1730
Relinquished by/Company: (Signature)	5-6-2020		5-6-20 1015
Relinquished by/Company: (Signature)	5-6-20 1015	Rachel Burruss	5-6-20 1050

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: 1 of: 1

WO#: 92476217

PM: NMG Due Date: 06/01/20

CLIENT: 92-Golder

LAB USE ONLY- Affix Workorder/Login MTJL Log

ALL SHADED AREAS

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

Company: Golder Associates Inc

Billing Information: Accounts Payable

Address: 2108 Westbrook Parkway Suite 200 Richmond VA 23227

Report To: Martha Smith

Email To: Martha_Smith@golder.com

Copy To: Mike Williams

Site Collection Info/Address: 500 Coxendale Rd Chester VA 23836

Customer Project Name/Number: 1842823 LAP CCR CPS/20139767

State: VA County/City: Chesterfield Co Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET

Phone: 804-358-7900 Email: marthasmith@golder.com

Site/Facility ID #:

Compliance Monitoring? [X] Yes [ ] No

Collected By (print): M. Antal / L. Grimm

Purchase Order #: Quote #: 7295

DW PWS ID #: DW Location Code:

Collected By (signature):

Turnaround Date Required: Standard

Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____

Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [X] No

Analysis: _____

* 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)

Container Preservative Type **: 1 4 7 1 1 1 1 1 1 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 _____

Lab Project Manager:

Analyses: Boron, Calcium | Chloride, Sulfate, TDS, Fluoride | Antimony, Arsenic, Barium | Beryllium, Cadmium, Chromium | Cobalt, Lead, Lithium | Mercury, Molybdenum | Selenium, Thallium | Radium 226 | Radium 228 | Total Radium

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	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	X	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	X	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:

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	Lab Sample # / Comments
MW-20	GW	G	5-6-2020	1030			N	6	92476217 008
MW-21	GW	G	5-6-2020	1158			N	6	009
MW-28	GW	G	5-6-2020	0922			N	6	010
MW-25	GW	G	5-6-2020	1031			N	6	011
MW-27	GW	G	5-6-2020	0854			N	6	012
MW-26	GW	G	5-6-2020	1327			N	6	013
MW-32	GW	G	5-6-2020	1523			N	6	014
MW-34	GW	G	5-6-2020	1208			N	6	015
Equipment Blank-LAP	GW	G	5-6-2020	0925			N	6	016
Duplicate-LAP	GW	G	5-6-2020	1040			N	6	017

Customer Remarks / Special Conditions / Possible Hazards:
Level II Data Package
All samples preserved on ice
Report to Group D

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 #: 2326409

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: 4.2 oC
Cooler 1 Therm Corr. Factor: 0.0 oC
Cooler 1 Corrected Temp: 4.2 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Golder	5-6-2020 1700		5/6/2020 1700
	5/7/2020 1000		5-7-20 10:00
	5-7-20 10:30	Rachel Burruss	5-7-20 1030

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: 1 of: 1

Project Name: Chesterfield Power Station

Project Reference Number: 20139767

Sampling Event Date: 1SA20 LAP CCR

Review Date: 9/18/2020 *Initials:* RMS

Review Date: 12/17/2020 *Initials:* MKS

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
- Evaluation of Radiochemistry Data Usability, April 1997

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- PS = Post Spike
- 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
- VPDES = Virginia Pollutant Discharge Elimination System

COMPLIANCE ANALYTE LIST

☐ Historical VPDES Parameters

☒ CCR Appendix III to Part 257

☒ CCR Appendix IV to Part 257

☐ VSWMR Phase II Parameters: _____

☐ Other: _____

Note: Data packages 92476393; 92476217

Golder Associates Inc.
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
EPA 7470A	Mercury	28 days
EPA 9056A	Chloride, Sulfate as SO_4, Fluoride	28 days
SM 2540C-2011	TDS	7 days
EPA 9000 series	Radium-226 and Radium-228	6 months

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

No Laboratory blanks were interference free.

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).

Parameter	Method Blank Detection (µg/L)	Batch	Associated Qualified Sample(s)	Validator Qualifier
Molybdenum	0.14 J	543012	None	NA
Antimony	0.14 J	541713	None	NA

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 as 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.

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	Batch	Associated Qualified Sample(s)	Validator Qualifier
Calcium	MSD	541711	--	--
Calcium	MS	543005	--	--
Fluoride	MS, MSD	540645	--	--
Chloride	MS, MSD	540646	--	--
Calcium	MS	543005	--	--

Yes Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

No Radiological samples reported below their respective MDC have been qualified with a “U.”

Notes: The laboratory reports the activity ± unknown and reports the MDC in parentheses. The laboratory does not indicate which samples were below MDC, however Golder has qualified the samples reported below their respective MDC with a “U”.

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 eight datum.

Yes Analytical results with variances +/- 25% have been evaluated for trends.

Yes 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 are summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
Boron	MW-29U, MW-34	Elevated concentration reported. No issues identified in related QC.	No	--
Calcium	MW-32, MW-33,	Low concentration reported. No issues identified in related QC.	No	--
Barium	MW-32, MW-34	Low concentration reported. No issues identified in related QC.	No	--

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: 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). As presented below, no data qualification is recommended.

Sample ID	Parameter	Blank Detection (µg/L)	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

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 associated parent samples that were not within control limits. In accordance with EPA guidance, sample results without field duplicate precision may be qualified estimated (J) or non-detect estimated (UJ). As presented below, data qualification is recommended.

Parameter	Associated Samples	Parent Sample Result (mg/L)	Duplicate Sample Result (mg/L)	Re-analysis Requested?	Outlier Identification
Total Dissolved Solids – LAP	MW-25 / Duplicate – LAP	294	211	No	Both parent and duplicate sample qualified as estimated (J)

APPENDIX C

SECOND SEMI-ANNUAL 2020 ASSESSMENT MONITORING PROGRAM EVENT FIELD DATA SHEETS, LABORATORY CERTIFICATES OF ANALYSIS, CHAIN-OF-CUSTODY FORMS, AND DATA VALIDATION FORMS

Date: 11/2/2020

GOLDER

WELL GAUGING LOG

Project Name: CPS-LAPCCR Project No./Task No.: 20136797

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
MW-20	MA	1323	16.40	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-21	MA	1318	5.58	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-22	MA	1312	6.19	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-23	MA	1245	4.79	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-24	MA	1420	12.98	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-25	MA	1404	10.65	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-26	MA	1401	9.10	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-27	MA	1352	17.45	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-28	MA	1546	17.75	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-B50	MA	1337	21.56	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-32	MA	1255	4.20	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-33	MA	1236	9.62	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-34	MA	1412	7.29	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-B10A	MA	1423	6.88	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-29U	MA	1440	4.31	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
MW-35S	MA	1518	48.44	—	☑ OK ☐ Damaged	☑ OK ☐ Damaged	☑ OK ☐ Inadequate	☑ Yes ☐ No	☑ OK ☐ Damaged
					☐ OK ☐ Damaged	☐ OK ☐ Damaged	☐ OK ☐ Inadequate	☐ Yes ☐ No	☐ OK ☐ Damaged

Observations/Notes: _____

Signature: _____ Date: 11/2/2020

QA/QC Signature: _____ Date: 11/2/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/6/2020

Weather: Sunny, 60°s

Project Name: C.P.S

Project No./Task No.: 20139767

Event: 2SA2020-LAP CCR

Sampler(s): L. Grimm

Well ID: MW-20

Field Calibration Completed: @ 0815 on 11/6/2020

Well Diameter: 2-0 inches

Initial Depth to Water: 16.36 feet

Depth to Bottom: 37.80 feet

Water Column Thickness: 21.44 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 19E104504
- [ ] 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
1121	5.22	365.4	147.52	1.95	18.7	108.4	16.37	~375
1124	5.21	359.8	95.80	1.54	18.7	110.4	16.42	~375
1127	5.20	356.4	127.94	1.74	18.7	112.7	16.43	~375
1130	5.17	356.2	72.02	1.79	18.6	115.8	16.41	~375
1133	5.15	358.7	36.24	1.64	18.5	118.8	16.40	~375
1136	5.15	358.5	29.68	1.66	18.5	119.6	16.41	~375
1139	5.15	359.9	21.65	1.64	18.5	120.3	16.42	~375
1142	5.14	359.6	19.41	1.52	18.5	121.1	16.41	~375
1145	5.16	359.0	19.05	1.60	18.5	121.4	16.41	~375
1148	5.15	358.7	15.84	1.55	18.5	122.3	16.43	~375
1151	5.15	358.5	13.32	1.43	18.4	122.8	16.41	~375
1154	5.15	356.3	11.24	1.32	18.5	123.8	16.42	~375
1157	5.16	358.1	9.82	1.25	18.4	124.0	16.40	~375
1200			SAMPLED					
1215	5.18	354.6	10.11	1.22	18.7	126.2	16.42	~375

Purge Cycle (End): 10/5 seconds @ 20 psi Flow Rate (ml/min End): ~375

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (29.35)(0.006) = 0.18

Total Purge Volume (Gallons): ~4 Purge Water Management: onsite containment

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

Purge Time: 1116

Sample Time: 1200 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: B, Ca, Chloride, Sulfate, TDS, Fluoride, As, Ba, Be,

Other Observations / Equipment Operation Problems: Cd, Cr, Co, Pb, Li, Mo, Tl, Radium 226/228, Total Radium

DTP: 29.35

Sampler Signature: Date: 11/6/2020 Page 1 of 1

QA/QC Signature: Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/6/2020
Weather: overcast, 50s

Project Name: CPS
Project No./Task No.: 20139767
Event: 2SA2020 CCR LAP
Sampler(s): M. Antal
Well ID: MW-21
Field Calibration Completed: 0815 on 11/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 5.74 feet
Depth to Bottom: 27.96 feet
Water Column Thickness: 22.22 feet

Equipment Used:
- ☑ WL Indicator 16D104376
- ☑ YSI ~~ProDSS 17M102891~~ NA
- ☐ In-Situ ——
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☑ MP-15 Controller Box
- ☑ 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
0857	5.61	514	14.5	1.04	17.8	153.7	5.81	400
0900	5.66	513	11.5	0.92	17.8	140.8	5.82	400
0903	5.66	518	9.4	0.82	17.8	141.4	5.83	400
0906	5.66	521	7.5	0.77	17.8	142.8	5.81	400
0908				SAMPLE				
0920	5.73	524	4.5	0.87	17.8	137.4	5.82	400

Purge Cycle (End): 10/5 seconds @ 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): (23.28')(0.006) = ~0.14
Total Purge Volume (Gallons): ~3.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 0852 DTP = 23.28'

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: B, Ca, chloride, pH (field), sulfate, TDS, fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Tl, radium 226/228, total radium

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/6/2020
Page 1 of 1
QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/6/2020
Weather: Sun, 50s

Project Name: CPS
Project No./Task No.: 20139767
Event: 2SA2020 CCR LAP
Sampler(s): M. Antal
Well ID: MW-22
Field Calibration Completed: 0815 on 11/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 6.33 feet
Depth to Bottom: 35.80 feet
Water Column Thickness: 29.47 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 16D104376
- [ ] 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
0945	5.68	411.8	9.4	1.13	17.1	162.2	6.45	400
0948	5.69	419.0	5.4	0.91	17.1	152.7	6.47	400
0951	5.70	422.3	4.9	0.82	17.1	150.1	6.49	400
0954	5.70	424.3	4.5	0.78	17.1	148.8	6.48	400
0956				SAMPLE				
1008	5.71	428.8	4.0	0.94	17.1	146.0	6.54	400

Purge Cycle (End): 1015 seconds @ 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): (30.35')(0.006)=~0.18
Total Purge Volume (Gallons): ~1.5
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample *some floating & suspended black particles
Purge time: 0940
DTP = 30.35'
Sample Time: 0956
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: B, Ca, chloride, pH (field), Sulfate, TDS, fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Tl, radium 226/228, total radium

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/6/2020
QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sun, 70s

Project Name: CPS
Project No./Task No.: 20139767
Event: 25A20 CCR-LAP
Sampler(s): D. Steele
Well ID: MW-23
Field Calibration Completed: 11/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 5.50 feet
Depth to Bottom: 41.55 feet
Water Column Thickness: — feet

Equipment Used:
- [X] WL Indicator
- [X] YSI ProDSS 16D104376
- [ ] 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
1413	6.47	602	5.6	4.88	20.7	-64.3	5.60	150
1418	6.28	626	5.0	3.52	20.4	-53.2	5.62	150
1423	6.25	636	5.6	3.30	20.3	-49.3	5.64	150
1428	6.23	638	5.2	2.99	20.3	-45.8	5.65	150
1433	6.20	644	5.7	2.77	20.3	-42.7	5.66	150
1435	—	—	→ SAMPLE	—	—	—	—	—
1455	6.48	654	4.7	2.01	19.3	-54.0	5.70	150

Purge Cycle (End): 55/5 seconds @ 20 psi
Flow Rate (ml/min End): ~150
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.22
Total Purge Volume (Gallons): ~0.5
Purge Water Management: poly tank containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
purge time: 1405

Sample Time: 1435
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: B, Ca, Cl, Sulfate, TDS, F, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Tl

Radium 226 + 228, total radium

Other Observations / Equipment Operation Problems: DTP: 36.65'

Sampler Signature: [signature] Date: 11/5/2020
QA/QC Signature: M. Jayh Date: 11-12-2020

GOLDER MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: sunny, 70°

Project Name: C.P.S
Project No./Task No.: 20139767
Event: 2SA20 - LAP CCR
Sampler(s): L. Grimm
Well ID: MW-24
Field Calibration Completed: @ 0800 on 11/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 13.15 feet
Depth to Bottom: 37.61 feet
Water Column Thickness: 24.46 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 19F104904
- [ ] 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
1248	6.44	642	16.44	0.48	19.8	-94.5	15.90	~375
1251	6.50	642	33.09	0.37	19.5	-101.3	16.21	~375
1254	6.58	641	74.44	0.28	19.9	-110.5	16.71	~375
1257	6.62	640	61.87	0.22	19.9	-115.2	17.09	~375
1300	6.64	641	50.49	0.19	19.9	-117.6	17.41	~375
1303	6.65	641	36.00	0.22	19.9	-118.3	17.75	~375
1306	6.65	642	12.02	0.22	19.9	-118.7	17.89	~375
1309	6.65	642	12.44	0.21	19.9	-119.0	18.00	~375
1312	6.65	642	10.32	0.17	19.9	-119.4	18.07	~375
1315	6.65	642	9.81	0.20	19.9	-118.6	18.12	~375
1317				SAMPLED				
1332	6.67	641	9.83	0.28	19.6	-115.2	18.68	~375

Purge Cycle (End): 11/4 seconds @ 20 psi Flow Rate (ml/min End): ~375
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (32.35)(0.406) = 0.19
Total Purge Volume (Gallons): ~4 Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge Start: 1243

Sample Time: 1317 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: B, Ca, chloride, sulfate, TDS, Fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Tl, Radium 226/228, tot. Radium

Other Observations / Equipment Operation Problems:
DTP: 32.35'

Sampler Signature: Date: 11/5/2020 Page 1 of 1
QA/QC Signature: Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020

Weather: Sunny, 70°

Project Name: C.P.S

Project No./Task No.: 20397167

Event: 2SA2020 LAP CCR

Sampler(s): L. Grimm

Well ID: MW-25

Field Calibration Completed: 0800 on 11/5/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 11.01 feet

