



# 2021 CCR & VSWMR ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

*Clover Power Station  
Sludge Sedimentation Basins  
Solid Waste Permit No. 622*

Prepared for:



## **Virginia Electric and Power Company**

d/b/a Dominion Energy Virginia  
120 Tredegar Street  
Richmond, Virginia 23219

Prepared by:

## **Golder Associates USA Inc.**

2108 West Laburnum Ave., Suite 200  
Richmond, Virginia, USA 23227  
+1 804 934-1784

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## EXECUTIVE SUMMARY

This 2021 CCR & VSWMR 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 Sludge Sedimentation Basins (Basins) at the Clover Power Station (Facility/Station). The Station is operated by Dominion and Old Dominion Electric Cooperative (ODEC) collectively referred to as the "Facility". Currently, the Facility maintains two (2) lined Sludge Sedimentation Basins (Basins/Units) that receive and temporarily store process wastewaters and flue gas desulfurization (FGD) sludge. As active settling basins that manage and store coal combustion residuals (CCR), the Basins are considered existing surface impoundments under Title 40 Code of Federal Regulations (CFR) Part 257.50 *et seq.* [*Disposal of Coal Combustion Residuals 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 (9 VAC 20-81-800). Pursuant to the CCR Rule, the Facility is required to complete an Annual Groundwater Monitoring and Corrective Action Report by January 31 annually.

The Basins are also permitted as Solid Waste Management Units under the Virginia Solid Waste Management Regulations (Title 9, Virginia Administrative Code, Agency 20, Chapter 81 *et seq.*; VSWMR) and Solid Waste Permit (SWP) No. 622 issued by the Virginia Department of Environmental Quality (DEQ). These regulations and the Basins' SWP require groundwater monitoring and reporting activities in addition to those required by the CCR Rule.

The Report is designed to meet the reporting requirements for both the CCR Rule and the VSWMR. Specifically, this Report documents the status of the groundwater monitoring program for the Basins, summarizes key actions completed, describes problems encountered, and actions to resolve identified problems, and proposed key activities for calendar year 2021. More specifically, this Report describes the results of the Modified Assessment Monitoring Program (AMP) consistent with the Basins' SWP and the CCR Rule, activities performed in 2021 to comply with CCR Rule and the Basins' SWP requirements, and the progression of future sampling activities pursuant to the CCR Rule and the Basins' SWP.

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

- i. *At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.*
  - At the start of 2021, the Units were operating under the AMP in §257.95 and the Virginia Modified AMP in accordance with the SWP.
- ii. *At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95.*

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- At the end of 2021, the Units were operating under the AMP in §257.95 and the Virginia Modified AMP in accordance with the SWP.
- iii. *If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to §257.94(e).*
- (A) *Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase*
- In 2021, there were statistically significant increases over background for the following Appendix III constituents and parameters at the following wells:
    - Boron – PW-5 and PW-13
    - Calcium – PW-3, PW-4, PW-5, and PW-13
    - Chloride – PW-2 (upgradient well), PW-4, PW-5, and PW-13
    - pH – PW-5
    - Sulfate – PW-3, PW-4, PW-5, PW-12, and PW-13
    - Total dissolved solids – PW-3, PW-4, PW-5, and PW-13
- (B) *Provide the date when the assessment program was initiated for the CCR unit.*
- The Unit initiated the AMP on May 4, 2018, pursuant to the CCR Rule.
  - The Unit initiated the Virginia Modified AMP on July 11, 2017, with the issuance of SWP No. 622, which is consistent with the requirements of 40 CFR §257.90(b), 40 CFR §257.94, and 40 CFR §257.95.
- 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 2021, there were no statistically significant increases over the federal CCR Rule groundwater protection standards (GWPS) for Appendix IV constituents.
  - In 2021, consistent with Section XI.G.2 of the SWP, there were statistically significant increases over the background-based groundwater protection standards (GPS) for the following constituents at the following wells:
    - Boron – PW-5 and PW-13
    - Nickel – PW-4 and PW-5
    - Vanadium – PW-5
- (B) *Provide the date when the assessment of corrective measures was initiated for the CCR unit*
- An Assessment of Corrective Measures (ACM) was initiated pursuant to 9VAC20-81-260 *et seq.* of the VSWMR after exceedances over SWP GPS were identified for boron on July 18, 2019.

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- Due to SWP GPS exceedances of nickel and vanadium during the first semi-annual 2020 sampling event, nickel and vanadium were included in the ACM on June 5, 2020.
- (C) *Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit*
- A public meeting for the ACM as required by 9VAC20-81-260.C.1.e of the VSWMR has been deferred due to the coronavirus pandemic.
- (D) *Provide the date when the assessment of corrective measures was completed for the CCR unit*
- The ACM for boron, nickel, and vanadium, conducted pursuant to 9VAC20-81-260 *et seq.* of the VSWMR, was completed on July 10, 2020.
- v. *Whether a remedy was selected pursuant to §257.97 during the current annual reporting period, and if so, the date of the remedy selection*
- A remedy was not selected during the current annual reporting period.
- vi. *Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period*
- Remedial activities were not initiated or are not ongoing during this current annual reporting period.

Based on the 2021 monitoring results, Golder recommends that Dominion Energy continue to maintain a Modified AMP at this Unit for the first semi-annual 2022 event consistent with federal and Virginia requirements.



## 1.0 INTRODUCTION

This 2021 CCR & VSWMR 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 Sludge Sedimentation Basins (Basins) at the Clover Power Station (Station), Permit No. 622, located in Halifax County, Virginia. The Basins are 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)]. Pursuant to the CCR Rule, no later than January 31<sup>st</sup> annually, the owner or operator of a CCR surface impoundment must prepare an annual groundwater monitoring and corrective action report documenting the status of groundwater monitoring and corrective action for the preceding year.

The Basins are also subject to regulation under the Virginia Solid Waste Management Regulations (Title 9, Virginia Administrative Code, Agency 20, Chapter 81 *et seq.*; VSWMR) and Solid Waste Permit (SWP) No. 622 issued by the Virginia Department of Environmental Quality (DEQ). These regulations and the Basins' SWP require groundwater monitoring and reporting activities in addition to those required by the CCR Rule. Specifically, for reporting, the Basins' SWP also requires the submission of an Annual Report no later than 120 days from the completion of sampling and analysis conducted for the second semi-annual event or no later than January 31<sup>st</sup> of each calendar year, whichever occurs first.

Golder Associates USA Inc. (Golder) has prepared this Report for the Basins on behalf of Dominion Energy in accordance with CCR Rule Part 257.90(e) and in general accordance with VSWMR 9VAC20-81-250 and SWP No. 622. This Report includes the following information for calendar year 2021:

- Presentation of monitoring field data and notes;
- Evaluation of static groundwater surface elevations and flow direction;
- Calculated velocity of horizontal groundwater flow;
- 2021 monitoring and analytical data;
- Statistical evaluation of data; and
- Annual evaluation of the monitoring well network.

Consistent with DEQ guidance, this annual groundwater monitoring report has been prepared pursuant to the general outline presented in DEQ form ARSC-01. Accordingly, tables, figures, and appendices are referenced in this Report per the format in the ARSC-01 form. A completed ARSC-01 Form is presented in Appendix F.

## 1.1 Site Location

The Station is owned and operated by Dominion Energy and Old Dominion Electric Cooperative (ODEC) and is located at 4091 Clover Road in Halifax County, Virginia. The Station is located approximately 2.5 miles northeast of Clover, Virginia. The Basins are located just northeast of the generation plant. A topographic map of the site location is provided as Figure 1.

## 1.2 Site History

There are currently two (2) existing Basins at the Facility (North and South), which encompass a total area of approximately 4 acres. The Basins were constructed for the management of process wastewaters, including flue gas desulfurization (FGD) sludge for a closed loop wastewater system. The Basins are located on the eastern side of the Station and were constructed in 1995. The Basins are constructed using a combination of earthen material cut and (for the north Basin) an earthen berm constructed on the northeastern perimeter (TRC, 2016). The liner systems for the Basins were originally designed and constructed with engineered fill, which was placed and compacted to project specifications. Consistent with the CCR Rule provisions, the Basins were retrofitted in mid-2019 with a new composite liner system in conformance with 40 CFR 257.72.

The Basins were previously monitored under the Station's Virginia Pollutant Discharge Elimination System (VPDES; VA0083097). On July 11, 2017, the Basins were permitted under SWP No. 622 issued by the DEQ under the VSWMR. Groundwater monitoring under the CCR Rule requirements was initiated in 2015.

## 1.3 Key Actions

Key actions for the Basins are as follows:

- Initiated the CCR Detection Monitoring Program (DMP) on November 3, 2015, with the collection of eight (8) baseline/background samples and completed the background sampling activities on August 9, 2017, pursuant to CCR Rule [257.94(b)];
- Permitted as a solid waste management facility by the Virginia DEQ on July 11, 2017 (SWP No. 622);
- Initiated the VSWMR Modified Assessment Monitoring Program (AMP) on August 8-9, 2017, with the collection of eight (8) baseline/background samples;
- Conducted the initial CCR DMP compliance sampling event on October 3-5, 2017, and completed the sample analyses on October 12, 2017, pursuant to the CCR Rule [257.94];
- Placed a copy of the Basins' Groundwater Monitoring Plan (GMP) documenting the design information for the monitoring wells pursuant to the CCR Rule [257.91(e)(1)] in the Facility's operating record in March 2017, with revisions placed in April and October 2017, December 2018, and June 2019, pursuant to the CCR Rule [257.105(h)(2)];

- Certified the Basins' 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 Basins' background concentrations under the CCR DMP in the Station's operating record on February 4, 2018;
- Submitted a VSWMR *Facility Background Determination Report* to DEQ on March 8, 2018 (TRC, 2018), and received approval of the calculated background on June 29, 2018;
- Conducted the initial CCR AMP and first VSWMR semi-annual compliance sampling event on April 2-3, 2018, and completed the sample analyses on, April 19, 2018 (revised May 4, 2018), pursuant to the CCR Rule [257.95(b)];
- In accordance with the SWP, submitted proposed SWP Groundwater Protection Standards (GPS) to DEQ on April 3, 2018. Dominion Energy received DEQ concurrence for GPS on December 19, 2018;
- Established federal Groundwater Protection Standards (GWPS) for detected constituents in Appendix IV of Part 257 on October 31, 2018, pursuant to the CCR Rule [257.95(d)(2)];
- Submitted a *Facility Background Determination Report Addendum* to DEQ on June 19, 2019 (Golder, 2019), and received DEQ approval of the calculated background concentrations on November 20, 2019;
- Initiated a Nature and Extent Study/Assessment of Corrective Measures (NES/ACM) based on the background-based GPS exceedances of boron in wells PW-5 and PW-13 on July 18, 2019;
- Received the certificate to operate from DEQ indicating completion of the North and South Sludge Sedimentation Basin retrofit construction completion on November 1, 2019;
- Requested an extension for the Basin's ACM on December 17, 2019;
- Received a letter from DEQ on December 18, 2019, approving the NES/ACM extension request;
- Through an email exchange dated March 12, 2020, the original public meeting for the NES/ACM was deferred due to the state of emergency COVID-19 declaration by Governor Northam. Consequently, pending completion of the public meeting selection of the remedy has been deferred;
- Completed the draft NES/ACM for boron, nickel, and vanadium on July 10, 2020 (Golder, 2020a, 2020b);
- Submitted a *2021 Updated Facility Background Determination Report* to DEQ on March 12, 2021. DEQ accepted the calculated statistically-based background concentrations and provided comments on the limit of quantitation (LOQ)-based background concentrations.

- Commenced update of the draft NES for boron, nickel, and vanadium on May 5-7, 2021, in response to DEQ's request for additional data;
- Submitted a revised *2021 Updated Facility Background Determination Report* to DEQ on July 15, 2021, to address comments received in June 2021.
- Submitted the Updated NES for boron, nickel, and vanadium to DEQ on August 18, 2021;
- Conducted the first semi-annual 2021 Modified AMP compliance sampling event on March 17, 2021, and completed the sample analyses on April 15, 2021, pursuant to the CCR Rule [257.95(d)(1)] and the Basin's SWP
- Notification of first semi-annual 2021 GPS exceedances submitted to DEQ on May 27, 2021, and placed in the Basins' operating record on the same day;
- Submitted the 2021 1<sup>st</sup> Semi-Annual Groundwater Monitoring Report to DEQ on August 13, 2021;
- Conducted the second semi-annual 2021 Modified AMP compliance sampling event on September 20-21, 2021, and completed the sample analyses on November 15, 2021, pursuant to the CCR Rule [257.95(d)(1)] and the Basin's SWP; and
- Notification of second semi-annual 2021 GPS exceedances submitted to DEQ on December 29, 2021.

## 1.4 Monitoring Program Issues

There were no monitoring program issues during the compliance events conducted in 2021.

## 1.5 Variances

The Facility currently does not have any variances related to the groundwater monitoring programs for the Basins.

## 2.0 SITE INFORMATION

The Facility is owned and operated by ODEC and Dominion Energy. The Basins are operated as part of the Facility's low volume wastewater treatment system and are located northeast of the generation plant. Topographically, the area is characterized by low rolling hills dissected by shallow drainage systems flowing generally to the southeast. The Facility is approximately bounded by Black Walnut Creek to the west and northwest and the Halifax County line to the northeast. The Roanoke River and the Dan River, located south of the site, are the two (2) major rivers which drain the regional area. Both rivers flow east to southeastward into Buggs Island Lake located approximately 27 miles southeast of the Facility.

The immediate surrounding land uses are rural residential, silviculture, and agriculture.

Based on available information, Golder understands that two (2) southerly-adjointing properties have potable drinking water wells. Based on an evaluation of the minimum distance to the off-site wells (distance to the southern property line), the groundwater flow direction beneath the Basins, and the expected water use rates for these off-site residential wells, the Basins are not expected to be located within the expected capture radii for the off-site wells.

As part of station operations, Dominion Energy operates the Basins for temporary storage of process wastewater, including FGD sludge. The Basins are considered existing CCR surface impoundments and were subject to the groundwater monitoring provisions of the CCR Rule by October 17, 2017.

### 2.1 Monitoring Well Network

The Basins' GMP (TRC, 2019) details the design of the Basins' CCR Rule and VSWMR groundwater monitoring network. As presented in the GMP, the monitoring network is comprised of one (1) upgradient/background well (PW-2) and five (5) downgradient monitoring wells (PW-3, PW-4, PW-5, PW-12, and PW-13) designed to monitor the uppermost aquifer beneath the Basins. Although not sampled as part of the CCR Rule and VSWMR groundwater monitoring system for the Basins, four (4) observation wells (PW-1, PW-6, PW-7, and PW-8) are used for the collection of static water level measurements during each monitoring event and seven (7) additional wells (NES-1 through NES-6 and NEW-6D) have been installed to support groundwater impact assessment work. The well locations relative to the Basins are shown on Figure 2.

#### 2.1.1 Monitoring Wells Installation and Decommissioning Activities

No groundwater monitoring wells associated with the Basins' CCR Rule and VSWMR compliance network were installed or decommissioned in calendar year 2021. Observation wells NES-4, NES-5, NES-6, and NES-6D were installed in May 2021 to assist with groundwater assessments activities.

## 2.2 Geology and Hydrogeology

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

### 2.2.1 Geology

The Facility and associated Basins are located within the Piedmont physiographic province of south-central Virginia. The Facility is underlain by a combination of residual soils (colluvium), thoroughly weathered *in situ* bedrock (saprolite), and weathered to competent bedrock. The bedrock underlying the majority of the Facility consists of Proterozoic to Paleozoic aged mylonite, mylonite gneiss, and cataclastic rocks. Triassic age sandstone and conglomerate mapped as part of the Newark Supergroup are reported to underlie the central and western part of the Basins, with mylonitic and cataclastic rocks beneath the eastern area of the Basins.

### 2.2.2 Hydrogeology

Groundwater occurs under unconfined water table conditions in the residual soils (saprolite) and underlying fractured bedrock beneath the study area at depths ranging from near ground surface adjacent to streams and wetlands to greater than 40 feet below local topographic highs. The uppermost aquifer includes groundwater below the water table contained in the saprolite and interconnected water-producing fractures in the underlying bedrock. The lower boundary of the uppermost aquifer is defined as the point where interconnected water-producing fractures are no longer present, or the fractures are not interconnected or too small to produce a usable quantity of water. Based upon regional hydrogeologic evaluation, the overall direction of groundwater flow is northeast.

### 2.2.3 Potentiometric Surface Evaluation

Historical static water level data for the Facility are summarized in Appendix A. Consistent with the requirements of the CCR Rule, the rate and direction of groundwater flow within the uppermost aquifer beneath the Basins was determined after each sampling event. A groundwater surface contour map based on March 17, 2021, water levels is presented as Figure 2 and a groundwater surface contour map based on September 20, 2021, water levels is presented as Figure 3. The water level elevations for these events are summarized in Appendix A.

As presented on Figures 2 and 3, the groundwater hydraulic gradient and estimated groundwater flow direction in the study area for 2021 appears to be consistent (northeast, toward the Roanoke River) with previous monitoring events. Therefore, Golder concludes that the groundwater monitoring network continues to adequately monitor the uppermost aquifer in accordance with provisions of the CCR Rule (257.91) and the VSWMR (9VAC20-81-250.A.3).

### 2.2.4 Groundwater Flow Rate Calculation

Consistent with the requirements of the CCR Rule, the rate and direction of groundwater flow within the uppermost aquifer beneath the Basins was determined after each sampling event. Appendix B presents the equations used to calculate the approximate horizontal rate of groundwater flow at the Facility in the uppermost aquifer. As

presented, the estimated average groundwater flow rate in the uppermost aquifer beneath the Basins is highly variable with the average flow rate in the silty clay/clayey sand/silty sand at approximately 12 feet per year and the average flow rate in the silty sand/weathered rock estimated at 309 to 326 feet per year. These 2021 estimates are generally consistent with previous estimates for the uppermost aquifer beneath the Basins.

### **2.2.5 Annual Review of Monitoring Network**

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

### **2.2.6 Network Certification**

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

### 3.0 FIELD ACTIVITIES

Routine compliance groundwater sampling activities that occurred during 2021 are summarized in the following sections.

#### 3.1 Compliance Monitoring Program Sampling and Analysis Activities

Groundwater at the Facility in 2021 was monitored in accordance with the CCR Rule, applicable requirements of the VSWMR, and the Modified AMP outlined in the Basins' GMP and SWP. Pursuant to the requirements in 40 CFR Part 257.95(b), 2021 compliance program activities included two (2) semi-annual Modified AMP events. Summaries of the monitoring events are presented below.

Monitoring Event	Sample Date(s)	Final Laboratory Package Receipt Date
First Semi-Annual 2021 Modified Assessment Compliance Event	March 17, 2021	April 15, 2021
Second Semi-Annual 2021 Modified Assessment Compliance Event	September 20-21, 2021	November 15, 2021 (revised December 2, 2021)

During each of the sampling events, the compliance monitoring wells were sampled in accordance with the procedures presented in the Facility's GMP (TRC, 2019).

Samples collected during the first semi-annual 2021 event were shipped via FedEx on ice in secured coolers under chain-of-custody control to Pace Analytical, LLC (Pace) in Huntersville, NC. Hexavalent chromium samples were shipped directly to the Asheville, NC, location of Pace. Pace is a Virginia Environmental Laboratory Accreditation Program (VELAP)-accredited laboratory for the constituents analyzed. Following receipt of the samples in Huntersville, NC (#460221), the samples were then shipped to the Asheville, North Carolina (#460222), Eden, North Carolina (#460025), and Greensburg, Pennsylvania (#460198) locations of Pace. Sulfide samples were shipped to Enthalpy Analytical (#460021) located in Richmond, Virginia; and total alkalinity samples were shipped to Pace (#460291) located in Pikeville, Kentucky. These laboratories are all VELAP-accredited laboratories for the analyses performed.

Samples collected during the second semi-annual 2021 event were shipped via FedEx on ice in secured coolers under chain-of-custody control to Pace in Huntersville, NC. Following receipt of the samples in Huntersville, NC (#460221), the samples were then shipped to the Asheville, North Carolina (#460222) and Eden, North Carolina (#460025) locations of Pace. Hexavalent chromium and sulfide samples were shipped to Enthalpy Analytical (#460021) located in Richmond, Virginia; and total alkalinity samples were shipped to Pace (#460291) located in Pikeville, Kentucky. These laboratories are all VELAP-accredited laboratories for the analyses performed.



## **4.0 LABORATORY ANALYTICAL RESULTS**

Laboratory analytical results from the 2021 compliance sampling events are summarized in the following sections.

### **4.1 First Semi-Annual 2021 Modified Assessment Compliance Event Findings**

The groundwater samples collected during the first semi-annual 2021 Modified AMP event were analyzed for the presence and concentrations of the constituents and parameters listed in Appendices III and IV of the CCR Rule as well as additional SWP-required constituents. The field logs for the sampling event are presented in Appendix C.1. The laboratory certificates of analysis and chain-of-custody forms for the sampling event are presented in Appendix D.1. A summary of the CCR sampling data for the event is included in Table 1.

### **4.2 Second Semi-Annual 2021 Modified Assessment Compliance Event Findings**

The groundwater samples collected during the second semi-annual 2021 Modified AMP event were analyzed for the presence and concentrations of the constituents and parameters listed in Appendices III and IV of the CCR Rule as well as additional SWP-required constituents. The field logs for the sampling event are presented in Appendix C.2. The laboratory certificates of analysis and chain-of-custody forms for the sampling event are presented in Appendix D.2. A summary of the CCR sampling data for the event is included in Table 2.

### **4.3 Review of Prior Detections**

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

## 5.0 GROUNDWATER EVALUATION

During the first and second semi-annual 2021 Modified AMP sampling events, groundwater samples were analyzed for constituents and parameters listed in Appendices III and IV of the CCR Rule as well as additional SWP-required constituents. Inorganic constituent and parameter data and the associated analytical methods are discussed in the following sections and summarized in Tables 1 and 2.

### 5.1 Antimony

Antimony was not detected in 2021 samples.

### 5.2 Arsenic

Arsenic was detected at estimated concentrations below the laboratory reporting limit (RL) in the first semi-annual samples collected from PW-3, PW-5, and PW-13, and in the second semi-annual sample collected from PW-5 and the PW-4 duplicate sample. Arsenic was not detected at concentrations above the RL in 2021.

### 5.3 Barium

Barium was detected in each sample collected during 2021. Barium concentrations ranged from 2.4 micrograms per liter (ug/L) in the second semi-annual sample collected from PW-2 to 85.3 ug/L in the first semi-annual sample collected from PW-3 field duplicate sample.

### 5.4 Beryllium

Beryllium was detected at estimated concentrations below the RL in both samples collected from PW-2 and the first semi-annual sample collected from PW-12. Beryllium was detected above the RL in both semi-annual samples collected from well PW-3 and the second semi-annual sample collected from PW-12 at concentrations ranging from 0.10 to 0.25 ug/L.

### 5.5 Boron

Boron was detected in both semi-annual samples collected from PW-5 and PW-13. Boron concentrations ranged from 574 ug/L in the second semi-annual sample collected from PW-13 to 863 ug/L in the second semi-annual sampled collected from PW-5.

### 5.6 Cadmium

Cadmium was not detected in 2021 samples.

### 5.7 Calcium

Calcium was detected in each of the 2021 samples. Calcium concentrations ranged from 3,770 ug/L in the first semi-annual sample collected from PW-12 to 103,000 ug/L in the first semi-annual sample collected from PW-13.

## 5.8 Chloride

Chloride was detected in each of the 2021 samples. Chloride concentrations ranged from 5.6 milligrams per liter (mg/L) in the first semi-annual sample collected from PW-13 to 112 mg/L in the second semi-annual sample collected from PW-5.

## 5.9 Chromium

Chromium was detected in each of the 2021 samples. Chromium concentrations ranged from 1.7 ug/L in multiple samples to 18.7 ug/L in the first semi-annual sample collected from PW-4.

## 5.10 Chromium, Hexavalent

Hexavalent chromium was detected in both semi-annual samples collected from PW-2, PW-3, and PW-4. Hexavalent chromium concentrations ranged from 11 ug/L in the second semi-annual sample collected from PW-4 to 18 ug/L in the first semi-annual sample collected from PW-4.

## 5.11 Cobalt

Cobalt was detected at estimated concentrations below the RL in each of the 2021 samples except the second semi-annual sampled from PW-2. Cobalt was not detected at concentrations above the RL in 2021.

## 5.12 Copper

Copper was not detected in 2021 samples.

## 5.13 Cyanide

Cyanide was detected at an estimated concentration below the RL in the second semi-annual sample collected from PW-13, and at a concentration above the RL in the second semi-annual sample collected from PW-3. Cyanide concentrations ranged from an estimated concentration below the RL in the sample collected from PW-13 to 0.014 mg/L in the sample collected from PW-3.

## 5.14 Fluoride

Fluoride was detected at estimated concentrations below the RL in both semi-annual samples collected from PW-5 and the second semi-annual samples collected from PW-2 and PW-13. Fluoride was detected at a concentration above the RL in the first semi-annual sample collected from PW-2 with a concentration of 0.12 mg/L.

## 5.15 Iron

Iron was detected in each of the 2021 samples with the exception of the second semi-annual sample collected from PW-12. Iron concentrations ranged from an estimated concentration below the RL to 360 ug/L in the first semi-annual sample collected from PW-2 (background well).

## 5.16 Lead

Lead was detected at estimated concentrations below the RL in the first semi-annual samples collected from PW-2, PW-3, and PW-5; and from the second semi-annual samples collected from PW-12; and from both samples collected from PW-13. Lead was not detected at concentrations above the RL in 2021.

## 5.17 Lithium

Lithium was detected in each of the 2021 samples. Lithium concentrations ranged from estimated concentrations below the RL to 4.0 ug/L in the first semi-annual sample collected from PW-5.

## 5.18 Manganese

Manganese was detected in each of the 2021 samples at concentrations ranging from estimated concentrations below the RL to 296 ug/L in the second semi-annual sample collected from PW-13.

## 5.19 Mercury

Mercury was not detected in the 2021 samples.

## 5.20 Molybdenum

Molybdenum was detected at estimated concentrations below the RL in both semi-annual samples collected from PW-5 and PW-13, in the first semi-annual sample collected from the PW-3 duplicate, and in the second semi-annual sample collected from the PW-4 duplicate. Molybdenum was not detected at quantified concentrations above the RL in 2021 samples.

## 5.21 Nickel

Nickel was detected in each of the 2021 samples except for the samples collected from PW-3 and PW-12. Nickel concentrations ranged from 3.4 ug/L in the second semi-annual sample collected from PW-13 to 21.5 ug/L in the second semi-annual sample collected from PW-4 and the PW-4 duplicate.

## 5.22 pH

pH ranged from 5.17 Standard Units (SU) in the second semi-annual sample collected from PW-2 to 6.15 SU in the first semi-annual sample collected from PW-5.

## 5.23 Radium, 226 and 228 Combined

Radium (226 and 228 combined) was detected at concentrations above the minimum detection concentration (MDC) in the second semi-annual samples collected from PW-3, PW-12, and the PW-4 duplicate at concentrations ranging from 0.185 picocuries per liter (pCi/L) and 1.03 pCi/L, respectively.

## 5.24 Selenium

Selenium was detected at estimated concentrations below the RL in each of the 2021 samples with the exception of both semi-annual samples collected from PW-2, and the first semi-annual sample collected from PW-12. Selenium was not detected above the RL in 2021.

### 5.25 Silver

Silver was detected at an estimated concentration below the RL in the second semi-annual sample collected from PW-5. Silver was not detected at quantified concentrations in 2021 samples.

### 5.26 Sodium

Sodium was detected in each of the 2021 samples at concentrations ranging from 3,400 ug/L in the second semi-annual sample collected from PW-2 to 20,500 ug/L in the second semi-annual sample collected from PW-3.

### 5.27 Sulfate

Sulfate was detected in each of the 2021 samples, with the exception of the first semi-annual sample collected from PW-12. Sulfate concentrations ranged from estimated concentrations below the RL to 201 mg/L in the second semi-annual sample collected from well PW-13.

### 5.28 Sulfide

Sulfide was not detected in 2021 samples.

### 5.29 Thallium

Thallium was detected at estimated concentrations below the RL in the second semi-annual samples collected from PW-12 and PW-13. Thallium was not detected at concentrations above the RL in 2021.

### 5.30 Tin

Tin was not detected in 2021 samples.

### 5.31 Total Alkalinity

Total Alkalinity was detected in each of the 2021 samples. Total Alkalinity concentrations ranged from 10.3 mg/L in the first semi-annual sample collected from PW-2 to 59.0 mg/L in the second semi-annual sample collected from PW-13.

### 5.32 Total Dissolved Solids

Total Dissolved Solids were detected in each of the 2021 samples at concentrations ranging from 88.0 mg/L in the first semi-annual sample collected from PW-2 to 632 mg/L in the first semi-annual sample collected from PW-13.

### 5.33 Total Hardness

Total Hardness was detected in each of the 2021 samples. Total Hardness concentrations ranged from 13,600 ug/L in the first semi-annual sample collected from PW-12 to 468,000 ug/L in the first semi-annual sample collected from PW-13.

### 5.34 Total Organic Carbon

Total Organic Carbon was detected at an estimated concentration below the RL in the second semi-annual sample collected from PW-13. Total Organic Carbon was not detected at quantified concentrations above the RL in 2021 samples.

### 5.35 Vanadium

Vanadium was detected in both samples collected from PW-2, PW-5, and PW-13; and in the second semi-annual samples collected from PW-3, PW-4, PW-12, and the PW-4 duplicate. Vanadium concentrations range from estimated concentrations below the RL to 10.0 ug/L in the first semi-annual sample collected from PW-5.

### 5.36 Zinc

Zinc was detected at an estimated concentration below the RL in the second semi-annual sample collected from PW-4 and the PW-4 duplicate. Zinc was not detected at quantified concentrations above the RL in the 2021 samples.

## 6.0 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 Facility's GMP (TRC, 2019). The review process was performed by Environmental Standards, Inc. (ESI) in general accordance with procedures outlined in the National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017 (EPA, 2017).

### 6.1 First Semi-Annual 2021 Modified Assessment Compliance Event Findings

The laboratory and field QA/QC data for the first semi-annual 2021 Modified AMP event samples collected March 17, 2021, were reviewed by ESI in accordance with EPA Protocol. Field QA/QC samples for this event included field blanks that were collected at the Basins on March 17, 2021, and a duplicate sample that was collected from compliance well PW-3 on March 17, 2021. 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 guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. It is noted that several reported sample results (iron) were qualified as estimated per EPA protocol due to field duplicate imprecision. In addition, several reported sample results (manganese, chloride, sulfate) were qualified as estimated due to matrix spike (MS) recoveries outside of acceptance limits. A copy of the data validation record is presented in Appendix G.1.

### 6.2 Second Semi-Annual 2021 Modified Assessment Compliance Event Findings

The laboratory and field QA/QC data for the second semi-annual 2021 Modified AMP event samples collected September 20-21, 2021, were reviewed by ESI in accordance with EPA Protocol. Field QA/QC samples for this event included a field blank that was collected at the Basins on September 21, 2021, and a duplicate sample that was collected from compliance well PW-4 on September 21, 2021. 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 guidance recommendations, the data for this sampling event were determined to meet the data quality objectives for the project. It is noted that several reported sample results (sulfate) were qualified as estimated per EPA protocol due to MS recoveries outside of acceptance limits. A copy of the data validation record is presented in Appendix G.2.

## 7.0 STATISTICAL EVALUATION OF GROUNDWATER DATA

This section presents a statistical evaluation for the 2021 semi-annual data according to the requirements of the CCR Rule and the SWP as follows:

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

### 7.1 Site-Specific Background Evaluation

#### 7.1.1 First Semi-Annual 2021 Modified Assessment Monitoring Program Event

Consistent with XI.H.2 of the Station's SWP and §257.93(h) of the CCR Rule, Golder evaluated the DMP constituent detections against established site background concentrations. The evaluation was performed with the background concentrations submitted to the DEQ in the March 17, 2021, *Updated Facility Background Determination Report*. The Unit's calculation-based background concentrations were approved by the DEQ on June 15, 2021, with revisions pending on the quantitation limit-based background concentrations. Based on this evaluation, the following SSI's for DMP constituents (CCR Rule Appendix III constituents) over the Unit's background concentrations were identified during the 2021 first semi-annual groundwater monitoring event (see Table 1):

- Boron (PW-5, PW-13)
- Calcium (PW-3, PW-4, PW-5, PW-13)
- Chloride (PW-2, PW-4, PW-5, PW-13)
- pH (PW-5)
- Sulfate (PW-3, PW-4, PW-5, PW-13)
- Total Dissolved Solids (PW-3, PW-4, PW-5, PW-13)

Consistent with §257.93(h) of the CCR Rule and the SWP, Golder evaluated the modified AMP constituent detections against established site background concentrations. The evaluation was performed with the background concentrations submitted to the DEQ in the March 17, 2021, *Updated Facility Background Determination Report*. The Unit's calculation-based background concentrations were approved by the DEQ on June 15, 2021, with revisions pending on the quantitation limit-based background concentrations. Based on this evaluation, the following SSIs for modified AMP constituents over the Unit's background concentrations were identified during the 2021 first semi-annual groundwater monitoring event (see Table 1):

- Barium (PW-3, PW-3 Duplicate, PW-4, PW-5, PW-12, PW-13)



In addition to the above CCR Rule SSIs, there were VSWMR background exceedances for nickel in the samples collected from PW-4 and PW-5, and for vanadium in the sample collected from PW-5. A notification of these SSIs was submitted to the DEQ on May 27, 2021, pursuant to Section XI.H.4.a of the SWP.