Depth to Bottom: 56.13 feet

Water Column Thickness: 45.12 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 19E104904
- [ ] 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
1506	6.31	339.7	10.08	2.32	18.2	19.0	11.05	~225
1511	6.17	510	33.31	0.70	17.6	-40.1	11.06	~225
1516	6.16	525	28.36	0.61	17.4	-68.7	11.08	~225
1521	6.16	521	27.05	0.55	17.3	-76.6	11.06	~225
1526	6.17	516	28.09	0.50	17.3	-79.5	11.05	~225
1531	6.16	515	28.03	0.42	17.3	-80.7	11.04	~225
1536	6.16	518	28.17	0.44	17.2	-80.9	11.07	~225
1541	6.16	~~409~~ 509	28.77	0.43	17.2	-80.1	11.08	~225
1543			SAMPLED					
1605	6.16	492.2	29.98	0.57	17.4	-74.0	11.05	~225

Purge Cycle (End): 24/6 seconds @ 30 psi Flow Rate (ml/min End): ~225

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (51.65)(0.006) = 0.31

Total Purge Volume (Gallons): ~3 Purge Water Management: Onsite containment

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

Purge Time: 1501

Sample Time: 1543 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: B, Ca, Chloride, Sulfate, TDS, Fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Tl, Radium 226/228, tot. Radium

Other Observations / Equipment Operation Problems: DTP - 51.65'

Sampler Signature: Date: 11/5/2020 Page 1 of 1

QA/QC Signature: Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/6/2020

Weather: Cloudy, 50°

Project Name: C.P.S

Project No./Task No.: 20139767

Event: 2SAZO-LAPCCR

Sampler(s): L. Grimm

Well ID: MW-26

Field Calibration Completed: 0815 on 11/5/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 7.93 feet

Depth to Bottom: 31.41 feet

Water Column Thickness: 23.48 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 19E104967
- [ ] 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
0857	5.47	202.2	88.66	1.48	18.8	77.8	8.11	~200
0902	5.84	224.5	161.37	0.78	18.9	25.8	8.13	~200
0907	5.97	209.7	28.47	0.85	18.9	14.0	8.12	~200
0912	5.98	200.5	16.82	0.82	18.9	11.3	8.16	~200
0917	5.98	193.7	12.01	0.74	19.1	12.0	8.15	~200
0922	5.97	190.7	10.76	0.39	19.1	13.2	8.15	~200
0927	5.98	188.8	8.19	0.64	19.1	13.3	8.16	~200
0929			SAMPLED					
0950	5.97	169.3	13.13	0.74	19.4	16.6	8.27	~200

Purge Cycle (End): 25/5 seconds @ 20 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): (26.95)(0.006)=0.16

Total Purge Volume (Gallons): ~2 Purge Water Management: onsite containment

Purge Observations (color, odor, turbidity, sheen): clear grab sample, some orange suspended particles

Purge Time: 0852

Sample Time: 0929

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: B, Ca, Chloride, Sulfate, TDS, Fluoride, Ba, Be, Cd, Co, Cr, Pb, Li, Mo, Tl, Radium 226/228, Tot Radium

Other Observations / Equipment Operation Problems:

DTP: 26.95'

Sampler Signature: Date: 11/6/2020 Page 1 of 1

QA/QC Signature: Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: sun, 70s

Project Name: CPS
Project No./Task No.: 20139767
Event: 2SA2020 OER LAP
Sampler(s): M. Antal
Well ID: MW-27
Field Calibration Completed: 0800 on 11/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 16.82 feet
Depth to Bottom: 32.20 feet
Water Column Thickness: 15.38 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI ProDSS 17M102881
- [ ] 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
1456	5.71	462.7	4.03	0.42	17.5	157.8	16.91	400
1459	5.69	457.4	3.22	0.30	17.5	163.3	16.95	400
1502	5.68	455.4	3.03	0.24	17.5	166.3	16.94	400
1505	5.68	455.5	2.96	0.20	17.5	168.9	16.91	400
1507				SAMPLE				
1527	5.69	491.1	2.90	0.24	17.5	151.3	16.92	400

Purge Cycle (End): 015 seconds @ 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): (28.22')(0.006)=~0.17
Total Purge Volume (Gallons): ~3.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 1451
DTP = 28.22'
Sample Time: 1507
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: B, Ca, chloride, pH(field), sulfate, TDS, fluoride, As, Ba, Be, Cd, chromium, Co, Pb, Li, Mo, Tl, radium 226/228, total radium

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/6/2020
Weather: sunny, 55°

Project Name: C.P.S
Project No./Task No.: 20139767
Event: 2SA2020-LAB CCR
Sampler(s): L. Grimm
Well ID: MW-28
Field Calibration Completed: @ 0815 on 11/6/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 17.67 feet
Depth to Bottom: 37.26 feet
Water Column Thickness: 19.59 feet

Equipment Used:
- [x] WL Indicator
- [ ] Turbidity Meter
- [ ] Air Tank
- [x] Dedicated Bladder Pump
- [x] YSI Pro DSS 19E104904
- [ ] 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
1017	7.06	622	38.30	0.64	21.0	-45.6	17.68	~350
1020	7.17	625	29.72	0.67	21.1	-89.5	17.72	~350
1023	7.20	620	20.45	0.58	21.1	-98.3	17.70	~350
1026	7.20	612	19.11	0.53	21.2	-103.2	17.69	~350
1029	7.20	605	18.01	0.47	21.2	-105.1	17.70	~350
1032	7.19	600	~~18.08~~ 16.70	0.46	21.2	-106.0	17.71	~350
1035	7.18	598	13.64	0.37	21.2	-105.5	17.68	~350
1038	7.16	589	11.08	0.31	21.2	-104.3	17.72	~350
1041	7.15	587	10.07	0.32	21.2	-103.8	17.71	~350
1043			SAMPLED					
1057	7.11	567	10.77	0.15	21.2	-99.5	17.70	~350

Purge Cycle (End): 10/5 seconds @ 20 psi Flow Rate (ml/min End): ~350
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (30.07)(0.006) = 0.18
Total Purge Volume (Gallons): ~3.5 Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge Time: 1012
Sample Time: 1043 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: B, Ca, Chloride, Sulfate, TDS, ~~Chloride~~ Fluoride, As, Ba, Be,

Other Observations / Equipment Operation Problems: Cd, Cr, Co, Pb, Li, Mo, Tl, Radium 226/228, tot Radium
DTP: 30.07

Sampler Signature: Date: 11/6/2020 Page 1 of 1
QA/QC Signature: Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/3/2020
Weather: sun, 60s

Project Name: CPS
Project No./Task No.: 20136797
Event: UAP 4Q2020 UPDES/2SA2020 CCR LAP
Sampler(s): M. Antal
Well ID: MW-B50
Field Calibration Completed: 0820 on 11/3/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 21.63 feet
Depth to Bottom: 30.40 feet
Water Column Thickness: 8.77 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 17M102881
- [ ] 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
1031	6.28	1007	33.99	2.67	16.1	14.8	22.04	200
1036	6.36	1016	10.88	1.50	16.2	-10.5	22.21	200
1041	6.39	1000	6.60	1.16	16.4	-14.7	22.24	200
1046	6.40	992	5.84	1.11	16.4	-16.4	22.27	200
1048				SAMPLE				
1114	6.47	948	3.91	1.06	16.4	-19.0	22.10	200

Purge Cycle (End): 27/3 seconds @ 20 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): (25.78)(0.006) = ~0.15
Total Purge Volume (Gallons): ~2.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): clear grab sample
Purge time: 1026 DTP = 25.78'
Sample Time: 1048
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: Dissolved: (As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Hg, Mo, Se, Ag, V, Zn), Ammonia, Chloride, nitrate, sulfate, TDS, total hardness, B, Ca, Chloride, ~~DTP~~ pH(field), fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Thallium, radium 226/228, total radium, Chromium VI, dissolved

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/3/2020 Page 1 of 1

QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/6/2020

Weather: Sun, ~

Project Name: CCR

Project No./Task No.: 20139767

Event: 2SA2020 CCR LAP

Sampler(s): M. Antal

Well ID: MW-32

Field Calibration Completed: 0815 on 11/6/2020

Well Diameter: 2.0 inches

Initial Depth to Water: 4.57 feet

Depth to Bottom: 31.67 feet

Water Column Thickness: 27.10 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 16D104376
- [ ] 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
1039	6.40	525	7.0	0.93	17.3	-85.8	7.42	400
1042	6.44	525	5.3	0.79	17.3	-95.3	8.52	400
1045	6.46	517	8.2	0.73	17.4	-99.7	9.44	400
1048	6.46	506	15.1	0.70	17.4	-101.3	10.32	400
1051	6.46	487.5	20.8	0.68	17.3	-101.7	11.54	400
1054	6.46	482.0	17.0	0.68	17.7	-101.3	11.61	300
1057	6.47	481.6	9.9	0.68	17.7	-99.4	11.63	300
1059				SAMPLE				
1119	6.45	409.3	11.8	0.74	17.6	-87.7	12.65	300

Purge Cycle (End): 25 10 15 seconds @ 20 psi Flow Rate (ml/min End): ~~400~~ 300

Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (27.51')(0.006)=~0.17

Total Purge Volume (Gallons): ~3.0 Purge Water Management: onsite containment

Purge Observations (color, odor, turbidity, sheen): clear grab sample *some floating & suspended red particles.

Purge time: 1034 DTP=27.51'

Sample Time: 1059 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: B, Ca, chloride, pH(field), sulfate, TDS, fluoride,

Other Observations / Equipment Operation Problems: As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Tl, radium 226/228, total radium

Sampler Signature: Date: 11/6/2020 Page 1 of 1

QA/QC Signature: Date: 11/11/2020

GOLDER MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sun, 60s

Project Name: CPS
Project No./Task No.: 20137767.8.
Event: 2SA20 CCR LAP
Sampler(s): O-Steele
Well ID: MW-33
Field Calibration Completed: 11/5/2020 a
Well Diameter: 2.0 inches
Initial Depth to Water: 10.00 feet
Depth to Bottom: 37.00 feet
Water Column Thickness: ____ feet

Equipment Used:
- [X] WL Indicator
- [X] YSI PRODSS16D103716
- [ ] 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
1225	6.54	6643	5.2	1.29	19.5	-72.2	10.30	~~300~~ 200
1228~~30~~	6.18	6661	39.5	0.92	19.3	-63.2	10.37	200
1235	6.84	6660	57.5	0.74	18.3	-137.3	10.52	200
1240	6.85	6661	49.9	0.76	18.9	-136.1	10.55	200
1245	6.92	6661	4.10	2.38	19.8	-103.9	10.30	200
1250	6.78	6663	4.6	1.67	19.8	-109.0	10.35	200
1255	6.79	6664	4.9	1.50	19.7	-111.4	10.40	200
1300	6.80	6666	5.1	1.19	19.6	-115.7	10.42	200
1301	____	____	____ SAMPLE	____	____	____	____	____
1323	6.88	~~5~~ ~~315.1~~ 6671	7.6	2.90	20.5	-93.5	10.51	200

Purge Cycle (End): 24/6 seconds @ 20 psi Flow Rate (ml/min End): ~~300~~ 200
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.195
Total Purge Volume (Gallons): ~0.75 Purge Water Management: polytank containment
Purge Observations (color, odor, turbidity, sheen): ~~clear~~ grab sample.
purge time: 1220 light tan
Sample Time: 1301 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: B, Ca, Cl, Sulfate, TDS, F, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, T Radium 226+228, total radium

Other Observations / Equipment Operation Problems: DTP = 32.90'

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: [signature] Date: 11-12-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sunny, 70°

Project Name: CCR
Project No./Task No.: 20139767
Event: 2SA2020 LAP CCR
Sampler(s): L. Graham
Well ID: MW-34
Field Calibration Completed: @0800 on 11/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 7.72 feet
Depth to Bottom: 29.25 feet
Water Column Thickness: 21.53 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 19E104904
- [ ] 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
1406	6.58	777	70.70	0.17	18.4	-119.8	7.85	~250
1411	6.59	776	12.09	0.07	18.2	-123.8	8.02	~250
1416	6.60	776	8.99	0.01	18.2	-126.5	8.04	~250
1421	6.59	776	9.15	0.00	18.2	-127.4	8.05	~250
1423	—	—	SAMPLED	—	—	—	—	—
1446	6.60	776	8.07	0.00	18.2	-125.7	8.09	~250

Purge Cycle (End): 24/6 seconds @ 22 psi
Flow Rate (ml/min End): ~250
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (25.95)(0.006) = 0.16
Total Purge Volume (Gallons): ~2.5
Purge Water Management: onsite Containment
Purge Observations (color, odor, turbidity, sheen): Clear grab sample
Purge Time: 1401 * white foam coming from top of well casing during purging and sampling
Sample Time: 1423
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: B, Ca, Chloride, Sulfate, TDS, Fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Tl, Radium 226/228, tot. Radium

Other Observations / Equipment Operation Problems: DTP: 25.95 *

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11-3-2020

Weather: Sun, 50s

Project Name: CPS

Project No./Task No.: 20139767

Event: 2SA20 LAP CCR / 4Q20 VPDES LAP

Sampler(s): M. Taylor

Well ID: MW-B40A

Field Calibration Completed: 0820 11-3-2020

Well Diameter: 20 inches

Initial Depth to Water: 6.92 feet

Depth to Bottom: ~ 18.20 feet

Water Column Thickness: - feet

Equipment Used:
- [X] WL Indicator
- [X] YSI ProDSS 19E104904
- [ ] 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
1122	6.59	536	77.30	0.43	21.3	-74.1	9.38	400
1125	6.71	528	50.49	0.19	21.4	-93.9	10.14	400
1128	6.77	514	76.31	0.13	21.4	-108.2	10.22	300
1131	6.74	529	85.95	0.24	21.4	-97.3	10.53	300
1134	6.73	529	81.94	0.20	21.1	-88.4	10.73	300
1137	6.74	531	71.64	0.12	21.1	-94.7	10.92	200
1142	6.76	539	57.22	0.08	21.3	-103.9	11.20	200
1147	6.76	544	40.82	0.09	21.4	-108.2	11.51	200
1152	6.76	549	28.11	0.07	21.3	-110.1	11.91	200
1157	6.76	553	20.31	0.05	21.3	-111.0	12.09	200
1202	6.75	557	15.31	0.05	21.5	-111.6	12.31	200
1207	6.74	562	12.10	0.06	21.6	-112.0	12.39	200
1212	6.74	563	12.32	0.07	21.5	-112.4	12.65	200
1217	6.74	563	11.80	0.06	21.7	-113.2	12.84	200
1220	—	SAMPLED	—	—	—	—	—	—
~~1221~~ MS 1248	6.70	584	11.32	0.29	21.8	-96.2	14.29	200

Purge Cycle (End): 56/4 seconds @ 10 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): (14.79)(0.163) ≈ 0.08

Total Purge Volume (Gallons): ~3.75 Purge Water Management: onsite containment

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

purge start: 1118 pH: 6.74 s.u. @ 21.7°C

Sample Time: 1220 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: dissolved: (Cu, Fe, Mo, Zn), ammonia, chloride, nitrate, sulfate, TDS, total hardness, Boron, Ca, Fluoride, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Thallium, Radium 226/228, total radium

Other Observations / Equipment Operation Problems:

Sampler Signature: M. Taylor Date: 11-3-2020 Page 1 of 1

QA/QC Signature: Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sun, 60s

Project Name: CPS
Project No./Task No.: 20137767
Event: 2SA2020 CCR VAP/LAP
Sampler(s): M. Antal
Well ID: MW-29V
Field Calibration Completed: 0800 on 11/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 4.45 feet
Depth to Bottom: 20.61 feet
Water Column Thickness: 16.16 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 17M102881
- [ ] 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
1126	6.04	844	49.13	0.32	16.7	-76.4	6.35	400
1129	6.08	830	16.65	0.23	17.1	-80.2	7.65	400
1132	6.15	790	20.44	0.17	17.2	-81.9	9.81	400
1135	6.17	777	21.32	0.15	17.3	-80.5	10.90	400
1138	6.18	767	33.73	0.16	17.3	-77.9	11.42	400
1141	6.17	762	29.81	0.12	17.2	-76.0	11.81	400
1144	6.16	760	24.74	0.10	17.3	-74.7	12.31	400
1147	6.15	763	20.19	0.09	17.3	-75.0	12.71	400
1150	6.15	766	15.21	0.09	17.4	-77.5	13.40	400
1153	6.15	772	25.23	0.08	17.4	-80.4	14.00	400
1156	6.14	784	26.72	0.07	17.4	-86.0	14.71	400
1159	6.14	788	25.41	0.08	17.4	-89.5	15.20	250
1202	6.14	790	24.23	0.08	17.4	-93.4	15.55	400
1205	6.14	791	24.77	0.07	17.4	-95.2	15.99	400
1208	6.13	795	25.21	0.08	17.4	-97.3	16.42	400
1210				SAMPLE				
1224	6.07	761	21.59	0.08	16.9	-86.3	BTOP	400

Purge Cycle (End): 11/4 seconds @ 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): (17.95' Yoake) = ~0.12
Total Purge Volume (Gallons): ~6.0
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): Light tan grab sample
Purge time: 1121 DTP = 17.95' BTOP = Below Top of Pump
Sample Time: 1210
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: B, Ca, chloride, pH(field), sulfate, TDS, fluoride, Sb, As, Ba, Be, Cd, Co, Pb, Li, Mo, Se, Tl, chromium

Other Observations / Equipment Operation Problems:
radium 226/228, total radium

Sampler Signature: [signature] Date: 11/5/2020
QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sun, 70s

Project Name: CPS
Project No./Task No.: 20139767
Event: 2SA2020 CCR LAP/VAP
Sampler(s): M. Antal
Well ID: MW-35S
Field Calibration Completed: 0800 on 11/5/2020
Well Diameter: 2.0 inches
Initial Depth to Water: 48.43 feet
Depth to Bottom: 67.23 feet
Water Column Thickness: 18.80 feet

Equipment Used:
- [x] WL Indicator
- [x] YSI Pro DSS 17M102581
- [ ] 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
1252	5.82	187.6	3.77	7.61	15.3	84.7	48.56	400
1255	5.74	188.1	3.65	7.65	15.3	101.4	48.59	400
1258	5.70	187.2	3.31	7.67	15.2	112.1	48.49	400
1301	5.68	185.2	3.16	7.66	15.2	122.1	48.61	400
1303				SAMPLE				
1312	5.65	179.7	3.85	7.66	15.2	145.4	48.45	400

Purge Cycle (End): 1015 seconds @ 40 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) (58.62)(0.006)=~0.35
Total Purge Volume (Gallons): ~2.5
Purge Water Management: onsite containment
Purge Observations (color, odor, turbidity, sheen): Clear grab sample
Purge time: 1247 DTP = 58.62'
Sample Time: 1303
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: B, Ca, chloride, pH(field), sulfate, TDS, fluoride, Sb, As, Ba, Be, Cd, Co, Pb, Li, Mo, Se, Tl, radium 226/228, total radium, chromium

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: [signature] Date: 11/11/2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sun, 70s

Project Name: CPS
Project No./Task No.: 20139767
Event: 2SA20 LAP CCR
Sampler(s): D. Steele
Well ID: Field Blank-LAP
Field Calibration Completed: 11/5/2020@0800
Well Diameter: — inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- ☐ WL Indicator
- ☐ YSI —
- ☐ In-Situ —
- ☐ Turbidity Meter
- ☐ Peristaltic Pump
- ☐ MP-10 Controller Box
- ☐ Air Tank
- ☐ Compressor
- ☐ MP-15 Controller Box
- ☐ 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
1340	—	—	—	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 near MW-33
Sample Time: 1340 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 Radium 226+228, total radium
- ☒ Other: ~~Bg~~ B, Ca, Cl, Sulfate, TDS, F, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, T

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: M Jaffi Date: 11-12-2020

GOLDER MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: SUN, 70s

Project Name: CPS
Project No./Task No.: 20397767
Event: 2SA20 LAP CCR
Sampler(s): D. Steele
Well ID: Equipment Blank LAP
Field Calibration Completed: 11/5/2020 @ 0800
Well Diameter: — inches
Initial Depth to Water: — feet
Depth to Bottom: — feet
Water Column Thickness: — feet

Equipment Used:
- [x] 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
1530	—	—	— 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 near MW-25 using laboratory supplied DI water
Sample Time: 1530
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 Radium 226+228, total radium
- [x] Other: B, Ca, Cl, Sulfate, TDS, F, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, T

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: M. Gayle Date: 11-12-2020

GOLDER

MICROPURGE SAMPLING LOG

Date: 11/5/2020
Weather: Sun, 70s

Project Name: CPS
Project No./Task No.: 20136767
Event: 2SA2020 CCR LAP
Sampler(s): M. Antal
Well ID: ~~Blank~~ Duplicate LAP
Field Calibration Completed: 0800 on 11/5/2020
Well Diameter: — inches
Initial Depth to Water: ____ feet
Depth to Bottom: — feet
Water Column Thickness: ____ feet

Equipment Used:
- [x] WL Indicator
- [x] YSI for DSS17M102581
- [ ] 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
1520	—	—	—	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: onsite containment
Purge Observations (color, odor, turbidity, sheen): Clear grab sample taken at MW-27.

Sample Time: 1520 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: B, Ca, chloride, pH(field), sulfate, TDS, fluoride, As, Ba, Be, Cd, chromium, Co, Pb, Li, Mo, Tl, radium 226/228, total radium

Other Observations / Equipment Operation Problems:

Sampler Signature: [signature] Date: 11/5/2020 Page 1 of 1
QA/QC Signature: [signature] Date: 11/11/2020

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

December 11, 2020

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

RE: Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory between November 03, 2020 and November 06, 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 - Eden
- Pace Analytical Services - Greensburg

This revision was issued on 12/11/20 to update the project name, per client request

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

Sincerely,

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: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

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

Pace Analytical Services 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

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
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SAMPLE SUMMARY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92503609001	**MW-B50**	Water	11/03/20 10:48	11/03/20 15:25
92503609002	**MW-B40A**	Water	11/03/20 12:20	11/03/20 15:25
92503609003	**MW-33**	Water	11/05/20 13:01	11/06/20 15:31
92503609004	**MW-24**	Water	11/05/20 13:17	11/06/20 15:31
92503609005	**Field Blank - LAP**	Water	11/05/20 13:40	11/06/20 15:31
92503609006	**MW-23**	Water	11/05/20 14:35	11/06/20 15:31
92503609007	**MW-34**	Water	11/05/20 14:23	11/06/20 15:31
92503609008	**MW-27**	Water	11/05/20 15:07	11/06/20 15:31
92503609009	**Duplicate - LAP**	Water	11/05/20 15:20	11/06/20 15:31
92503609010	**Equipment Blank - LAP**	Water	11/05/20 15:30	11/06/20 15:31
92503609011	**MW-25**	Water	11/05/20 15:43	11/06/20 15:31
92503609012	**MW-21**	Water	11/06/20 09:08	11/06/20 15:31
92503609013	**MW-26**	Water	11/06/20 09:29	11/06/20 15:31
92503609014	**MW-22**	Water	11/06/20 09:56	11/06/20 15:31
92503609015	**MW-28**	Water	11/06/20 10:43	11/06/20 15:31
92503609016	**MW-32**	Water	11/06/20 10:59	11/06/20 15:31
92503609017	**MW-20**	Water	11/06/20 12:00	11/06/20 15:31

Pace Analytical Services, LLC
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(704)875-9092

SAMPLE ANALYTE COUNT

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503609001	**MW-B50**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
92503609002	**MW-B40A**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	BRJ	3	PASI-A
92503609003	**MW-33**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609004	**MW-24**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609005	**Field Blank - LAP**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609006	**MW-23**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A

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SAMPLE ANALYTE COUNT

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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609007	**MW-34**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609008	**MW-27**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609009	**Duplicate - LAP**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	SH1	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609010	**Equipment Blank - LAP**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	JOR	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609011	**MW-25**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA

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SAMPLE ANALYTE COUNT

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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609012	**MW-21**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609013	**MW-26**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609014	**MW-22**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609015	**MW-28**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	JOR, KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92503609016	**MW-32**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	JOR, KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: CPS 2SA20 LAP (C)-Revised Report
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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92503609017	**MW-20**	EPA 9056A	CDC	3	PASI-A
		SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	JOR, KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A

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

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SUMMARY OF DETECTION

Project: CPS 2SA20 LAP (C)-Revised Report
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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609001	**MW-B50**					
SM 2540C-2011	Total Dissolved Solids	528	mg/L	25.0	11/05/20 12:40	
EPA 6010D	Barium	155	ug/L	5.0	11/30/20 20:15	
EPA 6010D	Boron	434	ug/L	50.0	11/30/20 20:15	
EPA 6010D	Calcium	96900	ug/L	100	11/30/20 20:15	
EPA 6010D	Lithium	0.63	ug/L	0.50	11/30/20 20:15	
EPA 6020B	Arsenic	1.9	ug/L	0.10	11/30/20 16:05	
EPA 6020B	Cobalt	2.0	ug/L	0.10	11/30/20 16:05	
EPA 6020B	Molybdenum	0.39J	ug/L	0.50	11/30/20 16:05	
EPA 6020B	Thallium	0.12	ug/L	0.10	11/30/20 16:05	
EPA 9315	Radium-226	0.551 ± 0.311 (0.410) C:85% T:NA	pCi/L		11/25/20 09:43	
EPA 9320	Radium-228	0.0498 ± 0.770 (1.76) C:53% T:67%	pCi/L		12/02/20 11:50	
Total Radium Calculation	Total Radium	0.601 ± 1.08 (2.17)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	142	mg/L	3.0	11/07/20 08:10	
EPA 9056A	Fluoride	0.12	mg/L	0.10	11/07/20 02:52	
EPA 9056A	Sulfate	66.0	mg/L	1.0	11/07/20 02:52	
92503609002	**MW-B40A**					
SM 2540C-2011	Total Dissolved Solids	287	mg/L	25.0	11/06/20 10:51	
EPA 6010D	Barium	188	ug/L	5.0	11/30/20 20:18	
EPA 6010D	Boron	1530	ug/L	50.0	11/30/20 20:18	
EPA 6010D	Calcium	30300	ug/L	100	11/30/20 20:18	
EPA 6010D	Lithium	0.17J	ug/L	0.50	11/30/20 20:18	
EPA 6020B	Arsenic	5.0	ug/L	0.10	11/30/20 16:09	
EPA 6020B	Cobalt	0.14	ug/L	0.10	11/30/20 16:09	
EPA 6020B	Lead	0.14	ug/L	0.10	11/30/20 16:09	
EPA 6020B	Molybdenum	0.78	ug/L	0.50	11/30/20 16:09	
EPA 9315	Radium-226	0.367 ± 0.270 (0.451) C:87% T:NA	pCi/L		11/25/20 09:43	
EPA 9320	Radium-228	0.292 ± 0.647 (1.43) C:59% T:83%	pCi/L		12/02/20 11:50	
Total Radium Calculation	Total Radium	0.659 ± 0.917 (1.88)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	42.9	mg/L	1.0	11/07/20 03:06	
EPA 9056A	Fluoride	0.14	mg/L	0.10	11/07/20 03:06	
92503609003	**MW-33**					
SM 2540C-2011	Total Dissolved Solids	235	mg/L	25.0	11/11/20 09:26	
EPA 6010D	Barium	189	ug/L	5.0	11/30/20 20:21	

REPORT OF LABORATORY ANALYSIS

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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609003	**MW-33**					
EPA 6010D	Boron	48.7J	ug/L	50.0	11/30/20 20:21	
EPA 6010D	Calcium	26000	ug/L	100	11/30/20 20:21	
EPA 6010D	Lithium	0.085J	ug/L	0.50	11/30/20 20:21	
EPA 6020B	Arsenic	10.0	ug/L	0.10	11/30/20 17:14	
EPA 6020B	Cobalt	2.7	ug/L	0.10	11/30/20 17:14	
EPA 6020B	Molybdenum	2.4	ug/L	0.50	11/30/20 17:14	
EPA 9315	Radium-226	0.799 ± 0.651 (1.16) C:91% T:NA	pCi/L		11/24/20 18:35	
EPA 9320	Radium-228	-0.125 ± 0.602 (1.45) C:44% T:86%	pCi/L		12/02/20 14:51	
Total Radium Calculation	Total Radium	0.799 ± 1.25 (2.61)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	20.8	mg/L	1.0	11/10/20 23:09	
EPA 9056A	Fluoride	0.16	mg/L	0.10	11/10/20 23:09	
92503609004	**MW-24**					
SM 2540C-2011	Total Dissolved Solids	230	mg/L	25.0	11/11/20 09:26	
EPA 6010D	Barium	305	ug/L	5.0	11/30/20 20:24	
EPA 6010D	Boron	562	ug/L	50.0	11/30/20 20:24	
EPA 6010D	Calcium	32700	ug/L	100	11/30/20 20:24	
EPA 6010D	Lithium	0.19J	ug/L	0.50	11/30/20 20:24	
EPA 6020B	Arsenic	9.4	ug/L	0.10	11/30/20 17:26	
EPA 6020B	Cobalt	1.6	ug/L	0.10	11/30/20 17:26	
EPA 6020B	Lead	0.12	ug/L	0.10	11/30/20 17:26	
EPA 6020B	Molybdenum	2.4	ug/L	0.50	11/30/20 17:26	
EPA 9315	Radium-226	0.538 ± 0.466 (0.843) C:45% T:NA	pCi/L		11/25/20 08:07	
EPA 9320	Radium-228	0.295 ± 0.480 (1.04) C:50% T:86%	pCi/L		12/02/20 14:54	
Total Radium Calculation	Total Radium	0.833 ± 0.946 (1.88)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	49.3	mg/L	1.0	11/10/20 23:24	
EPA 9056A	Fluoride	0.12	mg/L	0.10	11/10/20 23:24	
92503609005	**Field Blank - LAP**					
EPA 9315	Radium-226	0.412 ± 0.311 (0.553) C:86% T:NA	pCi/L		11/25/20 08:07	

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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609005	**Field Blank - LAP**					
EPA 9320	Radium-228	0.475 ± 0.547 (1.15) C:57% T:77%	pCi/L		12/02/20 14:54	
Total Radium Calculation	Total Radium	0.887 ± 0.858 (1.70)	pCi/L		12/03/20 13:12	
92503609006	**MW-23**					
SM 2540C-2011	Total Dissolved Solids	405	mg/L	25.0	11/11/20 09:27	
EPA 6010D	Barium	225	ug/L	5.0	11/30/20 20:31	
EPA 6010D	Calcium	73600	ug/L	100	11/30/20 20:31	
EPA 6010D	Lithium	2.0	ug/L	0.50	11/30/20 20:31	
EPA 6020B	Arsenic	16.6	ug/L	0.10	11/30/20 17:34	
EPA 6020B	Cobalt	2.0	ug/L	0.10	11/30/20 17:34	
EPA 6020B	Molybdenum	3.5	ug/L	0.50	11/30/20 17:34	
EPA 9315	Radium-226	0.211 ± 0.247 (0.506) C:89% T:NA	pCi/L		11/25/20 08:07	
EPA 9320	Radium-228	0.516 ± 0.487 (0.994) C:60% T:84%	pCi/L		12/02/20 14:54	
Total Radium Calculation	Total Radium	0.727 ± 0.734 (1.50)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	2.2	mg/L	1.0	11/11/20 00:51	
EPA 9056A	Fluoride	0.35	mg/L	0.10	11/11/20 00:51	
EPA 9056A	Sulfate	3.0	mg/L	1.0	11/11/20 00:51	
92503609007	**MW-34**					
SM 2540C-2011	Total Dissolved Solids	309	mg/L	25.0	11/11/20 09:27	
EPA 6010D	Barium	233	ug/L	5.0	11/30/20 20:34	
EPA 6010D	Boron	1160	ug/L	50.0	11/30/20 20:34	
EPA 6010D	Calcium	43800	ug/L	100	11/30/20 20:34	
EPA 6010D	Lithium	0.22J	ug/L	0.50	11/30/20 20:34	
EPA 6020B	Arsenic	9.9	ug/L	0.10	11/30/20 17:38	
EPA 6020B	Cobalt	2.1	ug/L	0.10	11/30/20 17:38	
EPA 6020B	Molybdenum	1.5	ug/L	0.50	11/30/20 17:38	
EPA 9315	Radium-226	0.234 ± 0.237 (0.460) C:97% T:NA	pCi/L		11/25/20 08:07	
EPA 9320	Radium-228	0.614 ± 0.524 (1.05) C:53% T:85%	pCi/L		12/02/20 14:54	