### 7.1.2 Second Semi-Annual 2021 Modified Assessment Monitoring Program Event

Consistent with XI.H.2 of the Station's SWP and §257.93(h) of the Coal Combustion Residuals (CCR) Rule, Golder evaluated the DMP constituent detections against established site background concentrations. The evaluation was performed with the background concentrations submitted to the DEQ in the July 15, 2021, Revised *Updated Facility Background Determination Report*. The Unit's calculation-based background concentrations were approved by the DEQ on June 15, 2021, with revisions pending on the quantitation limit-based background concentrations. Based on this evaluation, the following SSI's for DMP constituents (CCR Rule Appendix III constituents) over the Unit's background concentrations were identified during the 2021 second semi-annual groundwater monitoring event (see Table 3):

- Boron (PW-5, PW-13)
- Calcium (PW-3, PW-4, PW-5, PW-13)
- Chloride (PW-2, PW-4, PW-5, PW-13)
- Sulfate (PW-3, PW-4, PW-5, PW-12, PW-13)
- Total Dissolved Solids (PW-3, PW-4, PW-5, PW-13)

Consistent with §257.93(h) of the CCR Rule, Golder evaluated the AMP constituent detections against established site background concentrations. The evaluation was performed with the background concentrations submitted to the DEQ in the July 15, 2021, Revised *Updated Facility Background Determination Report*. The Unit's calculation-based background concentrations were approved by the DEQ on June 15, 2021, with revisions pending on the quantitation limit-based background concentrations. Based on this evaluation, the following SSIs for modified AMP constituents over the Unit's background concentrations were identified during the 2021 second semi-annual groundwater monitoring event based on a value-to-value comparison (see Table 3):

- Barium (PW-3, PW-4, PW-5, PW-12, PW-13)
- Beryllium (PW-3)

In addition to the above CCR Rule SSIs, there were VSWMR background exceedances for cyanide in the sample collected from PW-3; nickel in the samples collected from PW-4, PW-5, and the PW-4 duplicate; and for vanadium in the sample collected from PW-5. A notification of these SSIs was submitted to the DEQ on December 29, 2021, pursuant to Section XI.H.4.a of the SWP. As the Unit is already monitoring groundwater under the Modified AMP,

no additional actions beyond reporting these background exceedances were required for the first and second semi-annual periods of 2021.

## 7.2 First Semi-Annual 2021 Modified Assessment Monitoring Program Event Groundwater Protection Standards

### 7.2.1 Solid Waste Permit Groundwater Protection Standard Exceedances

Consistent with XI.H.2 of the Station’s SWP, Golder evaluated the Modified AMP constituents [CCR Rule Appendix IV constituents, VSWMR metals, and boron] against Maximum Contaminant Level (MCL)-based and background-based Groundwater Protection Standards (GPS). The current background-based GPS were approved by the DEQ on January 10, 2022; therefore, this evaluation was completed using the SWP GPS approved by DEQ on June 29, 2018, and November 20, 2019. Based on this evaluation, the following SWP GPS exceedances were identified during the 2021 first semi-annual groundwater monitoring event based on a value-to-standard comparison.

Constituent	Solid Waste Permit Groundwater Protection Standard	Assessment Monitoring Well	1SA 2021 Concentration
Boron (ug/L)	100 (QL)	PW-5	793
		PW-13	825
Nickel (ug/L)	5.46	PW-4	20.4
		PW-5	5.6
Vanadium (ug/L)	8.21	PW-5	10.0

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

A notification of these SWP GPS exceedances was submitted to the DEQ on May 27, 2021, pursuant to Section XI.H.4.a of the SWP. The updated NES that addressed these exceedances was completed and submitted to the DEQ on August 18, 2021, in accordance with 9VAC20-81-260 *et seq.* of the VSWMR.

### 7.2.2 CCR Groundwater Protection Standard Exceedances

Consistent with §257.95(h)(2) of the CCR Rule, Golder evaluated the AMP constituents (CCR Rule Appendix IV constituents) against the established federal Groundwater Protection Standards (GWPS). Based on this evaluation, no federal CCR GWPS exceedances were identified during the 2021 first semi-annual groundwater monitoring event based on a value-to-standard comparison.

## 7.3 Second Semi-Annual 2021 Modified Assessment Monitoring Program Event Groundwater Protection Standards

### 7.3.1 Solid Waste Permit Groundwater Protection Standard Exceedances

Consistent with XI.H.2 of the Station’s solid waste permit, Golder evaluated the Modified AMP constituents [CCR Rule Appendix IV constituents, VSWMR metals, and boron] against MCL-based and background-based GPS. The current background-based GPS were approved by the DEQ on January 10, 2022; therefore, this evaluation was completed using the SWP GPS approved by DEQ on June 29, 2018, and November 20, 2019. Based on this evaluation, the following solid waste permit GPS exceedances were identified during the 2021 second semi-annual groundwater monitoring event based on a value-to-standard comparison.

Constituent	Solid Waste Permit Groundwater Protection Standard	Assessment Monitoring Well	2SA 2021 Concentration
Boron (ug/L)	100 (QL)	PW-5	863
		PW-13	574
Nickel (ug/L)	5.46	PW-4	21.5
		PW-5	6.2
Vanadium (ug/L)	8.21	PW-5	8.6

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

A notification of this SWP GPS exceedance was submitted to the DEQ on December 29, 2021, pursuant to Section XI.H.4.a of the SWP. The boron, nickel, and vanadium exceedances were addressed in the August 18, 2021 ACM, therefore no further actions beyond reporting those exceedances were required for the second semi-annual period of 2021.

### 7.3.2 CCR Groundwater Protection Standard Exceedances

Consistent with §257.95(h)(2) of the CCR Rule, Golder evaluated the AMP constituents (CCR Rule Appendix IV constituents) against the established federal CCR GWPS. Based on this evaluation, no federal CCR GWPS exceedances were identified during the 2021 second semi-annual groundwater monitoring event based on a value-to-standard comparison.

## 8.0 CONCLUSIONS

The following conclusions are presented based on the results of the groundwater sampling activities conducted at the Basins in 2021:

### 8.1 Summary of Findings

- The overall direction of groundwater flow at the Facility is toward the northeast at an estimated horizontal velocity of 12 to 326 feet/year in the uppermost aquifer;
- Downgradient wells are located close to the Unit boundary and are able to detect changes in groundwater quality downgradient of the Basins;
- During 2021, the monitoring well network functioned as designed and had the ability to determine the Basins' impact on the quality of the groundwater in the uppermost aquifer;
- Review of the current potentiometric maps indicates the monitoring wells network continues to fulfill the requirements of 9VAC20-81-250.A.3;
- Review of the 2021 Modified AMP monitoring data did not indicate any significant changes in the groundwater quality;
- Statistical evaluations identified SSIs over background concentrations for boron, calcium, chloride, pH, sulfate, total dissolved solids, barium, beryllium, nickel, and vanadium, in one (1) or more compliance wells;
- There were no federal CCR GWPS exceedances identified in 2021; and
- The modified AMP identified SWP GPS exceedances of boron, nickel, and vanadium in one or more downgradient compliance well.

### 8.2 Planned Activities

Based on the results from the 2021 monitoring program activities, Dominion Energy intends to continue with the Modified AMP and corrective action activities in 2022 consistent with the provisions in the CCR Rule [part 257.95] and the Basins' SWP. Dominion Energy intends to conduct two (2) semi-annual compliance events in 2022. Also, Dominion Energy will continue with the corrective action process in accordance with 9VAC20-81-260.

## 9.0 REFERENCES

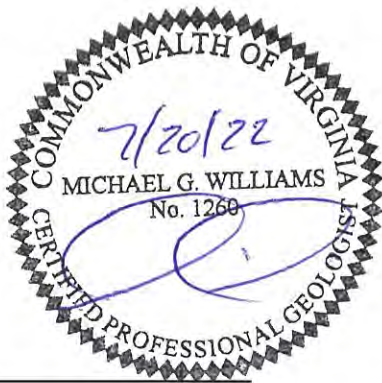
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## 10.0 SIGNATURE SECTION

This 2021 Annual Groundwater Monitoring Report has been prepared by qualified groundwater scientists and engineers on behalf of Virginia Electric and Power Company d/b/a Dominion Energy Virginia (Dominion Energy) for the Sludge Sedimentation Basins at the Clover Power Station in Clover, Virginia. This document was prepared by scientists and engineers who have received baccalaureate and/or post-graduate degrees in the natural sciences and/or engineering and who have sufficient training and experience in groundwater hydrology, engineering, statistical evaluations, and related fields as demonstrated by state professional registrations and completion of an accredited university program that enables sound professional judgments consistent with the industry standard of care for groundwater monitoring, contaminant fate and transport, environmental corrective actions, and cost estimate development.

Signature



Name & Title

A handwritten signature in blue ink, appearing to read 'Michael G. Williams', written over a horizontal line.

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

A handwritten signature in black ink, appearing to read 'Crystal Shadle', written over a horizontal line.

Crystal Shadle  
Senior Geologist

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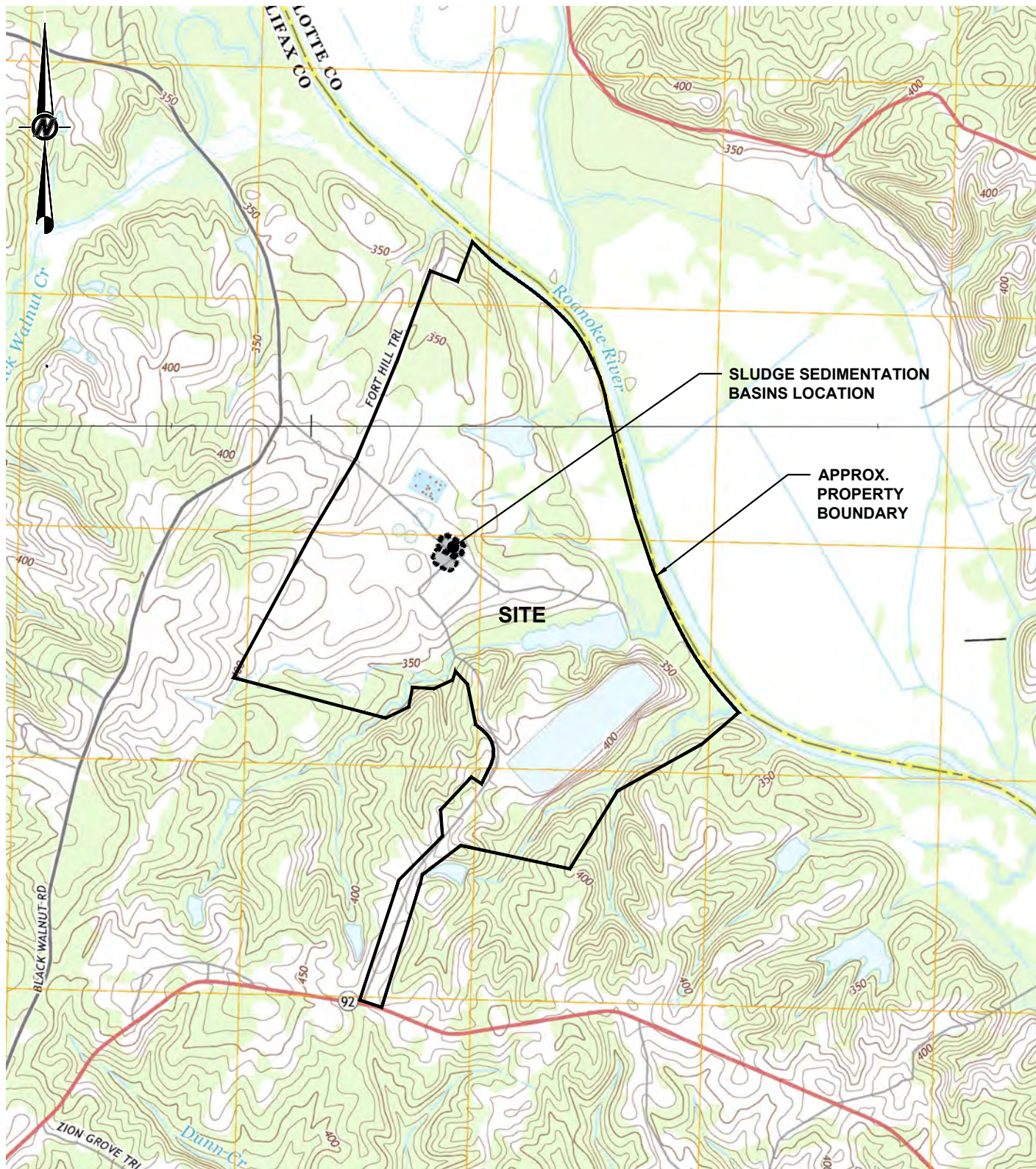
# TABLES







# FIGURES



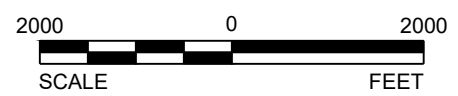
SLUDGE SEDIMENTATION  
BASINS LOCATION

APPROX.  
PROPERTY  
BOUNDARY

SITE

**REFERENCE**

BASE MAP CONSISTS OF USGS 7.5 MINUTE QUADRANGLE SERIES TITLED SAXE, VIRGINIA, 2013, AND CLOVER, VIRGINIA, 2013.



CLIENT  
**DOMINION ENERGY**

PROJECT  
**CLOVER POWER STATION  
SLUDGE SEDIMENTATION BASINS  
HALIFAX COUNTY, VIRGINIA**

CONSULTANT	YYYY-MM-DD	2020-05-06
	DESIGNED	RIP
	PREPARED	SIB
	REVIEWED	MGW
	APPROVED	MGW



TITLE  
**SITE LOCATION MAP**

PROJECT NO. 20-13993121      REV. 0      ATTACHMENT 1

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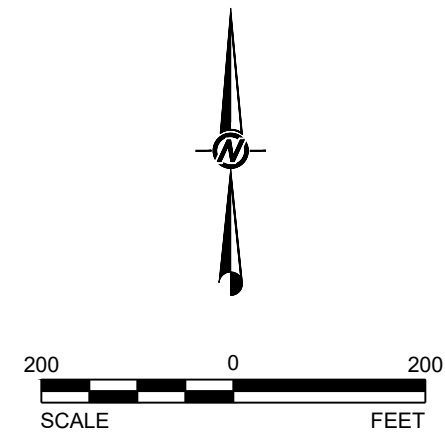


**LEGEND**

- 348 POTENTIOMETRIC SURFACE CONTOUR
- APPROXIMATE GROUNDWATER FLOW LINE
- *i gw = 648'* GROUNDWATER FLOW PATH LENGTH (FEET)
- PW-13 EXISTING GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION (SHALLOW AQUIFER)
- PW-8 EXISTING GROUNDWATER OBSERVATION WELL LOCATION AND IDENTIFICATION
- NES-13 EXISTING NES/ACM MONITORING WELL LOCATION AND IDENTIFICATION
- (348.16) STATIC GROUNDWATER ELEVATION FOR MARCH 16, 2021 (FEET ABOVE MEAN SEA LEVEL)
- SLUDGE SEDIMENTATION BASINS

**REFERENCE**

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO ON 03/22/2018. MAP DATA BY: GOOGLE, IMAGERY DATE: 06/13/2016
2. 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.
3. 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.



CLIENT  
DOMINION ENERGY

DESIGNED	2021-06-18
PREPARED	RIP
REVIEWED	SIB
APPROVED	MGW



PROJECT  
CLOVER POWER STATION  
SLUDGE SEDIMENTATION PONDS

TITLE  
POTENTIOMETRIC SURFACE MAP  
MARCH 16, 2021

PROJECT NO.  
20-13993121

REV.  
1

FIGURE  
2

1" = 200' IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

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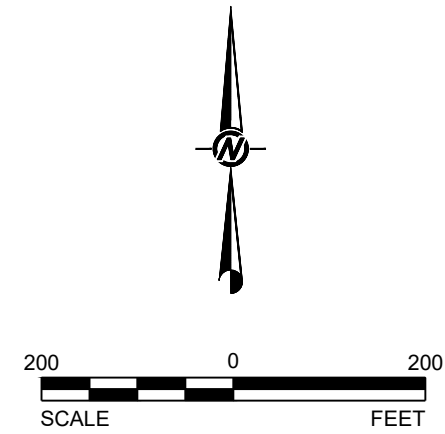


**LEGEND**

- 348 POTENTIOMETRIC SURFACE CONTOUR
- APPROXIMATE GROUNDWATER FLOW LINE
- *i gw = 648'* GROUNDWATER FLOW PATH LENGTH (FEET)
- PW-13 EXISTING GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION (SHALLOW AQUIFER)
- PW-8 EXISTING GROUNDWATER OBSERVATION WELL LOCATION AND IDENTIFICATION
- NES-13 EXISTING NES/ACM MONITORING WELL LOCATION AND IDENTIFICATION
- (344.59) STATIC GROUNDWATER ELEVATION FOR SEPTEMBER 20, 2021 (FEET ABOVE MEAN SEA LEVEL)
- SLUDGE SEDIMENTATION BASINS

**REFERENCE**

1. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO ON 03/22/2018. MAP DATA BY: GOOGLE, IMAGERY DATE: 06/13/2016
2. 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.
3. 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.



CLIENT  
DOMINION ENERGY

DESIGNED	2022-01-10	CS
PREPARED		SIB
REVIEWED		CS
APPROVED		MGW



PROJECT  
CLOVER POWER STATION  
SLUDGE SEDIMENTATION PONDS

TITLE  
POTENTIOMETRIC SURFACE MAP  
SEPTEMBER 20, 2021

PROJECT NO.  
20-13993121

REV.  
1

FIGURE  
3

1in IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSIB

# **APPENDIX A**

## **HISTORICAL GROUNDWATER ELEVATIONS**

**Appendix A**  
**Historical Groundwater Elevation Data**  
**2021 Annual Groundwater Monitoring Report**  
**Clover Sludge Sedimentation Basins - Permit No. 622**

Measurement Date	Well ID	Top of PVC Riser Elevation (ft msl)	Top of Steel Cover Elevation (ft msl)	Measuring Point Reference	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
11/03/2015	PW-1*	376.80	377.65	Top of PVC Riser	21.34	355.46
02/08/2016	PW-1*	376.80	377.65	Top of Steel Cover	17.84	359.81
05/05/2016	PW-1*	376.80	377.65	Top of Steel Cover	18.38	359.27
08/15/2016	PW-1*	376.80	377.65	Top of Steel Cover	19.62	358.03
10/31/2016	PW-1*	376.80	377.65	Top of Steel Cover	20.86	356.79
02/06/2017	PW-1*	376.80	377.65	Top of Steel Cover	20.97	356.68
05/08/2017	PW-1*	376.80	377.65	Top of Steel Cover	20.23	357.42
08/07/2017	PW-1*	376.80	377.65	Top of Steel Cover	21.62	356.03
10/02/2017	PW-1*	376.80	377.65	Top of Steel Cover	23.01	354.64
04/02/2018	PW-1*	376.80	377.65	Top of PVC Riser	21.02	355.78
06/19/2018	PW-1*	376.80	377.65	Top of PVC Riser	19.70	357.10
08/21/2018	PW-1*	376.80	377.65	Top of PVC Riser	20.80	356.00
10/29/2018	PW-1*	376.80	377.65	Top of PVC Riser	19.75	357.05
03/05/2019	PW-1*	376.80	377.65	Top of PVC Riser	16.57	360.23
04/10/2019	PW-1*	376.80	377.65	Top of PVC Riser	16.99	359.81
10/09/2019	PW-1*	376.80	377.65	Top of PVC Riser	22.11	354.69
01/21/2020	PW-1*	376.80	377.65	Top of PVC Riser	20.19	356.61
03/30/2020	PW-1*	376.80	377.65	Top of PVC Riser	19.10	357.70
04/27/2020	PW-1*	376.80	377.65	Top of PVC Riser	19.80	357.00
09/28/2020	PW-1*	376.80	377.65	Top of PVC Riser	19.84	356.96
03/16/2021	PW-1*	376.80	377.65	Top of PVC Riser	17.25	359.55
09/20/2021	PW-1*	376.80	377.65	Top of PVC Riser	22.08	354.72
11/03/2015	PW-2	377.10	377.87	Top of PVC Riser	21.38	355.72
02/08/2016	PW-2	377.10	377.87	Top of Steel Cover	20.70	357.17
05/05/2016	PW-2	377.10	377.87	Top of Steel Cover	20.39	357.48
08/15/2016	PW-2	377.10	377.87	Top of Steel Cover	21.00	356.87
10/31/2016	PW-2	377.10	377.87	Top of Steel Cover	22.05	355.82
02/06/2017	PW-2	377.10	377.87	Top of Steel Cover	22.65	355.22
05/08/2017	PW-2	377.10	377.87	Top of Steel Cover	22.89	354.98
08/07/2017	PW-2	377.10	377.87	Top of Steel Cover	22.71	355.16
10/02/2017	PW-2	377.10	377.87	Top of Steel Cover	23.49	354.38
02/13/2018	PW-2	377.10	377.87	Top of PVC Riser	23.47	353.63
04/02/2018	PW-2	377.10	377.87	Top of PVC Riser	23.37	353.73
06/19/2018	PW-2	377.10	377.87	Top of PVC Riser	21.18	355.92
08/21/2018	PW-2	377.10	377.87	Top of PVC Riser	21.52	355.58
10/29/2018	PW-2	377.10	377.87	Top of PVC Riser	20.91	356.19
03/05/2019	PW-2	377.10	377.87	Top of PVC Riser	19.72	357.38
04/10/2019	PW-2	377.10	377.87	Top of PVC Riser	18.85	358.25
10/09/2019	PW-2	377.10	377.87	Top of PVC Riser	21.22	355.88
01/21/2020	PW-2	377.10	377.87	Top of PVC Riser	21.00	356.10
03/30/2020	PW-2	377.10	377.87	Top of PVC Riser	19.73	357.37
04/27/2020	PW-2	377.10	377.87	Top of PVC Riser	19.89	357.21
09/28/2020	PW-2	377.10	377.87	Top of PVC Riser	20.07	357.03
03/16/2021	PW-2	377.10	377.87	Top of PVC Riser	18.42	358.68
09/20/2021	PW-2	377.10	377.87	Top of PVC Riser	21.07	356.03
11/03/2015	PW-3	376.22	376.83	Top of PVC Riser	25.78	350.44
02/08/2016	PW-3	376.22	376.83	Top of PVC Riser	24.18	352.04
05/05/2016	PW-3	376.22	376.83	Top of Steel Cover	23.85	352.98
08/15/2016	PW-3	376.22	376.83	Top of Steel Cover	24.98	351.85
10/31/2016	PW-3	376.22	376.83	Top of Steel Cover	26.17	350.66
02/06/2017	PW-3	376.22	376.83	Top of Steel Cover	26.45	350.38
05/08/2017	PW-3	376.22	376.83	Top of Steel Cover	26.52	350.31
08/07/2017	PW-3	376.22	376.83	Top of Steel Cover	27.25	349.58
10/02/2017	PW-3	376.22	376.83	Top of Steel Cover	27.91	348.92
02/14/2018	PW-3	376.22	376.83	Top of PVC Riser	27.63	348.59
04/02/2018	PW-3	376.22	376.83	Top of PVC Riser	27.25	348.97
06/19/2018	PW-3	376.22	376.83	Top of PVC Riser	25.66	350.56
08/21/2018	PW-3	376.22	376.83	Top of PVC Riser	26.23	349.99
10/29/2018	PW-3	376.22	376.83	Top of PVC Riser	25.62	350.60
03/05/2019	PW-3	376.22	376.83	Top of PVC Riser	23.48	352.74
04/10/2019	PW-3	376.22	376.83	Top of PVC Riser	23.23	352.99
10/09/2019	PW-3	377.32	377.53	Top of PVC Riser	27.26	350.06
01/21/2020	PW-3	377.32	377.53	Top of PVC Riser	26.55	350.77
03/30/2020	PW-3	377.32	377.53	Top of PVC Riser	25.22	352.10
04/27/2020	PW-3	377.32	377.53	Top of PVC Riser	25.58	351.74
09/28/2020	PW-3	377.32	377.53	Top of PVC Riser	26.17	351.15
03/16/2021	PW-3	377.32	377.53	Top of PVC Riser	23.88	353.44
09/20/2021	PW-3	377.32	377.53	Top of PVC Riser	27.03	350.29
11/03/2015	PW-4	375.88	376.73	Top of PVC Riser	29.69	346.19
02/08/2016	PW-4	375.88	376.73	Top of PVC Riser	26.87	349.01
05/05/2016	PW-4	375.88	376.73	Top of Steel Cover	28.19	348.54
08/15/2016	PW-4	375.88	376.73	Top of Steel Cover	29.78	346.95
10/31/2016	PW-4	375.88	376.73	Top of Steel Cover	29.99	346.74
02/06/2017	PW-4	375.88	376.73	Top of Steel Cover	29.55	347.18
05/08/2017	PW-4	375.88	376.73	Top of Steel Cover	29.40	347.33
08/07/2017	PW-4	375.88	376.73	Top of Steel Cover	31.58	345.15
10/02/2017	PW-4	375.88	376.73	Top of Steel Cover	32.05	344.68
02/13/2018	PW-4	375.88	376.73	Top of PVC Riser	30.25	345.63
04/03/2018	PW-4	375.88	376.73	Top of PVC Riser	30.25	345.63
06/19/2018	PW-4	375.88	376.73	Top of PVC Riser	28.30	347.58
08/21/2018	PW-4	377.62	--	Top of PVC Riser	31.12	346.50
10/30/2018	PW-4	377.62	--	Top of PVC Riser	29.74	347.88
03/05/2019	PW-4	377.62	--	Top of PVC Riser	28.13	349.49
04/10/2019	PW-4	377.62	--	Top of PVC Riser	28.65	348.97
10/09/2019	PW-4	377.62	--	Top of PVC Riser	32.33	345.29
01/21/2020	PW-4	377.62	--	Top of PVC Riser	29.86	347.76
03/30/2020	PW-4	377.62	--	Top of PVC Riser	29.10	348.52
04/27/2020	PW-4	377.62	--	Top of PVC Riser	29.62	348.00
09/28/2020	PW-4	377.62	--	Top of PVC Riser	29.64	347.98
03/16/2021	PW-4	377.62	--	Top of PVC Riser	28.35	349.27
09/20/2021	PW-4	377.62	--	Top of PVC Riser	31.40	346.22



**Appendix A**  
**Historical Groundwater Elevation Data**  
**2021 Annual Groundwater Monitoring Report**  
**Clover Sludge Sedimentation Basins - Permit No. 622**

Measurement Date	Well ID	Top of PVC Riser Elevation (ft msl)	Top of Steel Cover Elevation (ft msl)	Measuring Point Reference	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
11/03/2015	PW-5	358.33	358.79	Top of PVC Riser	12.60	345.73
02/08/2016	PW-5	358.33	358.79	Top of Steel Cover	10.52	348.27
05/05/2016	PW-5	358.33	358.79	Top of Steel Cover	11.21	347.58
08/15/2016	PW-5	358.33	358.79	Top of Steel Cover	13.03	345.76
10/31/2016	PW-5	358.33	358.79	Top of Steel Cover	13.22	345.57
02/06/2017	PW-5	358.33	358.79	Top of Steel Cover	12.57	346.22
05/08/2017	PW-5	358.33	358.79	Top of Steel Cover	12.37	346.42
08/07/2017	PW-5	358.33	358.79	Top of Steel Cover	14.72	344.07
10/02/2017	PW-5	358.33	358.79	Top of Steel Cover	15.15	343.64
02/14/2018	PW-5	358.33	358.79	Top of PVC Riser	13.58	344.75
04/03/2018	PW-5	358.33	358.79	Top of PVC Riser	12.77	345.56
06/19/2018	PW-5	358.33	358.79	Top of PVC Riser	12.25	346.08
08/21/2018	PW-5	358.33	358.79	Top of PVC Riser	12.90	345.43
10/29/2018	PW-5	358.33	358.79	Top of PVC Riser	11.14	347.19
03/05/2019	PW-5	358.33	358.79	Top of PVC Riser	9.69	348.64
04/10/2019	PW-5	358.33	358.79	Top of PVC Riser	10.42	347.91
10/09/2019	PW-5	358.33	358.79	Top of PVC Riser	14.37	343.96
01/21/2020	PW-5	358.33	358.79	Top of PVC Riser	11.71	346.62
03/30/2020	PW-5	358.33	358.79	Top of PVC Riser	10.83	347.50
04/27/2020	PW-5	358.33	358.79	Top of PVC Riser	11.50	346.83
09/28/2020	PW-5	358.33	358.79	Top of PVC Riser	11.53	346.80
03/16/2021	PW-5	358.33	358.79	Top of PVC Riser	10.15	348.18
09/20/2021	PW-5	358.33	358.79	Top of PVC Riser	13.86	344.47
11/03/2015	PW-6*	363.02	363.82	Top of PVC Riser	17.39	345.63
02/08/2016	PW-6*	363.02	363.82	Top of Steel Cover	15.23	348.59
05/05/2016	PW-6*	363.02	363.82	Top of Steel Cover	15.98	347.84
08/15/2016	PW-6*	363.02	363.82	Top of Steel Cover	17.78	346.04
10/31/2016	PW-6*	363.02	363.82	Top of Steel Cover	18.03	345.79
02/06/2017	PW-6*	363.02	363.82	Top of Steel Cover	17.40	346.42
05/08/2017	PW-6*	363.02	363.82	Top of Steel Cover	17.17	346.65
08/07/2017	PW-6*	363.02	363.82	Top of Steel Cover	19.53	344.29
10/02/2017	PW-6*	363.02	363.82	Top of Steel Cover	19.99	343.83
04/02/2018	PW-6*	363.02	363.82	Top of PVC Riser	17.42	345.60
06/19/2018	PW-6*	363.02	363.82	Top of PVC Riser	16.73	346.29
08/21/2018	PW-6*	363.02	363.82	Top of PVC Riser	17.53	345.49
10/29/2018	PW-6*	363.02	363.82	Top of PVC Riser	15.74	347.28
03/05/2019	PW-6*	363.02	363.82	Top of PVC Riser	14.11	348.91
04/10/2019	PW-6*	363.02	363.82	Top of PVC Riser	14.91	348.11
10/09/2019	PW-6*	363.02	363.82	Top of PVC Riser	18.97	344.05
01/21/2020	PW-6*	363.02	363.82	Top of PVC Riser	16.31	346.71
03/30/2020	PW-6*	363.02	363.82	Top of PVC Riser	15.52	347.50
04/27/2020	PW-6*	363.02	363.82	Top of PVC Riser	16.05	346.97
09/28/2020	PW-6*	363.02	363.82	Top of PVC Riser	16.09	346.93
03/16/2021	PW-6*	363.02	363.82	Top of PVC Riser	14.80	348.22
09/20/2021	PW-6*	363.02	363.82	Top of PVC Riser	18.43	344.59
11/03/2015	PW-7*	357.85	358.48	Top of PVC Riser	12.05	345.80
02/08/2016	PW-7*	357.85	358.48	Top of Steel Cover	9.65	348.83
05/05/2016	PW-7*	357.85	358.48	Top of Steel Cover	10.45	348.03
08/15/2016	PW-7*	357.85	358.48	Top of Steel Cover	12.31	346.17
10/31/2016	PW-7*	357.85	358.48	Top of Steel Cover	12.63	345.85
02/06/2017	PW-7*	357.85	358.48	Top of Steel Cover	11.97	346.51
05/08/2017	PW-7*	357.85	358.48	Top of Steel Cover	11.74	346.74
08/07/2017	PW-7*	357.85	358.48	Top of Steel Cover	14.08	344.40
10/02/2017	PW-7*	357.85	358.48	Top of Steel Cover	14.63	343.85
04/02/2018	PW-7*	357.85	358.48	Top of PVC Riser	12.10	345.75
06/19/2018	PW-7*	357.85	358.48	Top of PVC Riser	11.30	346.55
08/21/2018	PW-7*	357.85	358.48	Top of PVC Riser	12.19	345.66
10/29/2018	PW-7*	357.85	358.48	Top of PVC Riser	10.29	347.56
03/05/2019	PW-7*	357.85	358.48	Top of PVC Riser	8.50	349.35
04/10/2019	PW-7*	357.85	358.48	Top of PVC Riser	9.35	348.50
10/09/2019	PW-7*	357.85	358.48	Top of PVC Riser	13.58	344.27
01/21/2020	PW-7*	357.85	358.48	Top of PVC Riser	10.89	346.96
03/30/2020	PW-7*	357.85	358.48	Top of PVC Riser	10.04	347.81
04/27/2020	PW-7*	357.85	358.48	Top of PVC Riser	10.60	347.25
09/28/2020	PW-7*	357.85	358.48	Top of PVC Riser	10.67	347.18
03/16/2021	PW-7*	357.85	358.48	Top of PVC Riser	9.11	348.74
09/20/2021	PW-7*	357.85	358.48	Top of PVC Riser	13.06	344.79
11/03/2015	PW-8*	359.81	360.42	Top of PVC Riser	13.62	346.19
02/08/2016	PW-8*	359.81	360.42	Top of Steel Cover	10.26	350.16
05/05/2016	PW-8*	359.81	360.42	Top of Steel Cover	11.30	349.12
08/15/2016	PW-8*	359.81	360.42	Top of Steel Cover	13.33	347.09
10/31/2016	PW-8*	359.81	360.42	Top of Steel Cover	13.81	346.61
02/06/2017	PW-8*	359.81	360.42	Top of Steel Cover	13.11	347.31
05/08/2017	PW-8*	359.81	360.42	Top of Steel Cover	12.81	347.61
08/07/2017	PW-8*	359.81	360.42	Top of Steel Cover	15.12	345.30
10/02/2017	PW-8*	359.81	360.42	Top of Steel Cover	15.85	344.57
04/02/2018	PW-8*	359.81	360.42	Top of PVC Riser	13.79	346.02
06/19/2018	PW-8*	359.81	360.42	Top of PVC Riser	12.25	347.56
08/21/2018	PW-8*	359.81	360.42	Top of PVC Riser	13.75	346.06
10/29/2018	PW-8*	359.81	360.42	Top of PVC Riser	11.37	348.44
03/05/2019	PW-8*	359.81	360.42	Top of PVC Riser	9.15	350.66
04/10/2019	PW-8*	359.81	360.42	Top of PVC Riser	10.23	349.58
10/09/2019	PW-8*	359.81	360.42	Top of PVC Riser	14.87	344.94
01/21/2020	PW-8*	359.81	360.42	Top of PVC Riser	12.40	347.41
03/30/2020	PW-8*	359.81	360.42	Top of PVC Riser	11.31	348.50
04/27/2020	PW-8*	359.81	360.42	Top of PVC Riser	11.87	347.94
09/28/2020	PW-8*	359.81	360.42	Top of PVC Riser	12.04	347.77
03/16/2021	PW-8*	359.81	360.42	Top of PVC Riser	9.97	349.84
09/20/2021	PW-8*	359.81	360.42	Top of PVC Riser	14.51	345.30