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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609007	**MW-34**					
Total Radium Calculation	Total Radium	0.848 ± 0.761 (1.51)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	95.0	mg/L	1.0	11/11/20 01:05	
EPA 9056A	Fluoride	0.084J	mg/L	0.10	11/11/20 01:05	
92503609008	**MW-27**					
SM 2540C-2011	Total Dissolved Solids	224	mg/L	25.0	11/11/20 09:27	
EPA 6010D	Barium	83.5	ug/L	5.0	11/30/20 20:37	
EPA 6010D	Boron	438	ug/L	50.0	11/30/20 20:37	
EPA 6010D	Calcium	21300	ug/L	100	11/30/20 20:37	
EPA 6010D	Lithium	1.8	ug/L	0.50	11/30/20 20:37	
EPA 6020B	Arsenic	0.25	ug/L	0.10	11/30/20 17:41	
EPA 6020B	Cobalt	9.9	ug/L	0.10	11/30/20 17:41	
EPA 9315	Radium-226	2.27 ± 0.660 (0.433) C:78% T:NA	pCi/L		11/25/20 08:07	
EPA 9320	Radium-228	3.26 ± 0.919 (1.02) C:62% T:76%	pCi/L		12/02/20 14:54	
Total Radium Calculation	Total Radium	5.53 ± 1.58 (1.45)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	48.2	mg/L	1.0	11/11/20 01:20	
EPA 9056A	Sulfate	26.8	mg/L	1.0	11/11/20 01:20	
92503609009	**Duplicate - LAP**					
SM 2540C-2011	Total Dissolved Solids	223	mg/L	25.0	11/11/20 09:27	
EPA 6010D	Barium	90.2	ug/L	5.0	11/30/20 20:47	
EPA 6010D	Boron	470	ug/L	50.0	11/30/20 20:47	
EPA 6010D	Calcium	22800	ug/L	100	11/30/20 20:47	
EPA 6010D	Lithium	1.9	ug/L	0.50	11/30/20 20:47	
EPA 6020B	Arsenic	0.32	ug/L	0.10	11/30/20 17:45	
EPA 6020B	Cobalt	9.8	ug/L	0.10	11/30/20 17:45	
EPA 6020B	Thallium	0.050J	ug/L	0.10	11/30/20 17:45	
EPA 9315	Radium-226	3.39 ± 0.885 (0.590) C:77% T:NA	pCi/L		11/25/20 07:56	
EPA 9320	Radium-228	4.34 ± 1.10 (1.05) C:57% T:84%	pCi/L		12/02/20 14:55	
Total Radium Calculation	Total Radium	7.73 ± 1.99 (1.64)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	53.2	mg/L	1.0	11/11/20 01:34	
EPA 9056A	Sulfate	27.2	mg/L	1.0	11/11/20 01:34	

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SUMMARY OF DETECTION

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Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609010	**Equipment Blank - LAP**					
EPA 9315	Radium-226	0.194 ± 0.311 (0.697) C:92% T:NA	pCi/L		11/25/20 07:57	
EPA 9320	Radium-228	0.633 ± 0.601 (1.23) C:54% T:77%	pCi/L		12/02/20 14:55	
Total Radium Calculation	Total Radium	0.827 ± 0.912 (1.93)	pCi/L		12/03/20 13:12	
92503609011	**MW-25**					
SM 2540C-2011	Total Dissolved Solids	258	mg/L	25.0	11/11/20 09:27	
EPA 6010D	Barium	141	ug/L	5.0	11/29/20 19:54	
EPA 6010D	Cadmium	0.59J	ug/L	1.0	11/29/20 19:54	
EPA 6010D	Calcium	34700	ug/L	100	11/29/20 19:54	
EPA 6010D	Lithium	1.8	ug/L	0.50	11/29/20 19:54	
EPA 6020B	Arsenic	18.3	ug/L	0.10	12/01/20 11:05	M1
EPA 6020B	Cobalt	1.4	ug/L	0.10	12/01/20 11:05	
EPA 6020B	Lead	0.58	ug/L	0.10	12/01/20 11:05	
EPA 6020B	Molybdenum	3.5	ug/L	0.50	12/01/20 11:05	
EPA 9315	Radium-226	0.930 ± 0.488 (0.719) C:67% T:NA	pCi/L		11/25/20 07:57	
EPA 9320	Radium-228	0.987 ± 0.520 (0.892) C:56% T:83%	pCi/L		12/02/20 14:55	
Total Radium Calculation	Total Radium	1.92 ± 1.01 (1.61)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	5.4	mg/L	1.0	11/11/20 02:32	
EPA 9056A	Fluoride	0.43	mg/L	0.10	11/11/20 02:32	
EPA 9056A	Sulfate	1.4	mg/L	1.0	11/11/20 02:32	
92503609012	**MW-21**					
SM 2540C-2011	Total Dissolved Solids	332	mg/L	25.0	11/12/20 09:05	
EPA 6010D	Barium	48.6	ug/L	5.0	11/29/20 19:58	
EPA 6010D	Boron	459	ug/L	50.0	11/29/20 19:58	
EPA 6010D	Calcium	38500	ug/L	100	11/29/20 19:58	
EPA 6010D	Lithium	2.1	ug/L	0.50	11/29/20 19:58	
EPA 6020B	Arsenic	0.32	ug/L	0.10	12/01/20 11:25	
EPA 6020B	Cobalt	13.6	ug/L	0.10	12/01/20 11:25	
EPA 6020B	Molybdenum	0.17J	ug/L	0.50	12/01/20 11:25	
EPA 6020B	Thallium	0.054J	ug/L	0.10	12/01/20 11:25	
EPA 9315	Radium-226	0.282 ± 0.309 (0.626) C:76% T:NA	pCi/L		11/25/20 07:59	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609012	**MW-21**					
EPA 9320	Radium-228	2.91 ± 0.889 (1.09) C:62% T:81%	pCi/L		12/02/20 16:05	
Total Radium Calculation	Total Radium	3.19 ± 1.20 (1.72)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	37.3	mg/L	1.0	11/11/20 03:15	
EPA 9056A	Fluoride	0.063J	mg/L	0.10	11/11/20 03:15	
EPA 9056A	Sulfate	98.6	mg/L	1.0	11/11/20 03:15	
92503609013	**MW-26**					
SM 2540C-2011	Total Dissolved Solids	115	mg/L	25.0	11/12/20 09:07	
EPA 6010D	Barium	38.9	ug/L	5.0	11/29/20 20:01	
EPA 6010D	Calcium	7480	ug/L	100	11/29/20 20:01	
EPA 6010D	Lithium	2.6	ug/L	0.50	11/29/20 20:01	
EPA 6020B	Arsenic	7.3	ug/L	0.10	12/01/20 11:29	
EPA 6020B	Cobalt	2.5	ug/L	0.10	12/01/20 11:29	
EPA 6020B	Molybdenum	0.80	ug/L	0.50	12/01/20 11:29	
EPA 9315	Radium-226	0.580 ± 0.400 (0.713) C:80% T:NA	pCi/L		11/25/20 07:59	
EPA 9320	Radium-228	0.407 ± 0.470 (0.987) C:60% T:85%	pCi/L		12/02/20 14:55	
Total Radium Calculation	Total Radium	0.987 ± 0.870 (1.70)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	6.9	mg/L	1.0	11/11/20 03:30	
EPA 9056A	Fluoride	0.11	mg/L	0.10	11/11/20 03:30	
EPA 9056A	Sulfate	2.3	mg/L	1.0	11/11/20 03:30	
92503609014	**MW-22**					
SM 2540C-2011	Total Dissolved Solids	261	mg/L	25.0	11/12/20 09:07	
EPA 6010D	Barium	145	ug/L	5.0	11/29/20 20:04	
EPA 6010D	Boron	716	ug/L	50.0	11/29/20 20:04	
EPA 6010D	Calcium	33900	ug/L	100	11/29/20 20:04	
EPA 6010D	Lithium	2.5	ug/L	0.50	11/29/20 20:04	
EPA 6020B	Arsenic	0.23	ug/L	0.10	12/01/20 11:32	
EPA 6020B	Cobalt	6.5	ug/L	0.10	12/01/20 11:32	
EPA 6020B	Molybdenum	0.12J	ug/L	0.50	12/01/20 11:32	
EPA 9315	Radium-226	1.22 ± 0.488 (0.551) C:80% T:NA	pCi/L		11/25/20 07:29	

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SUMMARY OF DETECTION

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609014	**MW-22**					
EPA 9320	Radium-228	1.47 ± 0.682 (1.16) C:58% T:79%	pCi/L		12/02/20 14:55	
Total Radium Calculation	Total Radium	2.69 ± 1.17 (1.71)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	27.9	mg/L	1.0	11/10/20 12:15	M1
EPA 9056A	Fluoride	0.068J	mg/L	0.10	11/10/20 12:15	M1
EPA 9056A	Sulfate	45.8	mg/L	1.0	11/10/20 12:15	
92503609015	**MW-28**					
SM 2540C-2011	Total Dissolved Solids	337	mg/L	25.0	11/12/20 09:08	
EPA 6010D	Barium	95.0	ug/L	5.0	11/29/20 20:14	
EPA 6010D	Boron	190	ug/L	50.0	11/29/20 20:14	
EPA 6010D	Cadmium	1.3	ug/L	1.0	11/29/20 20:14	
EPA 6010D	Calcium	64600	ug/L	100	11/29/20 20:14	
EPA 6010D	Lithium	15.0	ug/L	0.50	11/29/20 20:14	
EPA 6020B	Arsenic	196	ug/L	2.0	12/03/20 12:52	
EPA 6020B	Cobalt	4.8	ug/L	0.10	12/01/20 11:44	
EPA 6020B	Molybdenum	12.4	ug/L	0.50	12/01/20 11:44	
EPA 9315	Radium-226	0.528 ± 0.340 (0.551) C:83% T:NA	pCi/L		11/25/20 07:30	
EPA 9320	Radium-228	1.23 ± 0.613 (1.05) C:59% T:74%	pCi/L		12/02/20 14:55	
Total Radium Calculation	Total Radium	1.76 ± 0.953 (1.60)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	29.6	mg/L	1.0	11/10/20 13:00	
EPA 9056A	Fluoride	0.36	mg/L	0.10	11/10/20 13:00	
EPA 9056A	Sulfate	26.6	mg/L	1.0	11/10/20 13:00	
92503609016	**MW-32**					
SM 2540C-2011	Total Dissolved Solids	227	mg/L	25.0	11/12/20 09:08	
EPA 6010D	Barium	147	ug/L	5.0	11/29/20 20:17	
EPA 6010D	Calcium	31400	ug/L	100	11/29/20 20:17	
EPA 6010D	Lithium	1.7	ug/L	0.50	11/29/20 20:17	
EPA 6020B	Arsenic	25.6	ug/L	1.0	12/03/20 13:07	
EPA 6020B	Cobalt	1.6	ug/L	0.10	12/01/20 11:48	
EPA 6020B	Molybdenum	2.4	ug/L	0.50	12/01/20 11:48	
EPA 9315	Radium-226	0.516 ± 0.386 (0.723) C:96% T:NA	pCi/L		11/25/20 07:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92503609016	**MW-32**					
EPA 9320	Radium-228	0.707 ± 0.511 (0.985) C:54% T:85%	pCi/L		12/02/20 14:56	
Total Radium Calculation	Total Radium	1.22 ± 0.897 (1.71)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	1.7	mg/L	1.0	11/10/20 13:15	
EPA 9056A	Fluoride	0.43	mg/L	0.10	11/10/20 13:15	
EPA 9056A	Sulfate	0.80J	mg/L	1.0	11/10/20 13:15	
92503609017	**MW-20**					
SM 2540C-2011	Total Dissolved Solids	249	mg/L	25.0	11/12/20 09:08	
EPA 6010D	Barium	23.9	ug/L	5.0	11/29/20 20:20	
EPA 6010D	Boron	280	ug/L	50.0	11/29/20 20:20	
EPA 6010D	Cadmium	0.73J	ug/L	1.0	11/29/20 20:20	
EPA 6010D	Calcium	23700	ug/L	100	11/29/20 20:20	
EPA 6010D	Lithium	1.6	ug/L	0.50	11/29/20 20:20	
EPA 6020B	Arsenic	0.17	ug/L	0.10	12/01/20 11:52	
EPA 6020B	Cobalt	47.0	ug/L	0.50	12/02/20 18:52	
EPA 6020B	Lead	0.099J	ug/L	0.10	12/01/20 11:52	
EPA 6020B	Thallium	0.16	ug/L	0.10	12/01/20 11:52	
EPA 9315	Radium-226	0.254 ± 0.297 (0.619) C:90% T:NA	pCi/L		11/25/20 08:57	
EPA 9320	Radium-228	0.673 ± 0.566 (1.14) C:60% T:79%	pCi/L		12/02/20 14:56	
Total Radium Calculation	Total Radium	0.927 ± 0.863 (1.76)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	21.6	mg/L	1.0	11/10/20 13:30	
EPA 9056A	Sulfate	98.3	mg/L	2.0	11/11/20 03:27	