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**Historical Groundwater Elevation Data**  
**2021 Annual Groundwater Monitoring Report**  
**Clover Sludge Sedimentation Basins - Permit No. 622**

Measurement Date	Well ID	Top of PVC Riser Elevation (ft msl)	Top of Steel Cover Elevation (ft msl)	Measuring Point Reference	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
11/03/2015	PW-12	371.93	--	Top of PVC Riser	23.15	348.78
02/08/2016	PW-12	371.93	--	Top of PVC Riser	20.88	351.05
05/05/2016	PW-12	371.93	--	Top of PVC Riser	20.81	351.12
08/15/2016	PW-12	371.93	--	Top of PVC Riser	21.93	350.00
10/31/2016	PW-12	371.93	--	Top of PVC Riser	22.75	349.18
02/06/2017	PW-12	371.93	--	Top of PVC Riser	22.75	349.18
05/08/2017	PW-12	371.93	--	Top of PVC Riser	22.74	349.19
08/07/2017	PW-12	371.93	--	Top of PVC Riser	24.01	347.92
10/02/2017	PW-12	371.93	--	Top of PVC Riser	24.65	347.28
02/13/2018	PW-12	371.93	--	Top of PVC Riser	24.43	347.50
04/02/2018	PW-12	371.93	--	Top of PVC Riser	23.52	348.41
06/19/2018	PW-12	371.93	--	Top of PVC Riser	22.56	349.37
08/21/2018	PW-12	371.93	372.26	Top of PVC Riser	23.52	348.41
10/29/2018	PW-12	371.93	372.26	Top of PVC Riser	22.58	349.35
03/05/2019	PW-12	371.93	372.26	Top of PVC Riser	19.78	352.15
04/10/2019	PW-12	371.93	372.26	Top of PVC Riser	20.72	351.21
10/09/2019	PW-12	371.93	372.26	Top of PVC Riser	23.85	348.08
01/21/2020	PW-12	371.93	372.26	Top of PVC Riser	22.36	349.57
03/30/2020	PW-12	371.93	372.26	Top of PVC Riser	21.30	350.63
04/27/2020	PW-12	371.93	372.26	Top of PVC Riser	21.70	350.23
09/28/2020	PW-12	371.93	372.26	Top of PVC Riser	22.12	349.81
03/16/2021	PW-12	371.93	372.26	Top of PVC Riser	20.25	351.68
09/20/2021	PW-12	371.93	372.26	Top of PVC Riser	23.29	348.64
11/03/2015	PW-13	376.56	--	Top of PVC Riser	31.17	345.39
02/08/2016	PW-13	376.56	--	Top of PVC Riser	28.45	348.11
05/05/2016	PW-13	376.56	--	Top of PVC Riser	29.09	347.47
08/15/2016	PW-13	376.56	--	Top of PVC Riser	30.91	345.65
10/31/2016	PW-13	376.56	--	Top of PVC Riser	31.09	345.47
02/06/2017	PW-13	376.56	--	Top of PVC Riser	30.44	346.12
05/08/2017	PW-13	376.56	--	Top of PVC Riser	30.24	346.32
08/07/2017	PW-13	376.56	--	Top of PVC Riser	32.61	343.95
10/02/2017	PW-13	376.56	--	Top of PVC Riser	33.03	343.53
02/13/2018	PW-13	376.56	--	Top of PVC Riser	32.00	344.56
04/03/2018	PW-13	376.56	--	Top of PVC Riser	31.17	345.39
06/19/2018	PW-13	376.56	--	Top of PVC Riser	30.65	345.91
08/21/2018	PW-13	377.69	--	Top of PVC Riser	32.03	345.66
10/29/2018	PW-13	377.69	--	Top of PVC Riser	30.39	347.30
03/05/2019	PW-13	377.69	--	Top of PVC Riser	28.90	348.79
04/10/2019	PW-13	377.69	--	Top of PVC Riser	29.61	348.08
10/09/2019	PW-13	377.69	--	Top of PVC Riser	33.62	344.07
01/21/2020	PW-13	377.69	--	Top of PVC Riser	30.94	346.75
03/30/2020	PW-13	377.69	--	Top of PVC Riser	30.20	347.49
04/27/2020	PW-13	377.69	--	Top of PVC Riser	30.70	346.99
09/28/2020	PW-13	377.69	--	Top of PVC Riser	30.73	346.96
03/16/2021	PW-13	377.69	--	Top of PVC Riser	29.53	348.16
09/20/2021	PW-13	377.69	--	Top of PVC Riser	33.10	344.59

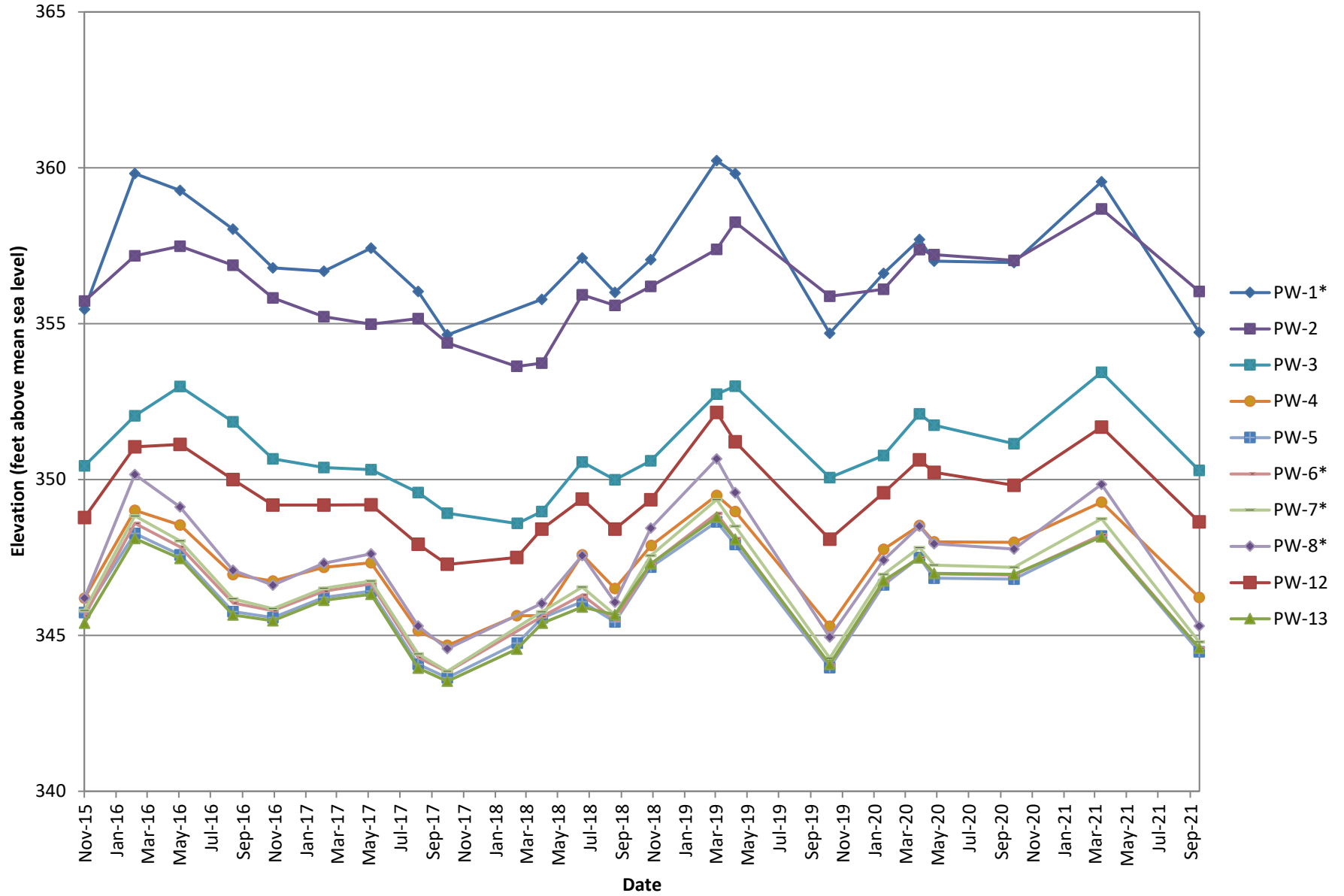
Notes:

ft btoc = feet below top of casing

ft msl = feet mean sea level

\* Not CCR wells; gauged for potentiometric purposes only

# Historical Groundwater Elevations



## **APPENDIX B**

# **GROUNDWATER FLOW RATE CALCULATION**

**Appendix B**  
**Groundwater Flow Rate Calculation**  
**Clover Sludge Sedimentation Basins – Solid Waste Permit #622**

The approximate horizontal velocity of the groundwater flow beneath the site was calculated using the following equations.

As presented below, the average hydraulic gradient for the site along the ideal flow lines beneath the landfill was calculated along the identified flow lines using the following equation:

$$i = h_L / L$$

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

The groundwater flow rate was calculated using the following formula:

$$V = ki / \theta$$

Where:  $V$  = Groundwater Velocity (feet/day)  
 $k$  = hydraulic conductivity (feet/day)  
 $i$  = hydraulic gradient (unitless)  
 $\theta$  = assumed porosity (unitless)

Geologic Material	Hydraulic Conductivity (k, feet/day)	Contour Lines (feet amsl)	Flow Length (feet)	Average Gradient (i)	Assumed Porosity ( $\theta$ )	Estimated Groundwater Velocity	
						(feet/day)	(feet/year)
March 2021 Groundwater Event							
Silty clay/clayey silt/silty sand	0.90	358-348	744	1.34E-02	0.374	3.2E-02	12
Silty sand/weathered rock	30.3				0.480	8.48E-01	309
September 2021 Groundwater Event							
Silty clay/clayey silt/silty sand	0.90	354-344	701	1.43E-02	0.374	3.43E-02	12
Silty sand/weathered rock	30.3				0.480	9.00E-01	326

Notes: feet/min = feet per minute

amsl = above mean sea level

$k$  = hydraulic conductivity (geometric mean calculated from "TRC GWMP Clover Power Station – Sludge Sedimentation Basins"

Hydraulic Conductivity Testing Results)

$\theta$  = estimated value based on properties of sediments comprising the uppermost aquifer (Sara, Martin N., *Standard Handbook for*

*Solid and Hazardous Waste Facility Assessment*, Lewis Publishers, 1994.)

# **APPENDIX C**

## **FIELD DATA SHEETS**

# **APPENDIX C.1**

## **FIELD DATA SHEETS**

**FIRST SEMI-ANNUAL 2021 MODIFIED ASSESSMENT  
MONITORING PROGRAM (MARCH 2021)**



GOLDER

Date: 3/16/21

WELL GAUGING LOG

Project Name: Clover P.S. SSB MA (ISA2)

Project No./Task No.: 2013993121

Sampler(s): M. Antal / O. Steele

Equipment: Water Level Indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
PW-2	MA	1231	18.42	—	<input type="checkbox"/> OK <input checked="" type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-3	MA	1226	23.88	—	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-4	MA	1221	28.35	—	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-5	MA	1215	10.15	—	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-12	MA	1224	20.25	—	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-13	MA	1218	29.53	—	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged

Observations/Notes: \*PW-5 well casing leaning against protective casing  
\*PW-2 has dent in protective casing & metal label has fallen off of protective casing

Signature: [Signature]  
QA/QC Signature: [Signature]

Date: 3/16/21  
Date: 3/16/21  
Page 1 of 1





MICROPURGE SAMPLING LOG

Date: 3/17/21
Weather: cloudy, 40s

Project Name: Clover PS Project No./Task No.: 2013993121
Event: ISA SSB modified assessment Sampler(s): O. Steele
Well ID: PW-2 Field Calibration Completed: 3/17/21 @ 0940
Well Diameter: 4.0 inches Initial Depth to Water: 18.60 feet
Depth to Bottom: Water Column Thickness:
Equipment Used: [X] WL Indicator [ ] Turbidity Meter [ ] Air Tank [X] Dedicated Bladder Pump
[X] YSI PwDSS19K101426 [ ] Peristaltic Pump [ ] Compressor [ ] Non-dedicated BP
[ ] In-Situ [ ] MP-10 Controller Box [X] MP-15 Controller Box [ ]

Table with 9 columns: 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). Rows include stabilization and data points from 1115 to 1200, with a 'SAMPLE' entry at 1133.

Purge Cycle (End): 25/5 53/7 @ 30 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): ~0.22
Total Purge Volume (Gallons): ~1.75 Purge Water Management: Sludge Pond Disposal
Purge Observations (color, odor, turbidity, sheen): clear grab sample
purge time: 1109 DTP = 37.40'

Sample Time: 1125 1133 Field Filtered (0.45um): [ ] Yes [X] No
Sample Parameters/Analyte(s): [X] CCR Appendix III [X] CCR Appendix IV [ ] WWTP VPDES (D, Cr, D.Mn, SO4, TDS, TOC)
[X] Sludge VSWMR (D, CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, [ ] Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, H2S, ALK, TOC, Hard) [ ] Other:

Other Observations / Equipment Operation Problems:

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1
QA/QC Signature: [Signature] Date: 3/19/21



# MICROPURGE SAMPLING LOG

Date: 3/17/21  
 Weather: cloudy, 40s

Project Name: Cloner PS Project No./Task No.: 2013993121  
 Event: ISA SSB modified Assessment Sampler(s): D. Steele  
 Well ID: PW-3 Field Calibration Completed: 3/17/21 @ 0940  
 Well Diameter: 4.0 inches Initial Depth to Water: 23.90 feet  
 Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI PDOSS19K101420  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) <sup>°C</sup>	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
1233	5.25	314.7	9.21	3.92	16.8	246.2	24.30	250
1237	5.23	314.7	8.87	3.83	16.9	247.9	24.45	250
1243	5.23	314.9	8.27	3.81	16.9	248.5	24.88	250
1247	5.24	313.7	7.91	3.78	16.9	249.5	25.12	250
1248	SAMPLE							
1319	5.57	290.5	5.64	4.30	16.8	236.1	24.71	250

Purge Cycle (End): 2317 @ 30 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): ~0.28  
 Total Purge Volume (Gallons): ~1.5 Purge Water Management: Sludge pond disposal  
 Purge Observations (color, odor, turbidity, sheen): clear grab sample  
purge time: 1227 DTP: 47.34'

Sample Time: 1248 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)  
 Sludge VSWMR (D.Cr, V, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)  lab filtered  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Ti, Va, Zn)  
 Other: \_\_\_\_\_

Other Observations / Equipment Operation Problems: \_\_\_\_\_

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 3/19/21



MICROPURGE SAMPLING LOG

Date: 3/17/21
Weather: overcast, 50s

Project Name: Clover Power Station
Project No./Task No.: 2013993121
Event: SA21 SSB Modified Assessment
Sampler(s): M. Antal
Well ID: PW-4
Field Calibration Completed: 0940 on 3/17/21
Well Diameter: 4.0 inches
Initial Depth to Water: 28.37 feet
Depth to Bottom:
Water Column Thickness:
Equipment Used: WL Indicator, YSI ProDSS19E104904, In-Situ, Turbidity Meter, Peristaltic Pump, MP-10 Controller Box, Air Tank, Compressor, MP-15 Controller Box, Dedicated Bladder Pump, Non-dedicated BP

Table with 9 columns: Time (5 minute int.), pH (S.U.), Sp. Cond. (uS/cm)°, Turbidity (NTU), Dissolved Oxygen (mg/L), Temp. (°C), ORP (mV), DTW (feet), Flow Rate (mL/min). Rows include stabilization data and samples 1334, 1337, 1340, 1343, 1345 (SAMPLE), 1404.