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-B50 **Lab ID: 92503609001** Collected: 11/03/20 10:48 Received: 11/03/20 15:25 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	**528**	mg/L	25.0	25.0	1		11/05/20 12:40		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**155**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:15	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:15	7440-41-7	
Boron	**434**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:15	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:15	7440-43-9	
Calcium	**96900**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:15	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:15	7440-47-3	
Lithium	**0.63**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:15	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**1.9**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 16:05	7440-38-2	
Cobalt	**2.0**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 16:05	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 16:05	7439-92-1	
Molybdenum	**0.39J**	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 16:05	7439-98-7	
Thallium	**0.12**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 16:05	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**142**	mg/L	3.0	1.8	3		11/07/20 08:10	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.050	1		11/07/20 02:52	16984-48-8	
Sulfate	**66.0**	mg/L	1.0	0.50	1		11/07/20 02:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-B40A **Lab ID: 92503609002** Collected: 11/03/20 12:20 Received: 11/03/20 15:25 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	**287**	mg/L	25.0	25.0	1		11/06/20 10:51		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**188**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:18	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:18	7440-41-7	
Boron	**1530**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:18	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:18	7440-43-9	
Calcium	**30300**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:18	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:18	7440-47-3	
Lithium	**0.17J**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:18	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**5.0**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 16:09	7440-38-2	
Cobalt	**0.14**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 16:09	7440-48-4	
Lead	**0.14**	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 16:09	7439-92-1	
Molybdenum	**0.78**	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 16:09	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 16:09	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**42.9**	mg/L	1.0	0.60	1		11/07/20 03:06	16887-00-6	
Fluoride	**0.14**	mg/L	0.10	0.050	1		11/07/20 03:06	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/07/20 03:06	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-33 **Lab ID: 92503609003** Collected: 11/05/20 13:01 Received: 11/06/20 15:31 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	**235**	mg/L	25.0	25.0	1		11/11/20 09:26		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**189**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:21	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:21	7440-41-7	
Boron	**48.7J**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:21	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:21	7440-43-9	
Calcium	**26000**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:21	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:21	7440-47-3	
Lithium	**0.085J**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:21	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**10.0**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:14	7440-38-2	
Cobalt	**2.7**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:14	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:14	7439-92-1	
Molybdenum	**2.4**	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:14	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:14	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**20.8**	mg/L	1.0	0.60	1		11/10/20 23:09	16887-00-6	
Fluoride	**0.16**	mg/L	0.10	0.050	1		11/10/20 23:09	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/10/20 23:09	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-24 **Lab ID: 92503609004** Collected: 11/05/20 13:17 Received: 11/06/20 15:31 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	**230**	mg/L	25.0	25.0	1		11/11/20 09:26		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**305**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:24	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:24	7440-41-7	
Boron	**562**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:24	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:24	7440-43-9	
Calcium	**32700**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:24	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:24	7440-47-3	
Lithium	**0.19J**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:24	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**9.4**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:26	7440-38-2	
Cobalt	**1.6**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:26	7440-48-4	
Lead	**0.12**	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:26	7439-92-1	
Molybdenum	**2.4**	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:26	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:26	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**49.3**	mg/L	1.0	0.60	1		11/10/20 23:24	16887-00-6	
Fluoride	**0.12**	mg/L	0.10	0.050	1		11/10/20 23:24	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/10/20 23:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: Field Blank - LAP **Lab ID: 92503609005** Collected: 11/05/20 13:40 Received: 11/06/20 15:31 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		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	ND	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:28	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:28	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:28	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:28	7440-43-9	
Calcium	ND	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:28	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:28	7440-47-3	
Lithium	ND	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:28	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:30	7440-38-2	
Cobalt	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:30	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:30	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:30	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:30	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		11/10/20 23:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/10/20 23:38	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/10/20 23:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-23 **Lab ID: 92503609006** Collected: 11/05/20 14:35 Received: 11/06/20 15:31 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	**405**	mg/L	25.0	25.0	1		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**225**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:31	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:31	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:31	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:31	7440-43-9	
Calcium	**73600**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:31	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:31	7440-47-3	
Lithium	**2.0**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:31	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**16.6**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:34	7440-38-2	
Cobalt	**2.0**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:34	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:34	7439-92-1	
Molybdenum	**3.5**	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:34	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:34	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**2.2**	mg/L	1.0	0.60	1		11/11/20 00:51	16887-00-6	
Fluoride	**0.35**	mg/L	0.10	0.050	1		11/11/20 00:51	16984-48-8	
Sulfate	**3.0**	mg/L	1.0	0.50	1		11/11/20 00:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-34 **Lab ID: 92503609007** Collected: 11/05/20 14:23 Received: 11/06/20 15:31 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	**309**	mg/L	25.0	25.0	1		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**233**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:34	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:34	7440-41-7	
Boron	**1160**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:34	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:34	7440-43-9	
Calcium	**43800**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:34	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:34	7440-47-3	
Lithium	**0.22J**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:34	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**9.9**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:38	7440-38-2	
Cobalt	**2.1**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:38	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:38	7439-92-1	
Molybdenum	**1.5**	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:38	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:38	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**95.0**	mg/L	1.0	0.60	1		11/11/20 01:05	16887-00-6	
Fluoride	**0.084J**	mg/L	0.10	0.050	1		11/11/20 01:05	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/11/20 01:05	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-27 **Lab ID: 92503609008** Collected: 11/05/20 15:07 Received: 11/06/20 15:31 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	**224**	mg/L	25.0	25.0	1		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**83.5**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:37	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:37	7440-41-7	
Boron	**438**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:37	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:37	7440-43-9	
Calcium	**21300**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:37	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:37	7440-47-3	
Lithium	**1.8**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:37	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.25**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:41	7440-38-2	
Cobalt	**9.9**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:41	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:41	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:41	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:41	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**48.2**	mg/L	1.0	0.60	1		11/11/20 01:20	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/11/20 01:20	16984-48-8	
Sulfate	**26.8**	mg/L	1.0	0.50	1		11/11/20 01:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: Duplicate - LAP **Lab ID: 92503609009** Collected: 11/05/20 15:20 Received: 11/06/20 15:31 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	**223**	mg/L	25.0	25.0	1		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**90.2**	ug/L	5.0	3.5	1	11/25/20 01:42	11/30/20 20:47	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/25/20 01:42	11/30/20 20:47	7440-41-7	
Boron	**470**	ug/L	50.0	32.4	1	11/25/20 01:42	11/30/20 20:47	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/25/20 01:42	11/30/20 20:47	7440-43-9	
Calcium	**22800**	ug/L	100	94.2	1	11/25/20 01:42	11/30/20 20:47	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/25/20 01:42	11/30/20 20:47	7440-47-3	
Lithium	**1.9**	ug/L	0.50	0.070	1	11/25/20 01:42	11/30/20 20:47	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.32**	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:45	7440-38-2	
Cobalt	**9.8**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:45	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:45	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:45	7439-98-7	
Thallium	**0.050J**	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:45	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**53.2**	mg/L	1.0	0.60	1		11/11/20 01:34	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/11/20 01:34	16984-48-8	
Sulfate	**27.2**	mg/L	1.0	0.50	1		11/11/20 01:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: Equipment Blank - LAP **Lab ID: 92503609010** Collected: 11/05/20 15:30 Received: 11/06/20 15:31 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		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	ND	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 19:41	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 19:41	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 19:41	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 19:41	7440-43-9	
Calcium	ND	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 19:41	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 19:41	7440-47-3	
Lithium	ND	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 19:41	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	ug/L	0.10	0.087	1	11/26/20 01:48	11/30/20 17:49	7440-38-2	
Cobalt	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:49	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	11/26/20 01:48	11/30/20 17:49	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	11/26/20 01:48	11/30/20 17:49	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	11/26/20 01:48	11/30/20 17:49	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	ND	mg/L	1.0	0.60	1		11/11/20 01:49	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/11/20 01:49	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/11/20 01:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-25 **Lab ID: 92503609011** Collected: 11/05/20 15:43 Received: 11/06/20 15:31 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	**258**	mg/L	25.0	25.0	1		11/11/20 09:27		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**141**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 19:54	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 19:54	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 19:54	7440-42-8	
Cadmium	**0.59J**	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 19:54	7440-43-9	
Calcium	**34700**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 19:54	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 19:54	7440-47-3	
Lithium	**1.8**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 19:54	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**18.3**	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:05	7440-38-2	M1
Cobalt	**1.4**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:05	7440-48-4	
Lead	**0.58**	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:05	7439-92-1	
Molybdenum	**3.5**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:05	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:05	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**5.4**	mg/L	1.0	0.60	1		11/11/20 02:32	16887-00-6	
Fluoride	**0.43**	mg/L	0.10	0.050	1		11/11/20 02:32	16984-48-8	
Sulfate	**1.4**	mg/L	1.0	0.50	1		11/11/20 02:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-21 **Lab ID: 92503609012** Collected: 11/06/20 09:08 Received: 11/06/20 15:31 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	**332**	mg/L	25.0	25.0	1		11/12/20 09:05		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**48.6**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 19:58	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 19:58	7440-41-7	
Boron	**459**	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 19:58	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 19:58	7440-43-9	
Calcium	**38500**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 19:58	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 19:58	7440-47-3	
Lithium	**2.1**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 19:58	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.32**	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:25	7440-38-2	
Cobalt	**13.6**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:25	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:25	7439-92-1	
Molybdenum	**0.17J**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:25	7439-98-7	
Thallium	**0.054J**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:25	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**37.3**	mg/L	1.0	0.60	1		11/11/20 03:15	16887-00-6	
Fluoride	**0.063J**	mg/L	0.10	0.050	1		11/11/20 03:15	16984-48-8	
Sulfate	**98.6**	mg/L	1.0	0.50	1		11/11/20 03:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-26 **Lab ID: 92503609013** Collected: 11/06/20 09:29 Received: 11/06/20 15:31 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	**115**	mg/L	25.0	25.0	1		11/12/20 09:07		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**38.9**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:01	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:01	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:01	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:01	7440-43-9	
Calcium	**7480**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:01	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:01	7440-47-3	
Lithium	**2.6**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:01	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**7.3**	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:29	7440-38-2	
Cobalt	**2.5**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:29	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:29	7439-92-1	
Molybdenum	**0.80**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:29	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:29	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**6.9**	mg/L	1.0	0.60	1		11/11/20 03:30	16887-00-6	
Fluoride	**0.11**	mg/L	0.10	0.050	1		11/11/20 03:30	16984-48-8	
Sulfate	**2.3**	mg/L	1.0	0.50	1		11/11/20 03:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-22 **Lab ID: 92503609014** Collected: 11/06/20 09:56 Received: 11/06/20 15:31 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	**261**	mg/L	25.0	25.0	1		11/12/20 09:07		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**145**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:04	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:04	7440-41-7	
Boron	**716**	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:04	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:04	7440-43-9	
Calcium	**33900**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:04	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:04	7440-47-3	
Lithium	**2.5**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:04	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.23**	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:32	7440-38-2	
Cobalt	**6.5**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:32	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:32	7439-92-1	
Molybdenum	**0.12J**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:32	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:32	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**27.9**	mg/L	1.0	0.60	1		11/10/20 12:15	16887-00-6	M1
Fluoride	**0.068J**	mg/L	0.10	0.050	1		11/10/20 12:15	16984-48-8	M1
Sulfate	**45.8**	mg/L	1.0	0.50	1		11/10/20 12:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-28 **Lab ID: 92503609015** Collected: 11/06/20 10:43 Received: 11/06/20 15:31 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	**337**	mg/L	25.0	25.0	1		11/12/20 09:08		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**95.0**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:14	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:14	7440-41-7	
Boron	**190**	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:14	7440-42-8	
Cadmium	**1.3**	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:14	7440-43-9	
Calcium	**64600**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:14	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:14	7440-47-3	
Lithium	**15.0**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:14	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**196**	ug/L	2.0	1.7	20	12/01/20 01:28	12/03/20 12:52	7440-38-2	
Cobalt	**4.8**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:44	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:44	7439-92-1	
Molybdenum	**12.4**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:44	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:44	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**29.6**	mg/L	1.0	0.60	1		11/10/20 13:00	16887-00-6	
Fluoride	**0.36**	mg/L	0.10	0.050	1		11/10/20 13:00	16984-48-8	
Sulfate	**26.6**	mg/L	1.0	0.50	1		11/10/20 13:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-32 **Lab ID: 92503609016** Collected: 11/06/20 10:59 Received: 11/06/20 15:31 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	**227**	mg/L	25.0	25.0	1		11/12/20 09:08		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**147**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:17	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:17	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:17	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:17	7440-43-9	
Calcium	**31400**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:17	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:17	7440-47-3	
Lithium	**1.7**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:17	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**25.6**	ug/L	1.0	0.87	10	12/01/20 01:28	12/03/20 13:07	7440-38-2	
Cobalt	**1.6**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:48	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:48	7439-92-1	
Molybdenum	**2.4**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:48	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:48	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**1.7**	mg/L	1.0	0.60	1		11/10/20 13:15	16887-00-6	
Fluoride	**0.43**	mg/L	0.10	0.050	1		11/10/20 13:15	16984-48-8	
Sulfate	**0.80J**	mg/L	1.0	0.50	1		11/10/20 13:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-20 **Lab ID: 92503609017** Collected: 11/06/20 12:00 Received: 11/06/20 15:31 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	**249**	mg/L	25.0	25.0	1		11/12/20 09:08		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**23.9**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:20	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:20	7440-41-7	
Boron	**280**	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:20	7440-42-8	
Cadmium	**0.73J**	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:20	7440-43-9	
Calcium	**23700**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:20	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:20	7440-47-3	
Lithium	**1.6**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:20	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**0.17**	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:52	7440-38-2	
Cobalt	**47.0**	ug/L	0.50	0.25	5	12/01/20 01:28	12/02/20 18:52	7440-48-4	
Lead	**0.099J**	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:52	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:52	7439-98-7	
Thallium	**0.16**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:52	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**21.6**	mg/L	1.0	0.60	1		11/10/20 13:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/10/20 13:30	16984-48-8	
Sulfate	**98.3**	mg/L	2.0	1.0	2		11/11/20 03:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 578211
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Eden
Associated Lab Samples: 92503609001

METHOD BLANK: 3058980 Matrix: Water
Associated Lab Samples: 92503609001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/05/20 12:37	

LABORATORY CONTROL SAMPLE: 3058981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	266	106	90-110	

SAMPLE DUPLICATE: 3058982

Parameter	Units	92503316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	337	337	0	25	

SAMPLE DUPLICATE: 3058983

Parameter	Units	92503507001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	648	645	0	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 578524
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Eden
Associated Lab Samples: 92503609002

METHOD BLANK: 3060762 Matrix: Water
Associated Lab Samples: 92503609002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/06/20 10:51	

LABORATORY CONTROL SAMPLE: 3060763

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	260	104	90-110	

SAMPLE DUPLICATE: 3060764

Parameter	Units	92503316013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	559	512	9	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 579472 — 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: 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011

METHOD BLANK: 3065470 — Matrix: Water
Associated Lab Samples: 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/11/20 09:24	

LABORATORY CONTROL SAMPLE: 3065471

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

SAMPLE DUPLICATE: 3065472

Parameter	Units	92503604021 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	269	252	7	25	

SAMPLE DUPLICATE: 3065473

Parameter	Units	92503604022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	691	700	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 579833 | 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: 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

METHOD BLANK: 3067231 Matrix: Water
Associated Lab Samples: 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/12/20 09:05	

LABORATORY CONTROL SAMPLE: 3067232

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

SAMPLE DUPLICATE: 3067233

Parameter	Units	92503609012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	332	331	0	25	

SAMPLE DUPLICATE: 3067234

Parameter	Units	92503609013 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	115	112	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 582840
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009

METHOD BLANK: 3082183 Matrix: Water
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	11/30/20 19:03	
Beryllium	ug/L	ND	1.0	0.70	11/30/20 19:03	
Boron	ug/L	ND	50.0	32.4	11/30/20 19:03	
Cadmium	ug/L	ND	1.0	0.40	11/30/20 19:03	
Calcium	ug/L	ND	100	94.2	11/30/20 19:03	
Chromium	ug/L	ND	5.0	3.7	11/30/20 19:03	
Lithium	ug/L	ND	0.50	0.070	11/30/20 19:03	

LABORATORY CONTROL SAMPLE: 3082184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	250	260	104	80-120	
Beryllium	ug/L	250	256	102	80-120	
Boron	ug/L	250	255	102	80-120	
Cadmium	ug/L	250	261	104	80-120	
Calcium	ug/L	2500	2470	99	80-120	
Chromium	ug/L	250	251	100	80-120	
Lithium	ug/L	250	244	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3082185 3082186

Parameter	Units	92503604020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	187	250	250	444	440	103	101	75-125	1	20	
Beryllium	ug/L	ND	250	250	255	252	102	101	75-125	1	20	
Boron	ug/L	3170	250	250	3420	3440	98	108	75-125	1	20	
Cadmium	ug/L	ND	250	250	271	266	108	106	75-125	2	20	
Calcium	ug/L	98300	2500	2500	98800	98300	20	0	75-125	0	20	M1
Chromium	ug/L	ND	250	250	254	251	101	100	75-125	1	20	
Lithium	ug/L	0.69	250	250	290	289	116	115	75-125	0		

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 583123
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609010, 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

METHOD BLANK: 3083492 Matrix: Water
Associated Lab Samples: 92503609010, 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	11/29/20 19:35	
Beryllium	ug/L	ND	1.0	0.70	11/29/20 19:35	
Boron	ug/L	ND	50.0	32.4	11/29/20 19:35	
Cadmium	ug/L	ND	1.0	0.40	11/29/20 19:35	
Calcium	ug/L	ND	100	94.2	11/29/20 19:35	
Chromium	ug/L	ND	5.0	3.7	11/29/20 19:35	
Lithium	ug/L	ND	0.50	0.070	11/29/20 19:35	

LABORATORY CONTROL SAMPLE: 3083493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	250	258	103	80-120	
Beryllium	ug/L	250	259	104	80-120	
Boron	ug/L	250	250	100	80-120	
Cadmium	ug/L	250	256	103	80-120	
Calcium	ug/L	2500	2590	104	80-120	
Chromium	ug/L	250	256	102	80-120	
Lithium	ug/L	250	242	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083494 3083495

Parameter	Units	92503609010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	ND	250	250	258	252	103	101	75-125	2	20	
Beryllium	ug/L	ND	250	250	260	254	104	102	75-125	2	20	
Boron	ug/L	ND	250	250	259	253	104	101	75-125	2	20	
Cadmium	ug/L	ND	250	250	264	259	106	104	75-125	2	20	
Calcium	ug/L	ND	2500	2500	2640	2580	105	103	75-125	2	20	
Chromium	ug/L	ND	250	250	262	258	105	103	75-125	2	20	
Lithium	ug/L	ND	250	250	240	233	96	93	75-125	3		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 583122
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010

METHOD BLANK: 3083488 Matrix: Water
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	0.10	0.087	11/30/20 15:57	
Cobalt	ug/L	ND	0.10	0.050	11/30/20 15:57	
Lead	ug/L	ND	0.10	0.077	11/30/20 15:57	
Molybdenum	ug/L	ND	0.50	0.11	11/30/20 15:57	
Thallium	ug/L	ND	0.10	0.050	11/30/20 15:57	

LABORATORY CONTROL SAMPLE: 3083489

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	10	10.5	105	80-120	
Cobalt	ug/L	10	10.8	108	80-120	
Lead	ug/L	50	52.1	104	80-120	
Molybdenum	ug/L	50	53.8	108	80-120	
Thallium	ug/L	10	10.4	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083490 3083491

Parameter	Units	92503604020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	0.25	10	10	10.6	10.5	103	103	75-125	0	20	
Cobalt	ug/L	2.1	10	10	12.2	12.1	102	101	75-125	1	20	
Lead	ug/L	1.1	50	50	50.2	50.7	98	99	75-125	1	20	
Molybdenum	ug/L	0.40J	50	50	54.2	52.6	108	104	75-125	3	20	
Thallium	ug/L	ND	10	10	10.2	10.3	101	102	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 583445
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

METHOD BLANK: 3084906 Matrix: Water
Associated Lab Samples: 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	0.10	0.087	12/01/20 10:58	
Cobalt	ug/L	ND	0.10	0.050	12/01/20 10:58	
Lead	ug/L	ND	0.10	0.077	12/01/20 10:58	
Molybdenum	ug/L	ND	0.50	0.11	12/01/20 10:58	
Thallium	ug/L	ND	0.10	0.050	12/01/20 10:58	

LABORATORY CONTROL SAMPLE: 3084907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	10	10.2	102	80-120	
Cobalt	ug/L	10	9.9	99	80-120	
Lead	ug/L	50	49.4	99	80-120	
Molybdenum	ug/L	50	48.8	98	80-120	
Thallium	ug/L	10	9.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3084908 3084909

Parameter	Units	92503609011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	18.3	10	10	30.2	31.3	119	130	75-125	4	20	M1
Cobalt	ug/L	1.4	10	10	11.4	11.4	100	100	75-125	0	20	
Lead	ug/L	0.58	50	50	50.7	50.9	100	101	75-125	0	20	
Molybdenum	ug/L	3.5	50	50	53.4	54.4	100	102	75-125	2	20	
Thallium	ug/L	ND	10	10	10.0	10.0	100	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 578495
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609001, 92503609002

METHOD BLANK: 3060538 Matrix: Water
Associated Lab Samples: 92503609001, 92503609002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/07/20 03:49	
Fluoride	mg/L	ND	0.10	0.050	11/07/20 03:49	
Sulfate	mg/L	ND	1.0	0.50	11/07/20 03:49	

LABORATORY CONTROL SAMPLE: 3060539

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.0	100	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	49.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3060540 3060541

Parameter	Units	92503658020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	10.6	50	50	60.0	58.8	99	97	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	ND	ND	0	0	90-110		10	M1
Sulfate	mg/L	9.2	50	50	54.8	55.1	91	92	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3060542 3060543

Parameter	Units	92504334007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	14900 ug/L	50	50	66.1	66.9	103	104	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	106	108	90-110	2	10	
Sulfate	mg/L	22700 ug/L	50	50	74.0	74.7	103	104	90-110	1	10	

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 578793
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011, 92503609012, 92503609013

METHOD BLANK: 3062391 Matrix: Water
Associated Lab Samples: 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011, 92503609012, 92503609013

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/10/20 19:47	
Fluoride	mg/L	ND	0.10	0.050	11/10/20 19:47	
Sulfate	mg/L	ND	1.0	0.50	11/10/20 19:47	

LABORATORY CONTROL SAMPLE: 3062392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.8	100	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	49.6	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3062393 3062394

Parameter	Units	92503609005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	54.1	53.6	108	107	90-110	1	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.5	101	99	90-110	1	10	
Sulfate	mg/L	ND	50	50	53.6	53.0	107	106	90-110	1	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3062395 3062396

Parameter	Units	92503609010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	ND	50	50	54.3	55.2	109	110	90-110	2	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.6	101	106	90-110	4	10	
Sulfate	mg/L	ND	50	50	53.8	54.5	108	109	90-110	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 578794
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92503609014, 92503609015, 92503609016, 92503609017

METHOD BLANK: 3062397 Matrix: Water
Associated Lab Samples: 92503609014, 92503609015, 92503609016, 92503609017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/10/20 11:45	
Fluoride	mg/L	ND	0.10	0.050	11/10/20 11:45	
Sulfate	mg/L	ND	1.0	0.50	11/10/20 11:45	

LABORATORY CONTROL SAMPLE: 3062398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.7	103	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	52.0	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3062399 3062400

Parameter	Units	92503609014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.9	50	50	82.2	85.3	108	115	90-110	4	10	M1
Fluoride	mg/L	0.068J	2.5	2.5	2.9	3.0	112	118	90-110	6	10	M1
Sulfate	mg/L	45.8	50	50	99.8	99.6	108	108	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3062401 3062402

Parameter	Units	92504553018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.3	50	50	57.3	57.1	112	112	90-110	0	10	M1
Fluoride	mg/L	ND	2.5	2.5	3.0	3.0	119	118	90-110	0	10	M1
Sulfate	mg/L	1.1	50	50	56.9	56.7	112	111	90-110	0	10	M1

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-B50 **Lab ID: 92503609001** Collected: 11/03/20 10:48 Received: 11/03/20 15:25 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	**0.551 ± 0.311 (0.410) C:85% T:NA**	pCi/L	11/25/20 09:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.0498 ± 0.770 (1.76) C:53% T:67%**	pCi/L	12/02/20 11:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.601 ± 1.08 (2.17)**	pCi/L	12/03/20 13:12	7440-14-4	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-B40A **Lab ID: 92503609002** Collected: 11/03/20 12:20 Received: 11/03/20 15:25 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	**0.367 ± 0.270 (0.451) C:87% T:NA**	pCi/L	11/25/20 09:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.292 ± 0.647 (1.43) C:59% T:83%**	pCi/L	12/02/20 11:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.659 ± 0.917 (1.88)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-33 **Lab ID: 92503609003** Collected: 11/05/20 13:01 Received: 11/06/20 15:31 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	**0.799 ± 0.651 (1.16) C:91% T:NA**	pCi/L	11/24/20 18:35	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**-0.125 ± 0.602 (1.45) C:44% T:86%**	pCi/L	12/02/20 14:51	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.799 ± 1.25 (2.61)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-24 **Lab ID: 92503609004** Collected: 11/05/20 13:17 Received: 11/06/20 15:31 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	**0.538 ± 0.466 (0.843) C:45% T:NA**	pCi/L	11/25/20 08:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.295 ± 0.480 (1.04) C:50% T:86%**	pCi/L	12/02/20 14:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.833 ± 0.946 (1.88)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: Field Blank - LAP **Lab ID: 92503609005** Collected: 11/05/20 13:40 Received: 11/06/20 15:31 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	**0.412 ± 0.311 (0.553) C:86% T:NA**	pCi/L	11/25/20 08:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.475 ± 0.547 (1.15) C:57% T:77%**	pCi/L	12/02/20 14:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.887 ± 0.858 (1.70)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-23 **Lab ID: 92503609006** Collected: 11/05/20 14:35 Received: 11/06/20 15:31 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	**0.211 ± 0.247 (0.506) C:89% T:NA**	pCi/L	11/25/20 08:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.516 ± 0.487 (0.994) C:60% T:84%**	pCi/L	12/02/20 14:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.727 ± 0.734 (1.50)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-34 **Lab ID: 92503609007** Collected: 11/05/20 14:23 Received: 11/06/20 15:31 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	**0.234 ± 0.237 (0.460) C:97% T:NA**	pCi/L	11/25/20 08:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.614 ± 0.524 (1.05) C:53% T:85%**	pCi/L	12/02/20 14:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.848 ± 0.761 (1.51)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-27 **Lab ID: 92503609008** Collected: 11/05/20 15:07 Received: 11/06/20 15:31 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**2.27 ± 0.660 (0.433) C:78% T:NA**	pCi/L	11/25/20 08:07	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**3.26 ± 0.919 (1.02) C:62% T:76%**	pCi/L	12/02/20 14:54	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**5.53 ± 1.58 (1.45)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: Duplicate - LAP **Lab ID: 92503609009** Collected: 11/05/20 15:20 Received: 11/06/20 15:31 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	**3.39 ± 0.885 (0.590) C:77% T:NA**	pCi/L	11/25/20 07:56	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**4.34 ± 1.10 (1.05) C:57% T:84%**	pCi/L	12/02/20 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**7.73 ± 1.99 (1.64)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: Equipment Blank - LAP **Lab ID: 92503609010** Collected: 11/05/20 15:30 Received: 11/06/20 15:31 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	**0.194 ± 0.311 (0.697) C:92% T:NA**	pCi/L	11/25/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.633 ± 0.601 (1.23) C:54% T:77%**	pCi/L	12/02/20 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.827 ± 0.912 (1.93)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-25 **Lab ID: 92503609011** Collected: 11/05/20 15:43 Received: 11/06/20 15:31 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	**0.930 ± 0.488 (0.719) C:67% T:NA**	pCi/L	11/25/20 07:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.987 ± 0.520 (0.892) C:56% T:83%**	pCi/L	12/02/20 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.92 ± 1.01 (1.61)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-21 **Lab ID: 92503609012** Collected: 11/06/20 09:08 Received: 11/06/20 15:31 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	**0.282 ± 0.309 (0.626) C:76% T:NA**	pCi/L	11/25/20 07:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**2.91 ± 0.889 (1.09) C:62% T:81%**	pCi/L	12/02/20 16:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**3.19 ± 1.20 (1.72)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-26 **Lab ID: 92503609013** Collected: 11/06/20 09:29 Received: 11/06/20 15:31 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	**0.580 ± 0.400 (0.713) C:80% T:NA**	pCi/L	11/25/20 07:59	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.407 ± 0.470 (0.987) C:60% T:85%**	pCi/L	12/02/20 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.987 ± 0.870 (1.70)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-22 **Lab ID: 92503609014** Collected: 11/06/20 09:56 Received: 11/06/20 15:31 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 ± 0.488 (0.551) C:80% T:NA**	pCi/L	11/25/20 07:29	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.47 ± 0.682 (1.16) C:58% T:79%**	pCi/L	12/02/20 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.69 ± 1.17 (1.71)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-28 **Lab ID: 92503609015** Collected: 11/06/20 10:43 Received: 11/06/20 15:31 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	**0.528 ± 0.340 (0.551) C:83% T:NA**	pCi/L	11/25/20 07:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.23 ± 0.613 (1.05) C:59% T:74%**	pCi/L	12/02/20 14:55	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.76 ± 0.953 (1.60)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-32 **Lab ID: 92503609016** Collected: 11/06/20 10:59 Received: 11/06/20 15:31 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	**0.516 ± 0.386 (0.723) C:96% T:NA**	pCi/L	11/25/20 07:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.707 ± 0.511 (0.985) C:54% T:85%**	pCi/L	12/02/20 14:56	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.22 ± 0.897 (1.71)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Sample: MW-20 **Lab ID: 92503609017** Collected: 11/06/20 12:00 Received: 11/06/20 15:31 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	**0.254 ± 0.297 (0.619) C:90% T:NA**	pCi/L	11/25/20 08:57	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.673 ± 0.566 (1.14) C:60% T:79%**	pCi/L	12/02/20 14:56	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**0.927 ± 0.863 (1.76)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 423072
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

METHOD BLANK: 2044927
Matrix: Water
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.317 ± 0.385 (0.809) C:60% T:79%	pCi/L	12/02/20 11:46	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

QC Batch: 423679
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

METHOD BLANK: 2048178
Matrix: Water
Associated Lab Samples: 92503609001, 92503609002, 92503609003, 92503609004, 92503609005, 92503609006, 92503609007, 92503609008, 92503609009, 92503609010, 92503609011, 92503609012, 92503609013, 92503609014, 92503609015, 92503609016, 92503609017

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0506 ± 0.165 (0.416) C:86% T:NA	pCi/L	11/25/20 09:43	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503609001	**MW-B50**	SM 2540C-2011	578211		
92503609002	**MW-B40A**	SM 2540C-2011	578524		
92503609003	**MW-33**	SM 2540C-2011	579472		
92503609004	**MW-24**	SM 2540C-2011	579472		
92503609005	**Field Blank - LAP**	SM 2540C-2011	579472		
92503609006	**MW-23**	SM 2540C-2011	579472		
92503609007	**MW-34**	SM 2540C-2011	579472		
92503609008	**MW-27**	SM 2540C-2011	579472		
92503609009	**Duplicate - LAP**	SM 2540C-2011	579472		
92503609010	**Equipment Blank - LAP**	SM 2540C-2011	579472		
92503609011	**MW-25**	SM 2540C-2011	579472		
92503609012	**MW-21**	SM 2540C-2011	579833		
92503609013	**MW-26**	SM 2540C-2011	579833		
92503609014	**MW-22**	SM 2540C-2011	579833		
92503609015	**MW-28**	SM 2540C-2011	579833		
92503609016	**MW-32**	SM 2540C-2011	579833		
92503609017	**MW-20**	SM 2540C-2011	579833		
92503609001	**MW-B50**	EPA 3010A	582840	EPA 6010D	582856
92503609002	**MW-B40A**	EPA 3010A	582840	EPA 6010D	582856
92503609003	**MW-33**	EPA 3010A	582840	EPA 6010D	582856
92503609004	**MW-24**	EPA 3010A	582840	EPA 6010D	582856
92503609005	**Field Blank - LAP**	EPA 3010A	582840	EPA 6010D	582856
92503609006	**MW-23**	EPA 3010A	582840	EPA 6010D	582856
92503609007	**MW-34**	EPA 3010A	582840	EPA 6010D	582856
92503609008	**MW-27**	EPA 3010A	582840	EPA 6010D	582856
92503609009	**Duplicate - LAP**	EPA 3010A	582840	EPA 6010D	582856
92503609010	**Equipment Blank - LAP**	EPA 3010A	583123	EPA 6010D	583132
92503609011	**MW-25**	EPA 3010A	583123	EPA 6010D	583132
92503609012	**MW-21**	EPA 3010A	583123	EPA 6010D	583132
92503609013	**MW-26**	EPA 3010A	583123	EPA 6010D	583132
92503609014	**MW-22**	EPA 3010A	583123	EPA 6010D	583132
92503609015	**MW-28**	EPA 3010A	583123	EPA 6010D	583132
92503609016	**MW-32**	EPA 3010A	583123	EPA 6010D	583132
92503609017	**MW-20**	EPA 3010A	583123	EPA 6010D	583132
92503609001	**MW-B50**	EPA 3010A	583122	EPA 6020B	583131
92503609002	**MW-B40A**	EPA 3010A	583122	EPA 6020B	583131
92503609003	**MW-33**	EPA 3010A	583122	EPA 6020B	583131
92503609004	**MW-24**	EPA 3010A	583122	EPA 6020B	583131
92503609005	**Field Blank - LAP**	EPA 3010A	583122	EPA 6020B	583131
92503609006	**MW-23**	EPA 3010A	583122	EPA 6020B	583131
92503609007	**MW-34**	EPA 3010A	583122	EPA 6020B	583131
92503609008	**MW-27**	EPA 3010A	583122	EPA 6020B	583131
92503609009	**Duplicate - LAP**	EPA 3010A	583122	EPA 6020B	583131
92503609010	**Equipment Blank - LAP**	EPA 3010A	583122	EPA 6020B	583131
92503609011	**MW-25**	EPA 3010A	583445	EPA 6020B	583461