Purge Cycle (End): 1114 sec @ 30 psi
Flow Rate (ml/min End): ~450
Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.30
Total Purge Volume (Gallons): ~3.0
Purge Water Management: onsite containment

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

Purge start: 1329

Sample Time: 1345
Field Filtered (0.45um): No
Sample Parameters/Analyte(s): CCR Appendix III, CCR Appendix IV, Sludge VSWMR (D.CRV), Stage I&II, and III VSWMR, Other:

Other Observations / Equipment Operation Problems:

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1
QA/QC Signature: [Signature] Date: 3/17/21



# MICROPURGE SAMPLING LOG

Date: 3/17/21  
 Weather: overcast, 40s

Project Name: Clover Power Station Project No./Task No.: 2013993121  
 Event: ISA21 SSP Modified Assessment Sampler(s): M. Antal  
 Well ID: PW-5 Field Calibration Completed: 0940 on 3/17/21  
 Well Diameter: 4.0 inches Initial Depth to Water: 10.16 feet  
 Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI DO559E104904  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) <sup>OC</sup>	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
1117	6.18	678	11.1	3.33	15.8	170.2	10.21	450
1120	6.17	676	8.3	3.34	15.9	160.3	10.25	450
1123	6.18	674	9.4	3.28	16.0	154.9	10.27	450
1126	6.15	671	9.9	3.24	16.0	152.8	10.26	450
<del>1130-1128</del>				SAMPLE				
1149	6.07	650	9.0	3.55	15.8	151.2	<del>10.25</del>	450

Purge Cycle (End): 1114 sec @ 25 psi Flow Rate (ml/min End): ~450  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): ~0.23  
 Total Purge Volume (Gallons): ~3.0 Purge Water Management: onsite containment  
 Purge Observations (color, odor, turbidity, sheen): clear grab sample.  
 Purge start: 1112 ~~DIP=MA~~

Sample Time: 1130 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)  
 Sludge VSWMR (D.CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, TI, Va, Zn)  
 Other: \_\_\_\_\_

Other Observations / Equipment Operation Problems: \_\_\_\_\_

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 3/17/21



GOLDER

MICROPURGE SAMPLING LOG

Date: 3/17/21

Weather: cloudy, 40s

Project Name: Clover PS. Project No./Task No.: 2013993121

Event: ISA SSB modified Assessment Sampler(s): O. Steele

Well ID: PW-12 Field Calibration Completed: 3/17/21 @ 0940

Well Diameter: 2.0 4.0 inches Initial Depth to Water: 20.25 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 192161420 [ ] Peristaltic Pump [ ] Compressor [ ] Non-dedicated BP
[ ] In-Situ [ ] MP-10 Controller Box [X] MP-15 Controller Box [ ]

Table with 9 columns: 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). Rows include stabilization and data points from 1350 to 1447, with a 'SAMPLE' entry at 1426.

Purge Cycle (End): 2614 seconds @ 37 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): 20.24

Total Purge Volume (Gallons): ~4.0 Purge Water Management: Sludge pond disposal

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

purge time: 1344 DTP: 39.95'

Sample Time: 1426 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, Sludge vs WMR (D, Cr, V, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-H2S, Alk, TOC, Hardness)

Other Observations / Equipment Operation Problems:

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1

QA/QC Signature: [Signature] Date: 3/19/21



GOLDER

# MICROPURGE SAMPLING LOG

Date: 3/17/21

Weather: overcast, 50s

Project Name: Clover Power Station Project No./Task No.: 2013993121

Event: ISA21 SSB Modified Assessment Sampler(s): M. Antal

Well ID: PW-13 Field Calibration Completed: 0940 on 3/17/21

Well Diameter: 2.0 inches Initial Depth to Water: 29.55 feet

Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet

- Equipment Used:
- WL Indicator
  - Turbidity Meter
  - Air Tank
  - Dedicated Bladder Pump
  - YSI Pro DSS PIE104104
  - 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) <sup>OC</sup>	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
1206	6.02	790	31.2	3.00	17.2	149.7	29.87	400
1209	5.99	862	18.2	2.94	17.4	150.5	29.88	400
1212	5.96	895	10.9	3.09	17.4	150.9	29.91	400
1215	5.94	905	8.6	3.12	17.4	151.1	29.84	400
1218	5.92	909	7.4	2.95	17.4	151.4	29.85	400
1220				SAMPLE				
1303	5.76	908	8.5	3.03	17.4	162.9	29.80	400

Purge Cycle (End): 1015 sec @ 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): (47.41)(0.006) = ~ 0.28

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

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

Purge start: 1201 DTP = 47.41'

Sample Time: 1220 Field Filtered (0.45um):  Yes  No

Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)

Sludge VSWMR (D.CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-,  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, Va, Zn)

Other: \_\_\_\_\_

Other Observations / Equipment Operation Problems: MS/MSD sampled at PW-13

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1

QA/QC Signature: [Signature] Date: 3/17/21



GOLDER

MICROPURGE SAMPLING LOG

Date: 3/17/21

Weather: cloudy, 40s

Project Name: Clover PS Project No./Task No.: 2013993121

Event: ISA SSB Modified Assessment Sampler(s): O. Steele

Well ID: Field Duplicate Field Calibration Completed: 3/17/21 @ 0940

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 Pro DSS 19K01420 [ ] Peristaltic Pump [ ] Compressor [ ] Non-dedicated BP
[ ] In-Situ [ ] MP-10 Controller Box [X] MP-15 Controller Box [ ]

Table with 9 columns: 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). Row 1: Stabilization, +/- 0.1, +/- 3%, if >10, +/- 10%, +/- 10%, +/- 1C, +/- 10 mV, <0.3 feet, <500. Row 2: 1255, 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: sludge pond disposal

Purge Observations (color, odor, turbidity, sheen): clear grab sample taken at PW-3

Sample Time: 1255 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: CCP Appendix III + IV, Sludge VSWMR (Cr VI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-H2S, Alk, TOC hardness)

Other Observations / Equipment Operation Problems:

Sampler Signature: Date: 3/17/21 Page 1 of 1

QA/QC Signature: Date: 3/19/21



# MICROPURGE SAMPLING LOG

Date: 3/17/21Weather: overcast, 50sProject Name: Clover Power Station Project No./Task No.: 2013993121Event: ISAZ SSP Modified Assessment Sampler(s): M. AntalWell ID: Field Blank Field Calibration Completed: 0940 on 3/17/21Well Diameter:        inches Initial Depth to Water:        feetDepth 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) <sup>OC</sup>	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
<u>1315</u>				<u>SAMPLE</u>				

Purge Cycle (End):        @        psi Flow Rate (ml/min End):       Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft):       Total Purge Volume (Gallons):        Purge Water Management: onsite containmentPurge Observations (color, odor, turbidity, sheen): clear grab sample taken near PW-13 using lab provided DI water.Sample Time: 1315 Field Filtered (0.45um):  Yes  No

Sample Parameters/Analyte(s):  CCR Appendix III       CCR Appendix IV       WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)  
 Sludge VSWMR (D.CRV1, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)       Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, Va, Zn)  
 Other: \_\_\_\_\_

Other Observations / Equipment Operation Problems: \_\_\_\_\_

Sampler Signature: [Signature] Date: 3/17/21 Page 1 of 1QA/QC Signature: [Signature] Date: 3/17/21



# **APPENDIX C.2**

## **FIELD DATA SHEETS**

**SECOND SEMI-ANNUAL 2021 MODIFIED  
ASSESSMENT MONITORING PROGRAM  
(SEPTEMBER 2021)**



## WELL GAUGING LOG

Project Name: Clover SSB 2SA21

Project No./Task No.: 2013993121

Sampler(s): Kirkland Broadwell/Zachary Hector

Equipment: WL indicator

Well ID	Personnel (initials)	Time	DTW (feet)	DTB (feet)	Well Condition Summary				
					Protective Casing	Well Casing	Label	Lock	Pad Condition
PW-2	ZH	15:41	21.07	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-3	KB	15:35	27.03	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-4	KB	16:30	31.40	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-5	KB	16:33	13.86	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-12	KB	16:28	23.29	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-13	KB	16:35	33.10	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-1	KB	16:48	22.08	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-6	KB	16:38	18.43	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-7	KB	16:42	13.06	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
PW-8	KB	16:45	14.51	--	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged
					<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Damaged	<input type="checkbox"/> OK <input type="checkbox"/> Inadequate	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> OK <input type="checkbox"/> Damaged

Observations/Notes: \_\_\_\_\_

Sampler Signature:

Date: 9/20/2021

QA/QC Signature:

Date: 9/20/2021



# MICROPURGE SAMPLING LOG

Date: 9/20/21Weather:  Sunny 90's

Project Name: Clover PS Project No./Task No.: 2013991312  
 Event: SSB Modified assessment Sampler(s): 2. Meter  
 Well ID: PW-2 Field Calibration Completed: @ 1015 on 9/20/21  
 Well Diameter: 4.0 inches Initial Depth to Water: 21.07 feet  
 Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI Prods: 15710360 2  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) <sup>°C</sup>	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
1548	5.35	94.1	3.71	6.56	19.1	179.2	21.85	~300
1553	5.32	93.8	4.93	6.66	18.7	179.4	22.13	~300
1558	5.22	93.8	4.96	6.65	18.7	185.1	22.40	~300 <sup>24"</sup> ~400
1603	5.18	93.6	5.32	6.66	18.7	188.5	22.71	~300 <sup>24"</sup> ~400
1608	5.17	93.7	5.54	6.66	18.7	191.4	22.68	~300 <sup>24"</sup> ~400
1610	SAMPLE							
1635	5.79	93.0	0.24	6.09	19.0	175.8	22.50	~400

Purge Cycle (End): 23/7 sec @ 25 psi Flow Rate (ml/min End): ~300<sup>24"</sup> ~400  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube): Vol=Depth to Pump x 0.006 gal/ft (21.07) = 0.23  
 Total Purge Volume (Gallons): ~3.5<sup>24"</sup> 3.0 Purge Water Management: On site containment  
 Purge Observations (color, odor, turbidity, sheen): Clear grab sample  
 Purge time: 1511-1543

Sample Time: 1610 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)  
 Sludge VSWMR (D.CRV1, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, Va, Zn)  
 Other: \_\_\_\_\_

Other Observations / Equipment Operation Problems: DTP: 37.64  
 Sample ID: 092021NPW2

Sampler Signature: [Signature] Date: 9/20/21 Page 1 of 1  
 QA/QC Signature: M. Kruy Date: 9-24-21



# MICROPURGE SAMPLING LOG

Date: 09/20/21  
 Weather: Partly Cloudy 70's

Project Name: Clover PJ Project No./Task No.: 2013993121  
 Event: SSB Modified Assessment Sampler(s): K. Broadwell  
 Well ID: PW-3 Field Calibration Completed: 1015 on 09/20/21  
 Well Diameter: 4.0 inches Initial Depth to Water: 27.03 feet  
 Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI Pro DSS 19E104904  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) <sup>°C</sup>	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
1540	5.57	332.0	3.8	4.59	18.3	173.9	27.48	~400
1545	5.57	342.6	2.9	6.86	21.2	182.6	27.46	~400
1550	5.37	328.2	1.4	3.92	18.1	199.5	27.58	~400
1555	5.35	322.6	1.7	3.81	18.0	210.2	27.64	~400
1600	5.34	320.6	2.0	3.77	18.1	220.7	27.68	~400
1605	-	S	A	M	P	L	E	-
1617	5.87	319.9	1.7	4.33	18.0	215.9	27.75	~400

Purge Cycle (End): 23/7 sec @ 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):  $(47.03)(0.006) \approx 0.28$   
 Total Purge Volume (Gallons): ~4 Purge Water Management: On Site Containment  
 Purge Observations (color, odor, turbidity, sheen): Clear grab sample  
 Purge Time: 1537

Sample Time: 1605 on 09/20/21 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)  
 Sludge VSWMR (D.CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, Va, Zn)  
 Other: \_\_\_\_\_

Other Observations / Equipment Operation Problems: DTP: 47.45  
 Sample ID: 092021NPW3  
 Sampler Signature: [Signature] Date: 09/20/21 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 9/24/21



MICROPURGE SAMPLING LOG

Date: 9/21/21

Weather: Partly Sunny

Project Name: Clover PS Project No./Task No.: 2013098121

Event: SSB Modified Assessment Sampler(s): 2 Hechler

Well ID: PW-4 Field Calibration Completed: @ 0800 on 9/21/21

Well Diameter: 4.0 inches Initial Depth to Water: 31.41 feet

Depth to Bottom: feet Water Column Thickness: feet

- Equipment Used: [X] WL Indicator [ ] Turbidity Meter [ ] Air Tank [X] Dedicated Bladder Pump
[ ] PSI ProDSS 15510380 [ ] Peristaltic Pump [ ] Compressor [ ] Non-dedicated BP
[ ] In-Situ [ ] MP-10 Controller Box [X] MP-15 Controller Box [ ]

Table with 9 columns: 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). Rows include stabilization data and samples 1034, 1037, 1040, 1043, 1045 (SAMPLE), 1103.