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503609012	**MW-21**	EPA 3010A	583445	EPA 6020B	583461
92503609013	**MW-26**	EPA 3010A	583445	EPA 6020B	583461
92503609014	**MW-22**	EPA 3010A	583445	EPA 6020B	583461
92503609015	**MW-28**	EPA 3010A	583445	EPA 6020B	583461
92503609016	**MW-32**	EPA 3010A	583445	EPA 6020B	583461
92503609017	**MW-20**	EPA 3010A	583445	EPA 6020B	583461
92503609001	**MW-B50**	EPA 9315	423679		
92503609002	**MW-B40A**	EPA 9315	423679		
92503609003	**MW-33**	EPA 9315	423679		
92503609004	**MW-24**	EPA 9315	423679		
92503609005	**Field Blank - LAP**	EPA 9315	423679		
92503609006	**MW-23**	EPA 9315	423679		
92503609007	**MW-34**	EPA 9315	423679		
92503609008	**MW-27**	EPA 9315	423679		
92503609009	**Duplicate - LAP**	EPA 9315	423679		
92503609010	**Equipment Blank - LAP**	EPA 9315	423679		
92503609011	**MW-25**	EPA 9315	423679		
92503609012	**MW-21**	EPA 9315	423679		
92503609013	**MW-26**	EPA 9315	423679		
92503609014	**MW-22**	EPA 9315	423679		
92503609015	**MW-28**	EPA 9315	423679		
92503609016	**MW-32**	EPA 9315	423679		
92503609017	**MW-20**	EPA 9315	423679		
92503609001	**MW-B50**	EPA 9320	423072		
92503609002	**MW-B40A**	EPA 9320	423072		
92503609003	**MW-33**	EPA 9320	423072		
92503609004	**MW-24**	EPA 9320	423072		
92503609005	**Field Blank - LAP**	EPA 9320	423072		
92503609006	**MW-23**	EPA 9320	423072		
92503609007	**MW-34**	EPA 9320	423072		
92503609008	**MW-27**	EPA 9320	423072		
92503609009	**Duplicate - LAP**	EPA 9320	423072		
92503609010	**Equipment Blank - LAP**	EPA 9320	423072		
92503609011	**MW-25**	EPA 9320	423072		
92503609012	**MW-21**	EPA 9320	423072		
92503609013	**MW-26**	EPA 9320	423072		
92503609014	**MW-22**	EPA 9320	423072		
92503609015	**MW-28**	EPA 9320	423072		
92503609016	**MW-32**	EPA 9320	423072		
92503609017	**MW-20**	EPA 9320	423072		
92503609001	**MW-B50**	Total Radium Calculation	425667		
92503609002	**MW-B40A**	Total Radium Calculation	425667		
92503609003	**MW-33**	Total Radium Calculation	425667		
92503609004	**MW-24**	Total Radium Calculation	425667		
92503609005	**Field Blank - LAP**	Total Radium Calculation	425667		
92503609006	**MW-23**	Total Radium Calculation	425667		
92503609007	**MW-34**	Total Radium Calculation	425667		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 2SA20 LAP (C)-Revised Report
Pace Project No.: 92503609

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92503609008	**MW-27**	Total Radium Calculation	425667		
92503609009	**Duplicate - LAP**	Total Radium Calculation	425667		
92503609010	**Equipment Blank - LAP**	Total Radium Calculation	425667		
92503609011	**MW-25**	Total Radium Calculation	425667		
92503609012	**MW-21**	Total Radium Calculation	425667		
92503609013	**MW-26**	Total Radium Calculation	425667		
92503609014	**MW-22**	Total Radium Calculation	425667		
92503609015	**MW-28**	Total Radium Calculation	425667		
92503609016	**MW-32**	Total Radium Calculation	425667		
92503609017	**MW-20**	Total Radium Calculation	425667		
92503609001	**MW-B50**	EPA 9056A	578495		
92503609002	**MW-B40A**	EPA 9056A	578495		
92503609003	**MW-33**	EPA 9056A	578793		
92503609004	**MW-24**	EPA 9056A	578793		
92503609005	**Field Blank - LAP**	EPA 9056A	578793		
92503609006	**MW-23**	EPA 9056A	578793		
92503609007	**MW-34**	EPA 9056A	578793		
92503609008	**MW-27**	EPA 9056A	578793		
92503609009	**Duplicate - LAP**	EPA 9056A	578793		
92503609010	**Equipment Blank - LAP**	EPA 9056A	578793		
92503609011	**MW-25**	EPA 9056A	578793		
92503609012	**MW-21**	EPA 9056A	578793		
92503609013	**MW-26**	EPA 9056A	578793		
92503609014	**MW-22**	EPA 9056A	578794		
92503609015	**MW-28**	EPA 9056A	578794		
92503609016	**MW-32**	EPA 9056A	578794		
92503609017	**MW-20**	EPA 9056A	578794		

WO# : 92503609

92503609

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Logi
MTJL Lo

ALL SHADED ARE

Company: Golder Associates, Inc.	Billing Information: Accounts Payable
Address: 2108 W. Laburnum Ave #200 Richmond, VA 23227	
Report To: Martha Smith	Email To: martha_smith@golder.com
Copy To: Mike Williams	Site Collection Info/Address: 500 Coxendale Rd, 23836
Customer Project Name/Number: CPS-LAP CCR (25A2020)	State: VA County/City: Chesterfield Time Zone Collected: [ ] PT [ ] MT [ ] CT [✓] ET
Phone: (804)358-7900 Email: martha_smith@golder.com	Site/Facility ID #: Chesterfield Power Station
Collected By (print): M. Antal / M. Taylor	Purchase Order #: Quote #:
Collected By (signature):	Turnaround Date Required: Standard
Sample Disposal: [✓] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [✓] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [✓] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [✓] No

Analysis: _____

* 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)

Container Preservative Type **

1	1	U	U	U	U	1	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 _____

Lab Project Manager:

Analyses

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	(B, Ca, As, Ba, Be, Ca, Cr, Co, Pb, Li, Mo)	Thallium	Chloride	Sulfate	Fluoride	Total Dissolved Solids	Radium 226	Radium 228	Total Radium			Lab Sample # / Comments
MW-B5D	GW	G	11/3/2020	1048	—	—	No	5	X	X	X	X	X	X	X	X				001
MW-B10A	GW	G	11/3/2020	1220	—	—	No	5	X	X	X	X	X	X	X	X				002

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:

92503609

Customer Remarks / Special Conditions / Possible Hazards:
*all samples preserved on ice
Level II Data Package
25A20 LAP - CCR GW PO# 20199767
Reporting Group C

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 RSB

Lab Tracking #: 2326467

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: 2.6 oC
Cooler 1 Therm Corr. Factor: +0.1 oC
Cooler 1 Corrected Temp: 2.7 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Golder	11/3/2020 1520	Rachel Burruss	11-3-20 1525
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: 1 of: _____

WO# : 92503609

PM: NMG Due Date: 11/30/20

CLIENT: 92-Golder

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login La

MTJL Log-i

ALL SHADED AREAS

Company:	Golder Associates
Address:	2108 W. Laburnum Ave., Ste 200 Richmond, VA 23227
Billing Information:	Accounts Payable
Report To:	Martha Smith
Email To:	martha_smith@golder.com
Copy To:	Mike Williams
Site Collection Info/Address:	500 Coxendale Rd, Chester, VA 25836
Customer Project Name/Number:	20139767 2SA2020 CCR GW-LAP
State: / County/City: / Time Zone Collected:	VA / Chesterfield [ ] PT [ ] MT [ ] CT [X] ET
Phone: (804)358-7900 Email: martha_smith@golder.com	Site/Facility ID #:
Compliance Monitoring?	[X] Yes [ ] No
Collected By (print): M. Antal, L. Grimm, O. Steele	Purchase Order #: Quote #:
DW PWS ID #: DW Location Code:	
Collected By (signature):	Turnaround Date Required: Standard
Immediately Packed on Ice:	[X] Yes [ ] No
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Field Filtered (if applicable):	[ ] Yes [X] No Analysis:

* 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)

Container Preservative Type **: 1 | VA | 1 | 1 | U

** 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

Lab Project Manager:

Analyses: B, Ca, As, Ba, Be, Cd, Cr, Co, Pb, Li, Mo, Thallium | Chloride, Sulfate, Fluoride | Radium 226/228 | Total Radium | TDS

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Time	Composite End Date	Time	Res Cl	# of Ctns	Lab Sample # / Comments
MW-33	GW	G	11/5/2020	1301			N	5	92503609 003
MW-24	GW	G	11/5/2020	1317			N	5	004
FieldBlank-LAP	GW	G	11/5/2020	1340			N	5	005
MW-23	GW	G	11/5/2020	1435			N	5	006
MW-34	GW	G	11/5/2020	1423			N	5	007
MW-27	GW	G	11/5/2020	1507			N	5	008
Duplicate-LAP	GW	G	11/5/2020	1520		MT	N	5	009
EquipmentBlank-LAP	GW	G	11/5/2020	1530			N	5	010
MW-25	GW	G	11/5/2020	1543			N	5	011
MW-21	GW	G	11/6/2020	0908			N	5	012

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	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	X N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	X N NA
pH Strips: 232518V	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:

Customer Remarks / Special Conditions / Possible Hazards:

Level II Data Package
All bottles preserved on ice
Reporting Group: C

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 #: 2326914

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: 2.8 oC

Cooler 1 Therm Corr. Factor: +0.1 oC

Cooler 1 Corrected Temp: 2.9 oC

Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Golder	11/6/2020 1400	Rachel Burruss	11-6-20 1400
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: 1 of: 2

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login MTJL Log

WO# : 92503609

PM: NMG Due Date: 11/30/20

CLIENT: 92-Golder

ALL SHADED AREA

Company: Golder Associates	Billing Information: Accounts Payable
Address: 2108 W. Laburnum Ave #200 Richmond, VA 23227	
Report To: Martha Smith	Email To: martha_smith@golder.com
Copy To: Mike Williams	Site Collection Info/Address: 560 Cosendale Rd, Chester, VA 25836
Customer Project Name/Number: 25A2020 CCR GW-LAP	State: VA County/City: Chesterfield Time Zone Collected: [ ]PT [ ]MT [ ]CT [✓]ET
Phone: (804)358-7700 Email: martha_smith@golder.com	Site/Facility ID #: Compliance Monitoring? [✓] Yes [ ] No
Collected By (print): M. Antal / L. Grimm	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard Immediately Packed on Ice: [✓] Yes [ ] No
Sample Disposal: [✓] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [✓] No Analysis:

* 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)

Container Preservative Type **: 1 U 1 1 U

** 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

Lab Project Manager:

Analyses: B, Cd, As, Ba, Be, Cr, Co, Pb, Li, Mo; Chloride, Sulfate, Fluoride; Radium 226/228; Total Radium; TDS

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	Lab Sample # / Comments
MW-26	GW	G	11/6/2020	0927			N	5	013
MW-22	GW	G	11/6/2020	0956			N	5	014
MW-28	GW	G	11/6/2020	1043			N	5	015
MW-32	GW	G	11/6/2020	1059			N	5	016
MW-20	GW	G	11/6/2020	1200			N	5	017
~~MW-21~~	GW	G	11/6/2020	0908			N	5	NA

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:

Customer Remarks / Special Conditions / Possible Hazards:
Level II Data Package
*all samples preserved on ice
Reporting Group: C

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 #: 2326421

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: 2.8 oC
Cooler 1 Therm Corr. Factor: +0.1 oC
Cooler 1 Corrected Temp: 2.9 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Golder	11/6/2020 1400	Rachel Burrus	11-6-20 1400

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: 2 of: 2

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

December 09, 2020

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

RE: Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Dear Mike Williams:

Enclosed are the analytical results for sample(s) received by the laboratory on November 06, 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 - Eden
- Pace Analytical Services - Greensburg

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: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

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
Guam Certification
Florida: Cert E871149 SEKS WET
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 Asheville
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

Pace Analytical Services 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

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

SAMPLE SUMMARY

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92504569001	**MW-29U**	Water	11/05/20 12:10	11/06/20 15:56
92504569002	**MW-35S**	Water	11/05/20 13:03	11/06/20 15:56

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92504569001	**MW-29U**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
92504569002	**MW-35S**	SM 2540C-2011	SOB	1	PASI-E
		EPA 6010D	DS	7	PASI-A
		EPA 6020B	KQ	5	PASI-A
		EPA 9315	JJY	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A

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

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

SUMMARY OF DETECTION

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92504569001	**MW-29U**					
SM 2540C-2011	Total Dissolved Solids	333	mg/L	25.0	11/11/20 09:28	
EPA 6010D	Barium	346	ug/L	5.0	11/29/20 20:23	
EPA 6010D	Boron	44.3J	ug/L	50.0	11/29/20 20:23	
EPA 6010D	Calcium	51200	ug/L	100	11/29/20 20:23	
EPA 6010D	Lithium	0.88	ug/L	0.50	11/29/20 20:23	
EPA 6020B	Arsenic	7.6	ug/L	0.10	12/01/20 11:55	
EPA 6020B	Cobalt	2.3	ug/L	0.10	12/01/20 11:55	
EPA 6020B	Lead	0.43	ug/L	0.10	12/01/20 11:55	
EPA 6020B	Molybdenum	0.41J	ug/L	0.50	12/01/20 11:55	
EPA 9315	Radium-226	1.51 ± 1.27 (2.24) C:89% T:NA	pCi/L		11/25/20 09:43	
EPA 9320	Radium-228	0.863 ± 0.612 (1.22) C:55% T:95%	pCi/L		12/02/20 11:50	
Total Radium Calculation	Total Radium	2.37 ± 1.88 (3.46)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	12.7	mg/L	1.0	11/11/20 20:17	
EPA 9056A	Fluoride	0.18	mg/L	0.10	11/11/20 20:17	
92504569002	**MW-35S**					
SM 2540C-2011	Total Dissolved Solids	108	mg/L	25.0	11/11/20 09:28	
EPA 6010D	Barium	34.4	ug/L	5.0	11/29/20 20:27	
EPA 6010D	Calcium	5840	ug/L	100	11/29/20 20:27	
EPA 6010D	Lithium	4.1	ug/L	0.50	11/29/20 20:27	
EPA 6020B	Cobalt	0.061J	ug/L	0.10	12/01/20 11:59	
EPA 9315	Radium-226	0.430 ± 0.291 (0.459) C:87% T:NA	pCi/L		11/25/20 09:43	
EPA 9320	Radium-228	1.23 ± 0.798 (1.55) C:49% T:79%	pCi/L		12/02/20 11:50	
Total Radium Calculation	Total Radium	1.66 ± 1.09 (2.01)	pCi/L		12/03/20 13:12	
EPA 9056A	Chloride	11.8	mg/L	1.0	11/11/20 20:32	
EPA 9056A	Sulfate	4.6	mg/L	1.0	11/11/20 20:32	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Sample: MW-29U **Lab ID: 92504569001** Collected: 11/05/20 12:10 Received: 11/06/20 15:56 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	**333**	mg/L	25.0	25.0	1		11/11/20 09:28		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**346**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:23	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:23	7440-41-7	
Boron	**44.3J**	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:23	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:23	7440-43-9	
Calcium	**51200**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:23	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:23	7440-47-3	
Lithium	**0.88**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:23	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	**7.6**	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:55	7440-38-2	
Cobalt	**2.3**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:55	7440-48-4	
Lead	**0.43**	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:55	7439-92-1	
Molybdenum	**0.41J**	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:55	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:55	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**12.7**	mg/L	1.0	0.60	1		11/11/20 20:17	16887-00-6	
Fluoride	**0.18**	mg/L	0.10	0.050	1		11/11/20 20:17	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		11/11/20 20:17	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: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Sample: MW-35S **Lab ID: 92504569002** Collected: 11/05/20 13:03 Received: 11/06/20 15:56 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	**108**	mg/L	25.0	25.0	1		11/11/20 09:28		
6010 MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Barium	**34.4**	ug/L	5.0	3.5	1	11/26/20 01:52	11/29/20 20:27	7440-39-3	
Beryllium	ND	ug/L	1.0	0.70	1	11/26/20 01:52	11/29/20 20:27	7440-41-7	
Boron	ND	ug/L	50.0	32.4	1	11/26/20 01:52	11/29/20 20:27	7440-42-8	
Cadmium	ND	ug/L	1.0	0.40	1	11/26/20 01:52	11/29/20 20:27	7440-43-9	
Calcium	**5840**	ug/L	100	94.2	1	11/26/20 01:52	11/29/20 20:27	7440-70-2	
Chromium	ND	ug/L	5.0	3.7	1	11/26/20 01:52	11/29/20 20:27	7440-47-3	
Lithium	**4.1**	ug/L	0.50	0.070	1	11/26/20 01:52	11/29/20 20:27	7439-93-2	
6020 MET ICPMS	Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Arsenic	ND	ug/L	0.10	0.087	1	12/01/20 01:28	12/01/20 11:59	7440-38-2	
Cobalt	**0.061J**	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:59	7440-48-4	
Lead	ND	ug/L	0.10	0.077	1	12/01/20 01:28	12/01/20 11:59	7439-92-1	
Molybdenum	ND	ug/L	0.50	0.11	1	12/01/20 01:28	12/01/20 11:59	7439-98-7	
Thallium	ND	ug/L	0.10	0.050	1	12/01/20 01:28	12/01/20 11:59	7440-28-0	
9056 IC anions 28 Days	Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	**11.8**	mg/L	1.0	0.60	1		11/11/20 20:32	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		11/11/20 20:32	16984-48-8	
Sulfate	**4.6**	mg/L	1.0	0.50	1		11/11/20 20:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

QC Batch: 579472
QC Batch Method: SM 2540C-2011
Analysis Method: SM 2540C-2011
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Eden
Associated Lab Samples: 92504569001, 92504569002

METHOD BLANK: 3065470 Matrix: Water
Associated Lab Samples: 92504569001, 92504569002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	11/11/20 09:24	

LABORATORY CONTROL SAMPLE: 3065471

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

SAMPLE DUPLICATE: 3065472

Parameter	Units	92503604021 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	269	252	7	25	

SAMPLE DUPLICATE: 3065473

Parameter	Units	92503604022 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	691	700	1	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

QC Batch: 583123
QC Batch Method: EPA 3010A
Analysis Method: EPA 6010D
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92504569001, 92504569002

METHOD BLANK: 3083492 Matrix: Water
Associated Lab Samples: 92504569001, 92504569002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	5.0	3.5	11/29/20 19:35	
Beryllium	ug/L	ND	1.0	0.70	11/29/20 19:35	
Boron	ug/L	ND	50.0	32.4	11/29/20 19:35	
Cadmium	ug/L	ND	1.0	0.40	11/29/20 19:35	
Calcium	ug/L	ND	100	94.2	11/29/20 19:35	
Chromium	ug/L	ND	5.0	3.7	11/29/20 19:35	
Lithium	ug/L	ND	0.50	0.070	11/29/20 19:35	

LABORATORY CONTROL SAMPLE: 3083493

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	250	258	103	80-120	
Beryllium	ug/L	250	259	104	80-120	
Boron	ug/L	250	250	100	80-120	
Cadmium	ug/L	250	256	103	80-120	
Calcium	ug/L	2500	2590	104	80-120	
Chromium	ug/L	250	256	102	80-120	
Lithium	ug/L	250	242	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3083494 3083495

Parameter	Units	92503609010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	ND	250	250	258	252	103	101	75-125	2	20	
Beryllium	ug/L	ND	250	250	260	254	104	102	75-125	2	20	
Boron	ug/L	ND	250	250	259	253	104	101	75-125	2	20	
Cadmium	ug/L	ND	250	250	264	259	106	104	75-125	2	20	
Calcium	ug/L	ND	2500	2500	2640	2580	105	103	75-125	2	20	
Chromium	ug/L	ND	250	250	262	258	105	103	75-125	2	20	
Lithium	ug/L	ND	250	250	240	233	96	93	75-125	3		

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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: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

QC Batch: 583445
QC Batch Method: EPA 3010A
Analysis Method: EPA 6020B
Analysis Description: 6020 MET
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92504569001, 92504569002

METHOD BLANK: 3084906 Matrix: Water
Associated Lab Samples: 92504569001, 92504569002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	ND	0.10	0.087	12/01/20 10:58	
Cobalt	ug/L	ND	0.10	0.050	12/01/20 10:58	
Lead	ug/L	ND	0.10	0.077	12/01/20 10:58	
Molybdenum	ug/L	ND	0.50	0.11	12/01/20 10:58	
Thallium	ug/L	ND	0.10	0.050	12/01/20 10:58	

LABORATORY CONTROL SAMPLE: 3084907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	10	10.2	102	80-120	
Cobalt	ug/L	10	9.9	99	80-120	
Lead	ug/L	50	49.4	99	80-120	
Molybdenum	ug/L	50	48.8	98	80-120	
Thallium	ug/L	10	9.9	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3084908 3084909

Parameter	Units	92503609011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	18.3	10	10	30.2	31.3	119	130	75-125	4	20	M1
Cobalt	ug/L	1.4	10	10	11.4	11.4	100	100	75-125	0	20	
Lead	ug/L	0.58	50	50	50.7	50.9	100	101	75-125	0	20	
Molybdenum	ug/L	3.5	50	50	53.4	54.4	100	102	75-125	2	20	
Thallium	ug/L	ND	10	10	10.0	10.0	100	100	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: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

QC Batch: 579446
QC Batch Method: EPA 9056A
Analysis Method: EPA 9056A
Analysis Description: 9056 IC anions 28 Days
Laboratory: Pace Analytical Services - Asheville
Associated Lab Samples: 92504569001, 92504569002

METHOD BLANK: 3065422 Matrix: Water
Associated Lab Samples: 92504569001, 92504569002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	11/11/20 16:47	
Fluoride	mg/L	ND	0.10	0.050	11/11/20 16:47	
Sulfate	mg/L	ND	1.0	0.50	11/11/20 16:47	

LABORATORY CONTROL SAMPLE: 3065423

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	52.0	104	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	50	51.8	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3065424 3065425

Parameter	Units	92504560036 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	51.9	50	50	95.5	96.6	87	89	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	2.7	2.7	105	106	90-110	1	10	
Sulfate	mg/L	64.6	50	50	106	108	84	86	90-110	1	10	M1

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REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Sample: MW-29U **Lab ID: 92504569001** Collected: 11/05/20 12:10 Received: 11/06/20 15:56 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	**1.51 ± 1.27 (2.24) C:89% T:NA**	pCi/L	11/25/20 09:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**0.863 ± 0.612 (1.22) C:55% T:95%**	pCi/L	12/02/20 11:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**2.37 ± 1.88 (3.46)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Sample: MW-35S **Lab ID: 92504569002** Collected: 11/05/20 13:03 Received: 11/06/20 15:56 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	**0.430 ± 0.291 (0.459) C:87% T:NA**	pCi/L	11/25/20 09:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	**1.23 ± 0.798 (1.55) C:49% T:79%**	pCi/L	12/02/20 11:50	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	**1.66 ± 1.09 (2.01)**	pCi/L	12/03/20 13:12	7440-14-4	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL - RADIOCHEMISTRY

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

QC Batch: 423072
QC Batch Method: EPA 9320
Analysis Method: EPA 9320
Analysis Description: 9320 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92504569001, 92504569002

METHOD BLANK: 2044927
Matrix: Water
Associated Lab Samples: 92504569001, 92504569002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.317 ± 0.385 (0.809) C:60% T:79%	pCi/L	12/02/20 11:46	

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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 - RADIOCHEMISTRY

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

QC Batch: 423679
QC Batch Method: EPA 9315
Analysis Method: EPA 9315
Analysis Description: 9315 Total Radium
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 92504569001, 92504569002

METHOD BLANK: 2048178
Matrix: Water
Associated Lab Samples: 92504569001, 92504569002

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.0506 ± 0.165 (0.416) C:86% T:NA	pCi/L	11/25/20 09:43	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CPS 2SA2020 CCR LAP (E)
Pace Project No.: 92504569

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92504569001	**MW-29U**	SM 2540C-2011	579472		
92504569002	**MW-35S**	SM 2540C-2011	579472		
92504569001	**MW-29U**	EPA 3010A	583123	EPA 6010D	583132
92504569002	**MW-35S**	EPA 3010A	583123	EPA 6010D	583132
92504569001	**MW-29U**	EPA 3010A	583445	EPA 6020B	583461
92504569002	**MW-35S**	EPA 3010A	583445	EPA 6020B	583461
92504569001	**MW-29U**	EPA 9315	423679		
92504569002	**MW-35S**	EPA 9315	423679		
92504569001	**MW-29U**	EPA 9320	423072		
92504569002	**MW-35S**	EPA 9320	423072		
92504569001	**MW-29U**	Total Radium Calculation	425667		
92504569002	**MW-35S**	Total Radium Calculation	425667		
92504569001	**MW-29U**	EPA 9056A	579446		
92504569002	**MW-35S**	EPA 9056A	579446		

WO# : 92504569

92504569

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Lo
MTJL

ALL SHADED ARE

Company: Golder Associates	Billing Information: Accounts Payable
Address: 2108 W. Laburnum Ave #200 Richmond, VA 23227	
Report To: Martha Smith	Email To: martha_smith@golder.com
Copy To: Mike Williams	Site Collection Info/Address: 500 Coxendale Rd, Chester, VA 23836
Customer Project Name/Number: 2SA2020 CCR GW UAP	State: VA County/City: Chesterfield Time Zone Collected: [ ] PT [ ] MT [ ] CT [✓] ET
Phone: (804)358-2900 Email: martha_smith@golder.com	Site/Facility ID #: Compliance Monitoring? [✓] Yes [ ] No
Collected By (print): M. Antal	Purchase Order #: Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Standard Immediately Packed on Ice: [✓] Yes [ ] No
Sample Disposal: [✓] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [✓] No Analysis: _____

* 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)

** 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 _____

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	Container Preservative Type **	Analyses: B, Ca, Sb, As, Ba, Be, Ca, Co, Pb, Li, Mo, Se, Tl	Chloride, Sulfate, Fluoride	Radium 226/228	Total radium	TDS	Lab Profile/Line: Lab Sample # / Comments:
									1 U						
MW-29U	GW	G	11/5/2020	1210			N	6		X	X	X	X	X	92504569 001
MW-35S/A 35S	GW	G	11/5/2020	1303			N	6		X	X	X	X	X	002

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:

Customer Remarks / Special Conditions / Possible Hazards:
Level II Data Package
all samples preserved on ice
Reporting Group D

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 #: 2326417

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: 2.8 oC
Cooler 1 Therm Corr. Factor: +0.1 oC
Cooler 1 Corrected Temp: 2.9 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Golder	11/6/2020 1400	Rachel Burruss	11-6-20 1400
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: 1 of: 1

Project Name: Chesterfield Power Station- LAP

Project Reference Number: 20139767

Sampling Event Date: 2SA20 CCR

Review Date: 01/05/2021 *Initials:* RMS

*Review Date:*01/14/2021 *Initials:* MKS

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
- Evaluation of Radiochemistry Data Usability, April 1997

COMMON ACRONYMS:

- MS = matrix spike
- MSD = matrix spike duplicate
- PS = Post Spike
- 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
- VPDES = Virginia Pollutant Discharge Elimination System

COMPLIANCE ANALYTE LIST

☐ Historical VPDES Parameters

☒ CCR Appendix III to Part 257

☒ CCR Appendix IV to Part 257 (Previous Detections)

☐ VSWMR Phase II Parameters: _____

☐ Other: _____

Note: Data packages 92503609, 92504569

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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: The total number of bottles per sample alternates between 5 to 6 bottles, but the requested analyses did not change. This did not affect analysis.

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
EPA 9056A	Chloride, Sulfate as SO_4, Fluoride	28 days
SM 2540C-2011	TDS	7 days
EPA 9000 series	Radium-226 and Radium-228	6 months

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

Yes Laboratory analyzed at least one internal blank for each method, where applicable.

No Laboratory blanks were interference free.

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).

Parameter	Method Blank Detection (µg/L)	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: _____

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 as 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.

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	Batch	Associated Qualified Sample(s)	Validator Qualifier
Calcium	MS, MSD	582840	--	--
Arsenic	MSD	583445	--	--
Fluoride	MS, MSD	578495	--	--
Chloride	MSD	578794	--	--
Fluoride	MS, MSD	578794	--	--
Chloride	MS, MSD	578794	--	--
Fluoride	MS, MSD	578794	--	--
Sulfate	MS, MSD	578794	--	--
Chloride	MS, MSD	579446	--	--
Sulfate	MS, MSD	579446	--	--

Yes Minimum Detectable Concentrations (MDCs) are provided for radiological samples.

No Radiological samples reported below their respective MDC have been qualified with a “U.”

Notes: The laboratory reports the activity ± unknown and reports the MDC in parentheses. The laboratory does not indicate which samples were below MDC, however Golder has qualified the samples reported below their respective MDC with a “U”.

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 eight datum.

Yes Analytical results with variances +/- 25% have been evaluated for trends.

Yes 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 are summarized below.

Analyte	Location	DQR identified issues?	Re-analysis requested?	Outlier Identification
--	--	--	--	--

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: 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). As presented below, no data qualification is recommended.

Sample ID	Parameter	Blank Detection (µg/L)	Associated Qualified Sample(s)	Validator Qualifier
--	--	--	--	--

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 associated parent samples that were not within control limits. In accordance with EPA guidance, sample results without field duplicate precision may be qualified estimated (J) or non-detect estimated (UJ). As presented below, data qualification is recommended.

Parameter	Associated Samples	Parent Sample Result	Duplicate Sample Result	Re-analysis Requested?	Outlier Identification
Radium 226 (pCi/L)	Duplicate, MW-27	3.39	2.27	No	J

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