Purge Cycle (End): 23/7 @ 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): Good @ 350.29

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

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

Purge time: 1026

Sample Time: 1045 Field Filtered (0.45um): [ ] Yes [X] No

Sample Parameters/Analyte(s): [X] CCR Appendix III [X] CCR Appendix IV [ ] WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)

[X] Sludge VSWMR (D.CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard) [ ] Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, Va, Zn)

[ ] Other:

Other Observations / Equipment Operation Problems: DTP: 49.30'

Sample ID: 092121NPW4

Sampler Signature: [Signature] Date: 9/21/21 Page 1 of 1

QA/QC Signature: M. Kruey Date: 9-24-21



# GOLDER

## MICROPURGE SAMPLING LOG

Date: 09/21/21  
 Weather: Cloudy 70's

Project Name: Clower PS Project No./Task No.: 2013993121  
 Event: SSB Modified Assessment Sampler(s): K. Broadwell  
 Well ID: PW-5 Field Calibration Completed: 0800 on 09/21/21  
 Well Diameter: 4.0 inches Initial Depth to Water: 13.89 feet  
 Depth to Bottom: — feet Water Column Thickness: — feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI Pro DSS19E114904  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) <sup>20C</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	DTW (feet)	Flow Rate (mL/min)
Stabilization	+/- 0.1	+/- 3%	if >10, +/- 10%	+/- 10%	+/- 1°C	+/- 10 mV	<0.3 feet	<500
0935	6.23	984	25.0	3.35	17.0	192.4	13.93	~425
0940	5.96	939	12.6	3.24	17.2	170.3	13.95	~425
0945	5.91	909	10.6	3.22	17.2	167.6	13.94	~425
0950	5.86	889	8.0	3.19	17.2	167.6	13.93	~425
0955	—	S	A	M	P	L	E	—
1040	5.89	836	2.7	3.88	17.2	195.9	13.98	~425

Purge Cycle (End): 11/4 seconds @ 30 psi Flow Rate (mL/min End): ~425  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft):  $(37.4)(0.006) \approx 0.22$   
 Total Purge Volume (Gallons): ~4.5 Purge Water Management: On Site Containment  
 Purge Observations (color, odor, turbidity, sheen): Clear grab sample  
 Purge Start: 0930 MS/MSD taken here

Sample Time: 0955 on 09/21/21 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 CCR Appendix III  VSWMR Table 3.1 Column B  
 CCR Appendix IV  Other: Sludge VSWMR (D, CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Vc, Zn, CN<sup>-</sup>, H<sub>2</sub>S, Alkalinity, TOC, Hardness)

Other Observations / Equipment Operation Problems:  
DTP: 37.40' Sample ID: 092121NPW5  
 Sampler Signature: [Signature] Date: 09/21/21 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 9/24/21



Date: 09/21/21  
Weather: Cloudy 70's

Project Name: Clover PS Project No./Task No.: 2013993121  
 Event: SSB Modified Assessment Sampler(s): K. Broadwell  
 Well ID: PW-12 Field Calibration Completed: 0800 on 09/21/21  
 Well Diameter: 2.0 inches Initial Depth to Water: 23.33 feet  
 Depth to Bottom:                      feet Water Column Thickness:                      feet  
 Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDS5 19E/04904  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) <sup>OC</sup>	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
<u>1050</u>	<u>6.13</u>	<u>1645</u>	<u>3.9</u>	<u>7.00</u>	<u>18.1</u>	<u>160.0</u>	<u>23.58</u>	<u>~425</u>
<u>1055</u>	<u>5.45</u>	<u>103.4</u>	<u>3.7</u>	<u>6.24</u>	<u>17.1</u>	<u>199.1</u>	<u>23.72</u>	<u>~425</u>
<u>1100</u> <sup>1100</sup>	<u>5.44</u>	<u>102.8</u>	<u>5.9</u>	<u>6.25</u>	<u>17.0</u>	<u>206.9</u>	<u>23.60</u>	<u>~425</u>
<u>1105</u> <sup>1105</sup>	<u>5.41</u>	<u>103.1</u>	<u>3.5</u>	<u>6.23</u>	<u>17.1</u>	<u>215.2</u>	<u>23.57</u>	<u>~425</u>
<u>1110</u>	<u>-</u>	<u>5</u>	<u>A</u>	<u>M</u>	<u>P</u>	<u>L</u>	<u>E</u>	<u>-</u>
<u>1123</u>	<u>5.41</u>	<u>103.3</u>	<u>7.8</u>	<u>6.31</u>	<u>17.2</u>	<u>225.0</u>	<u>23.54</u>	<u>~425</u>

Purge Cycle (End): 53/7 seconds @ 40 psi Flow Rate (ml/min End): ~425  
 Purge volume (gallons) prior to stabilization monitoring (3/8" I.D. Tube: Vol=Depth to Pump x 0.006 gal/ft): (39.97)(6.006) = 0.24  
 Total Purge Volume (Gallons): ~3 Purge Water Management: On Site Containment  
 Purge Observations (color, odor, turbidity, sheen): Clear grab sample  
 Purge Start: 1045

Sample Time: 1110 on 09/21/21 Field Filtered (0.45um):  Yes  No  
 Sample Parameters/Analyte(s):  VSWMR Table 3.1 Column A VOCs  VSWMR Table 3.1 Column A Metals  
 CCR Appendix III  VSWMR Table 3.1 Column B  
 CCR Appendix IV  Other: Sludge VSWMR (D, CRVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN- H2S, Alkalinity, TOC, Hardness)  
 Other Observations / Equipment Operation Problems:

DTP: 39.97' Sample ID: 092121NPW12  
 Sampler Signature: [Signature] Date: 09/21/21 Page 1 of 1  
 QA/QC Signature: [Signature] Date: 9/24/21



# MICROPURGE SAMPLING LOG

Date: 9/21/21

Weather: Rainy 70's

GOLDER

Project Name: Clower PS Project No./Task No.: 2013993121

Event: SSB Modified Assessment Sampler(s): 2 Heclector

Well ID: AW-13 PW-13 Field Calibration Completed: @ 0800 on 9/21/21

Well Diameter: 2.0 inches Initial Depth to Water: 33.07 feet

Depth to Bottom: \_\_\_\_\_ feet Water Column Thickness: \_\_\_\_\_ feet

Equipment Used:  WL Indicator  Turbidity Meter  Air Tank  Dedicated Bladder Pump  
 YSI ProDSS: 153103602  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) <sup>0C</sup>	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
0922	5.58	623	10.63	1.99	17.8	209.7	33.27	~400
0925	5.51	674	6.80	1.92	17.8	204.1	33.27	~400
0928	5.45	724	6.06	1.99	17.8	202.1	33.27	~400
0931	5.39	755	8.11	2.04	17.8	200.0	33.27	~400
0934	5.32	816	5.86	2.09	17.8	198.7	33.27	~400
0937	5.27	834	2.55	2.12	17.8	198.6	33.27	~400
0940	5.23	848	2.12	2.13	17.8	198.4	33.27	~400
0943	5.19	859	2.49	2.15	17.7	198.2	33.27	~400
0945	SAMPLE							
1013	5.13	880	4.88	2.76	17.8	201.1	33.11	~400

Purge Cycle (End): 24/6 @ 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) (-0.06)(472) ≈ 0.28

Total Purge Volume (Gallons): ~34 Purge Water Management: On site containment

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

Purge time: 0916

Sample Time: 0945 Field Filtered (0.45um):  Yes  No

Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS, TOC)

Sludge VSWMR (D.CRV1, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, TI, Va, Zn)

Other:

Other Observations / Equipment Operation Problems: DTP: 47.2

Sample ID: 09221NPW13

Sampler Signature: [Signature] Date: 9/21/21 Page 1 of 1

QA/QC Signature: [Signature] Date: 9-24-21





FIELD SAMPLING LOG

Date: 9/21/21  
Weather: Overcast 70's

Project Name: Clower PS  
Event: SSB Modified Assessment  
Well ID: Field Duplicate  
Well Diameter: \_\_\_\_\_ inches  
Depth to Bottom: \_\_\_\_\_ feet

Project No./Task No.: 2013993121  
Sampler(s): Z-Meter  
Field Calibration Completed: @ 0800 on 9/21/21  
Initial Depth to Water: \_\_\_\_\_ feet  
Water Column Thickness: \_\_\_\_\_ feet

- Equipment Used:
- WL Indicator
  - YSI \_\_\_\_\_
  - In Situ Troll 9500
  - Turbidity Meter
  - Peristaltic Pump
  - MP-10 Controller Box
  - Air Tank
  - Compressor
  - MP-15 Controller Box
  - Disposable Bailer
  - Non-dedicated BP
  - Other \_\_\_\_\_

Time	pH (S.U.)	Sp. Cond. (uS/cm) <sup>OC</sup>	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Gallons	DTW (ft)
<u>1110</u>			<u>SAMPLE</u>					

Calculated Well Vol. (Gallons): \_\_\_\_\_ Total Calculated Purge Volume (Gallons): \_\_\_\_\_  
Purge Water Management: \_\_\_\_\_

Purge Observations (product observed, color, odor, turbidity, sheen): Clear grab sample taken @ PW-4

Sample Date/Time: 1110

Field Filtered (0.45um):  Yes  No

Sample Parameters/Analyte(s):  CCR Appendix III  CCR Appendix IV  WWTP VPDES (D.Cr, D.Mn, SO4, TDS,  Stage I&II, and III VSWMR (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, Va, Zn)

Sludge VSWMR (D.CRV1, Cu, Fe, Mn, Ni, Ag, Na, Sn, Va, Zn, CN-, H2S, ALK, TOC, Hard)

Other Observations / Equipment Operation Problems: Clear Grab 24  
Sample ID: 092121FD

Sampler Signature: \_\_\_\_\_ Date: 9/21/21 Page 1 of 1

QA/QC Signature: M. King Date: 9-24-21



Date: 9/21/21

Weather: Cloudy 70's

Project Name: Clover PS

Project No./Task No.: 2013993121

Event: SSB Modified Assessment

Sampler(s): K. Broadwell

Well ID: Field Blank

Field Calibration Completed: \_\_\_\_\_

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) <sup>25°C</sup>	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
<u>1135</u>	<u>-</u>	<u>5</u>	<u>A</u>	<u>M</u>	<u>P</u>	<u>L</u>	<u>E</u>	<u>-</u>

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 PW-12 using lab supplied DI water

Sample Time: 1135 on 09/21/21 Field Filtered (0.45um):  Yes  No

- Sample Parameters/Analyte(s):
- VSWMR Table 3.1 Column A VOCs
  - VSWMR Table 3.1 Column A Metals
  - CCR Appendix III
  - VSWMR Table 3.1 Column B
  - CCR Appendix IV
  - Other: Sludge VSWMR (D, CrVI, Cu, Fe, Mn, Ni, Ag, Na, Sn, V, Zn, CN, H2S, Alkalinity, TOC, Hardness)

Other Observations / Equipment Operation Problems:

Sample ID: 092121FBFieldBlank

Sampler Signature: [Signature]

Date: 09/21/21

QA/QC Signature: [Signature]

Date: 9/24/21

# **APPENDIX D**

## **LABORATORY ANALYTICAL PACKAGES**

# **APPENDIX D.1**

## **LABORATORY ANALYTICAL RESULTS**

**FIRST SEMI-ANNUAL 2021 MODIFIED ASSESSMENT  
MONITORING PROGRAM (MARCH 2021)**

April 14, 2021

Kelly Hicks  
Dominion Energy Services, Inc.  
120 Tredegar Street  
Richmond, VA 23219

RE: Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on March 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

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

- Pace Analytical Services - Asheville

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: Rachel Powell, Golder Associates  
Amanda Reynolds, Golder Associates  
Martha Smith, Golder Associates Inc.  
Environmental Standards, Inc., Environmental Standards,  
Inc.  
Mike Williams, Golder Associates Inc



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

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**Pace Analytical Services Asheville**

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

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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Clover PS SSB (C)

Pace Project No.: 92528350

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92528350001	031721NPW-2	Water	03/17/21 11:33	03/18/21 10:15
92528350002	031721NPW-3	Water	03/17/21 12:48	03/18/21 10:15
92528350003	031721NPW-4	Water	03/17/21 13:45	03/18/21 10:15
92528350004	031721NPW-5	Water	03/17/21 11:30	03/18/21 10:15
92528350005	031721NPW-12	Water	03/17/21 14:26	03/18/21 10:15
92528350006	031721NPW-13	Water	03/17/21 12:20	03/18/21 10:15
92528350007	031721FBField Blank	Water	03/17/21 13:15	03/18/21 10:15
92528350008	031721FDDuplicate	Water	03/17/21 12:55	03/18/21 10:15

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92528350001	031721NPW-2	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350002	031721NPW-3	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350003	031721NPW-4	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350004	031721NPW-5	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350005	031721NPW-12	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350006	031721NPW-13	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350007	031721FBField Blank	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A
92528350008	031721FDDuplicate	EPA 6020B	JOR	10	PASI-A
		EPA 7196A	DMN	1	PASI-A
		EPA 9012B	CJL	1	PASI-A
		EPA 9060A	JLH	5	PASI-A

PASI-A = Pace Analytical Services - Asheville

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS SSB (C)

Pace Project No.: 92528350

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92528350001</b>	<b>031721NPW-2</b>					
EPA 6020B	Iron	360	ug/L	50.0	03/25/21 20:42	
EPA 6020B	Manganese	13.3	ug/L	2.0	03/25/21 20:42	
EPA 6020B	Nickel	4.6	ug/L	1.0	03/25/21 20:42	
EPA 6020B	Sodium	3720	ug/L	250	03/25/21 20:42	
EPA 6020B	Hardness, Total(SM 2340B)	29900	ug/L	541	03/25/21 20:42	
EPA 6020B	Vanadium	6.6	ug/L	1.0	03/25/21 20:42	BC
EPA 7196A	Chromium, Hexavalent	0.013	mg/L	0.010	03/18/21 11:12	
<b>92528350002</b>	<b>031721NPW-3</b>					
EPA 6020B	Iron	352	ug/L	50.0	03/25/21 20:45	
EPA 6020B	Manganese	30.5	ug/L	2.0	03/25/21 20:45	
EPA 6020B	Nickel	1.9	ug/L	1.0	03/25/21 20:45	
EPA 6020B	Sodium	19100	ug/L	2500	03/24/21 19:50	
EPA 6020B	Hardness, Total(SM 2340B)	108000	ug/L	5410	03/24/21 19:50	
EPA 6020B	Vanadium	2.0	ug/L	1.0	03/25/21 20:45	BC
EPA 7196A	Chromium, Hexavalent	0.016	mg/L	0.010	03/18/21 11:13	
<b>92528350003</b>	<b>031721NPW-4</b>					
EPA 6020B	Iron	253	ug/L	50.0	03/25/21 20:48	
EPA 6020B	Manganese	8.7	ug/L	2.0	03/25/21 20:48	
EPA 6020B	Nickel	20.4	ug/L	1.0	03/25/21 20:48	
EPA 6020B	Sodium	9430	ug/L	250	03/25/21 20:48	
EPA 6020B	Hardness, Total(SM 2340B)	171000	ug/L	5410	03/24/21 19:54	
EPA 6020B	Vanadium	2.2	ug/L	1.0	03/25/21 20:48	BC
EPA 7196A	Chromium, Hexavalent	0.018	mg/L	0.010	03/18/21 11:17	
<b>92528350004</b>	<b>031721NPW-5</b>					
EPA 6020B	Iron	354	ug/L	50.0	03/25/21 20:52	
EPA 6020B	Manganese	10.2	ug/L	2.0	03/25/21 20:52	
EPA 6020B	Nickel	5.6	ug/L	1.0	03/25/21 20:52	
EPA 6020B	Sodium	12500	ug/L	2500	03/24/21 20:04	
EPA 6020B	Hardness, Total(SM 2340B)	324000	ug/L	5410	03/24/21 20:04	
EPA 6020B	Vanadium	10.0	ug/L	1.0	03/25/21 20:52	BC
<b>92528350005</b>	<b>031721NPW-12</b>					
EPA 6020B	Iron	222	ug/L	50.0	03/25/21 20:55	
EPA 6020B	Manganese	8.9	ug/L	2.0	03/25/21 20:55	
EPA 6020B	Nickel	1.4	ug/L	1.0	03/25/21 20:55	
EPA 6020B	Sodium	11400	ug/L	2500	03/24/21 20:07	
EPA 6020B	Hardness, Total(SM 2340B)	13600	ug/L	541	03/25/21 20:55	
EPA 6020B	Vanadium	1.9	ug/L	1.0	03/25/21 20:55	BC
<b>92528350006</b>	<b>031721NPW-13</b>					
EPA 6020B	Iron	254	ug/L	50.0	03/25/21 20:08	
EPA 6020B	Manganese	192	ug/L	2.0	03/25/21 20:08	M6
EPA 6020B	Nickel	3.6	ug/L	1.0	03/25/21 20:08	
EPA 6020B	Sodium	14800	ug/L	2500	03/24/21 19:30	
EPA 6020B	Hardness, Total(SM 2340B)	468000	ug/L	10800	03/25/21 20:18	
EPA 6020B	Vanadium	5.6	ug/L	1.0	03/25/21 20:08	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS SSB (C)

Pace Project No.: 92528350

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92528350006</b>	<b>031721NPW-13</b>					
EPA 9012B	Cyanide	0.0087	mg/L	0.0080	03/23/21 23:15	M1,R1
<b>92528350007</b>	<b>031721FBField Blank</b>					
EPA 6020B	Nickel	0.48J	ug/L	1.0	03/25/21 20:58	
EPA 6020B	Vanadium	0.62J	ug/L	1.0	03/25/21 20:58	BC
EPA 9012B	Cyanide	0.0094	mg/L	0.0080	03/23/21 23:21	
<b>92528350008</b>	<b>031721FDDuplicate</b>					
EPA 6020B	Iron	284	ug/L	50.0	03/25/21 21:02	
EPA 6020B	Manganese	25.7	ug/L	2.0	03/25/21 21:02	
EPA 6020B	Nickel	1.8	ug/L	1.0	03/25/21 21:02	
EPA 6020B	Sodium	18800	ug/L	2500	03/24/21 20:14	
EPA 6020B	Hardness, Total(SM 2340B)	103000	ug/L	5410	03/24/21 20:14	
EPA 6020B	Vanadium	2.1	ug/L	1.0	03/25/21 21:02	BC
EPA 7196A	Chromium, Hexavalent	0.016	mg/L	0.010	03/18/21 11:14	

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSB (C)

Pace Project No.: 92528350

---

**Method:** EPA 6020B

**Description:** 6020 MET ICPMS

**Client:** Dominion Energy\_VA

**Date:** April 14, 2021

### General Information:

8 samples were analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 608591

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92528350006

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

- MS (Lab ID: 3205707)
  - Manganese
- MSD (Lab ID: 3205708)
  - Manganese

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSB (C)

Pace Project No.: 92528350

---

**Method:** EPA 7196A

**Description:** 7196 Chromium, Hexavalent

**Client:** Dominion Energy\_VA

**Date:** April 14, 2021

**General Information:**

8 samples were analyzed for EPA 7196A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSB (C)

Pace Project No.: 92528350

---

**Method:** EPA 9012B

**Description:** 9012B Cyanide, Total

**Client:** Dominion Energy\_VA

**Date:** April 14, 2021

### General Information:

8 samples were analyzed for EPA 9012B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 9012B with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 608346

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92528350005,92528350006

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

- MS (Lab ID: 3204742)
  - Cyanide

R1: RPD value was outside control limits.

- MSD (Lab ID: 3204743)
  - Cyanide

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSB (C)

Pace Project No.: 92528350

---

**Method:** EPA 9060A

**Description:** Total Organic Carbon, Asheville

**Client:** Dominion Energy\_VA

**Date:** April 14, 2021

**General Information:**

8 samples were analyzed for EPA 9060A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Sample: 031721NPW-2      Lab ID: 92528350001      Collected: 03/17/21 11:33      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:42	7440-50-8	
Iron	<b>360</b>	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:42	7439-89-6	
Manganese	<b>13.3</b>	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:42	7439-96-5	
Nickel	<b>4.6</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:42	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:42	7440-22-4	
Sodium	<b>3720</b>	ug/L	250	49.1	1	03/23/21 16:06	03/25/21 20:42	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:42	7440-31-5	
Hardness, Total(SM 2340B)	<b>29900</b>	ug/L	541		1	03/23/21 16:06	03/25/21 20:42		
Vanadium	<b>6.6</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:42	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:42	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A Pace Analytical Services - Asheville									
Chromium, Hexavalent	<b>0.013</b>	mg/L	0.010	0.0060	1		03/18/21 11:12	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B      Preparation Method: EPA 9012B Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:06	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:29	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:29	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:29	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:29	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:29	7440-44-0	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Sample: 031721NPW-3      Lab ID: 92528350002      Collected: 03/17/21 12:48      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:45	7440-50-8	
Iron	352	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:45	7439-89-6	
Manganese	30.5	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:45	7439-96-5	
Nickel	1.9	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:45	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:45	7440-22-4	
Sodium	19100	ug/L	2500	491	10	03/23/21 16:06	03/24/21 19:50	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:45	7440-31-5	
Hardness, Total(SM 2340B)	108000	ug/L	5410		10	03/23/21 16:06	03/24/21 19:50		
Vanadium	2.0	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:45	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:45	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A Pace Analytical Services - Asheville									
Chromium, Hexavalent	0.016	mg/L	0.010	0.0060	1		03/18/21 11:13	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B      Preparation Method: EPA 9012B Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:07	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:47	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:47	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:47	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:47	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 14:47	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Sample: 031721NPW-4      Lab ID: 92528350003      Collected: 03/17/21 13:45      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:48	7440-50-8	
Iron	<b>253</b>	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:48	7439-89-6	
Manganese	<b>8.7</b>	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:48	7439-96-5	
Nickel	<b>20.4</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:48	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:48	7440-22-4	
Sodium	<b>9430</b>	ug/L	250	49.1	1	03/23/21 16:06	03/25/21 20:48	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:48	7440-31-5	
Hardness, Total(SM 2340B)	<b>171000</b>	ug/L	5410		10	03/23/21 16:06	03/24/21 19:54		
Vanadium	<b>2.2</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:48	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:48	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A Pace Analytical Services - Asheville									
Chromium, Hexavalent	<b>0.018</b>	mg/L	0.010	0.0060	1		03/18/21 11:17	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:10	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:04	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:04	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:04	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:04	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:04	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

**Sample: 031721NPW-5**      **Lab ID: 92528350004**      Collected: 03/17/21 11:30      Received: 03/18/21 10:15      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:52	7440-50-8	
Iron	<b>354</b>	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:52	7439-89-6	
Manganese	<b>10.2</b>	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:52	7439-96-5	
Nickel	<b>5.6</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:52	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:52	7440-22-4	
Sodium	<b>12500</b>	ug/L	2500	491	10	03/23/21 16:06	03/24/21 20:04	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:52	7440-31-5	
Hardness, Total(SM 2340B)	<b>324000</b>	ug/L	5410		10	03/23/21 16:06	03/24/21 20:04		
Vanadium	<b>10.0</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:52	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:52	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A									
Pace Analytical Services - Asheville									
Chromium, Hexavalent	ND	mg/L	0.010	0.0060	1		03/18/21 11:12	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:11	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:21	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:21	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:21	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:21	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:21	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Sample: 031721NPW-12      Lab ID: 92528350005      Collected: 03/17/21 14:26      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:55	7440-50-8	
Iron	<b>222</b>	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:55	7439-89-6	
Manganese	<b>8.9</b>	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:55	7439-96-5	
Nickel	<b>1.4</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:55	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:55	7440-22-4	
Sodium	<b>11400</b>	ug/L	2500	491	10	03/23/21 16:06	03/24/21 20:07	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:55	7440-31-5	
Hardness, Total(SM 2340B)	<b>13600</b>	ug/L	541		1	03/23/21 16:06	03/25/21 20:55		
Vanadium	<b>1.9</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:55	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:55	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A Pace Analytical Services - Asheville									
Chromium, Hexavalent	ND	mg/L	0.010	0.0060	1		03/18/21 11:18	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:13	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:38	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:38	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:38	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:38	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 15:38	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

**Sample: 031721NPW-13**      **Lab ID: 92528350006**      Collected: 03/17/21 12:20      Received: 03/18/21 10:15      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:08	7440-50-8	
Iron	<b>254</b>	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:08	7439-89-6	
Manganese	<b>192</b>	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:08	7439-96-5	M6
Nickel	<b>3.6</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:08	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:08	7440-22-4	
Sodium	<b>14800</b>	ug/L	2500	491	10	03/23/21 16:06	03/24/21 19:30	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:08	7440-31-5	
Hardness, Total(SM 2340B)	<b>468000</b>	ug/L	10800		20	03/23/21 16:06	03/25/21 20:18		
Vanadium	<b>5.6</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:08	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:08	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A									
Pace Analytical Services - Asheville									
Chromium, Hexavalent	ND	mg/L	0.010	0.0060	1		03/18/21 11:12	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	<b>0.0087</b>	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:15	57-12-5	M1,R1
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:01	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:01	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:01	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:01	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:01	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

**Sample:** 031721FBField Blank      **Lab ID:** 92528350007      Collected: 03/17/21 13:15      Received: 03/18/21 10:15      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 20:58	7440-50-8	
Iron	ND	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 20:58	7439-89-6	
Manganese	ND	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 20:58	7439-96-5	
Nickel	<b>0.48J</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 20:58	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 20:58	7440-22-4	
Sodium	ND	ug/L	250	49.1	1	03/23/21 16:06	03/25/21 20:58	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 20:58	7440-31-5	
Hardness, Total(SM 2340B)	<b>37.7J</b>	ug/L	541		1	03/23/21 16:06	03/25/21 20:58		
Vanadium	<b>0.62J</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 20:58	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 20:58	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A									
Pace Analytical Services - Asheville									
Chromium, Hexavalent	ND	mg/L	0.010	0.0060	1		03/18/21 11:14	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	<b>0.0094</b>	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:21	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:57	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 16:57	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

**Sample: 031721FDDuplicate**      **Lab ID: 92528350008**      Collected: 03/17/21 12:55      Received: 03/18/21 10:15      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	03/23/21 16:06	03/25/21 21:02	7440-50-8	
Iron	<b>284</b>	ug/L	50.0	20.9	1	03/23/21 16:06	03/25/21 21:02	7439-89-6	
Manganese	<b>25.7</b>	ug/L	2.0	1.0	1	03/23/21 16:06	03/25/21 21:02	7439-96-5	
Nickel	<b>1.8</b>	ug/L	1.0	0.42	1	03/23/21 16:06	03/25/21 21:02	7440-02-0	
Silver	ND	ug/L	0.50	0.070	1	03/23/21 16:06	03/25/21 21:02	7440-22-4	
Sodium	<b>18800</b>	ug/L	2500	491	10	03/23/21 16:06	03/24/21 20:14	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	03/23/21 16:06	03/25/21 21:02	7440-31-5	
Hardness, Total(SM 2340B)	<b>103000</b>	ug/L	5410		10	03/23/21 16:06	03/24/21 20:14		
Vanadium	<b>2.1</b>	ug/L	1.0	0.25	1	03/23/21 16:06	03/25/21 21:02	7440-62-2	BC
Zinc	ND	ug/L	10.0	2.7	1	03/23/21 16:06	03/25/21 21:02	7440-66-6	
<b>7196 Chromium, Hexavalent</b>									
Analytical Method: EPA 7196A Pace Analytical Services - Asheville									
Chromium, Hexavalent	<b>0.016</b>	mg/L	0.010	0.0060	1		03/18/21 11:14	18540-29-9	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	03/23/21 00:46	03/23/21 23:21	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 17:52	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 17:52	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 17:52	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 17:52	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		03/30/21 17:52	7440-44-0	

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### QUALITY CONTROL DATA

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

QC Batch: 608591 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

METHOD BLANK: 3205705 Matrix: Water  
Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Copper	ug/L	ND	2.0	1.1	03/24/21 19:23	
Hardness, Total(SM 2340B)	ug/L	44.6J	541		03/24/21 19:23	
Iron	ug/L	ND	50.0	20.9	03/24/21 19:23	
Manganese	ug/L	ND	2.0	1.0	03/24/21 19:23	
Nickel	ug/L	ND	1.0	0.42	03/24/21 19:23	
Silver	ug/L	ND	0.50	0.070	03/24/21 19:23	
Sodium	ug/L	ND	250	49.1	03/24/21 19:23	
Tin	ug/L	ND	1.0	0.43	03/24/21 19:23	
Vanadium	ug/L	ND	1.0	0.25	03/24/21 19:23	
Zinc	ug/L	ND	10.0	2.7	03/24/21 19:23	

LABORATORY CONTROL SAMPLE: 3205706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	50	53.0	106	80-120	
Hardness, Total(SM 2340B)	ug/L		4430			
Iron	ug/L	625	673	108	80-120	
Manganese	ug/L	50	53.9	108	80-120	
Nickel	ug/L	50	52.8	106	80-120	
Silver	ug/L	25	27.9	112	80-120	
Sodium	ug/L	625	661	106	80-120	
Tin	ug/L	50	55.1	110	80-120	
Vanadium	ug/L	50	52.6	105	80-120	
Zinc	ug/L	50	52.8	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3205707 3205708

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92528350006 Result	Spike Conc.	Spike Conc.	Result						
Copper	ug/L	ND	50	50	53.3	52.8	105	104	75-125	1	20
Hardness, Total(SM 2340B)	ug/L	468000			468000	471000				1	20
Iron	ug/L	254	625	625	948	931	111	108	75-125	2	20
Manganese	ug/L	192	50	50	260	268	135	151	75-125	3	20 M6
Nickel	ug/L	3.6	50	50	55.5	54.9	104	103	75-125	1	20
Silver	ug/L	ND	25	25	26.1	25.6	104	102	75-125	2	20
Sodium	ug/L	14800	625	625	15500	15500	117	102	75-125	1	20

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS SSB (C)

Pace Project No.: 92528350

Parameter	Units	3205707		3205708		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92528350006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Tin	ug/L	ND	50	50	53.7	53.2	107	106	75-125	1	20		
Vanadium	ug/L	5.6	50	50	58.3	58.2	105	105	75-125	0	20		
Zinc	ug/L	ND	50	50	52.8	52.4	102	101	75-125	1	20		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

QC Batch:	607541	Analysis Method:	EPA 7196A
QC Batch Method:	EPA 7196A	Analysis Description:	7196 Chromium, Hexavalent
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

METHOD BLANK: 3200530 Matrix: Water  
Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	ND	0.010	0.0060	03/18/21 11:09	

LABORATORY CONTROL SAMPLE: 3200531

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	0.25	0.26	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3200532 3200533

Parameter	Units	92528350006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	ND	0.25	0.25	0.25	0.25	100	99	75-125	1	20	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS SSB (C)

Pace Project No.: 92528350

QC Batch:	608346	Analysis Method:	EPA 9012B
QC Batch Method:	EPA 9012B	Analysis Description:	EPA 9012B Cyanide
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

METHOD BLANK: 3204738 Matrix: Water

Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.0080	0.0060	03/23/21 23:01	

LABORATORY CONTROL SAMPLE: 3204739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	0.1	0.098	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3204740 3204741

Parameter	Units	92528350005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	0.1	0.1	0.12	0.12	116	121	75-125	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3204742 3204743

Parameter	Units	92528350006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	0.0087	0.1	0.1	0.016	0.13	7	124	75-125	158	20	M1,R1

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

QC Batch: 609840      Analysis Method: EPA 9060A  
QC Batch Method: EPA 9060A      Analysis Description: 9060 TOC, AVL  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

METHOD BLANK: 3211842      Matrix: Water  
Associated Lab Samples: 92528350001, 92528350002, 92528350003, 92528350004, 92528350005, 92528350006, 92528350007, 92528350008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	03/30/21 11:08	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/30/21 11:08	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/30/21 11:08	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/30/21 11:08	
Total Organic Carbon	mg/L	ND	1.0	0.50	03/30/21 11:08	

LABORATORY CONTROL SAMPLE: 3211843

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.2	97	75-125	
Total Organic Carbon	mg/L	25	24.0	96	75-125	
Total Organic Carbon	mg/L	25	24.5	98	75-125	
Total Organic Carbon	mg/L	25	23.9	96	75-125	
Total Organic Carbon	mg/L	25	24.3	97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3211844      3211845

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92528350006	Spike Conc.	Spike Conc.	Result						
Mean Total Organic Carbon	mg/L	ND	25	25	25.4	25.6	101	101	75-125	1	25
Total Organic Carbon	mg/L	ND	25	25	25.4	25.3	101	100	75-125	1	25
Total Organic Carbon	mg/L	ND	25	25	25.7	25.8	102	102	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	25.1	25.6	99	101	75-125	2	25
Total Organic Carbon	mg/L	ND	25	25	25.5	25.8	101	102	75-125	1	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3211846      3211847

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92528440001	Spike Conc.	Spike Conc.	Result						
Mean Total Organic Carbon	mg/L	ND	25	25	25.3	25.3	99	99	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	25.3	25.4	99	100	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	25.3	25.1	99	98	75-125	1	25
Total Organic Carbon	mg/L	ND	25	25	25.2	25.2	99	99	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	25.3	25.5	99	100	75-125	1	25

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## QUALIFIERS

Project: Clover PS SSB (C)

Pace Project No.: 92528350

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

BC The same analyte was detected in an associated blank at a concentration above 1/2 the reporting limit but below the laboratory reporting limit.

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

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

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Clover PS SSB (C)  
Pace Project No.: 92528350

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92528350001	031721NPW-2	EPA 3010A	608591	EPA 6020B	608709
92528350002	031721NPW-3	EPA 3010A	608591	EPA 6020B	608709
92528350003	031721NPW-4	EPA 3010A	608591	EPA 6020B	608709
92528350004	031721NPW-5	EPA 3010A	608591	EPA 6020B	608709
92528350005	031721NPW-12	EPA 3010A	608591	EPA 6020B	608709
92528350006	031721NPW-13	EPA 3010A	608591	EPA 6020B	608709
92528350007	031721FBField Blank	EPA 3010A	608591	EPA 6020B	608709
92528350008	031721FDDuplicate	EPA 3010A	608591	EPA 6020B	608709
92528350001	031721NPW-2	EPA 7196A	607541		
92528350002	031721NPW-3	EPA 7196A	607541		
92528350003	031721NPW-4	EPA 7196A	607541		
92528350004	031721NPW-5	EPA 7196A	607541		
92528350005	031721NPW-12	EPA 7196A	607541		
92528350006	031721NPW-13	EPA 7196A	607541		
92528350007	031721FBField Blank	EPA 7196A	607541		
92528350008	031721FDDuplicate	EPA 7196A	607541		
92528350001	031721NPW-2	EPA 9012B	608346	EPA 9012B	608396
92528350002	031721NPW-3	EPA 9012B	608346	EPA 9012B	608396
92528350003	031721NPW-4	EPA 9012B	608346	EPA 9012B	608396
92528350004	031721NPW-5	EPA 9012B	608346	EPA 9012B	608396
92528350005	031721NPW-12	EPA 9012B	608346	EPA 9012B	608396
92528350006	031721NPW-13	EPA 9012B	608346	EPA 9012B	608396
92528350007	031721FBField Blank	EPA 9012B	608346	EPA 9012B	608396
92528350008	031721FDDuplicate	EPA 9012B	608346	EPA 9012B	608396
92528350001	031721NPW-2	EPA 9060A	609840		
92528350002	031721NPW-3	EPA 9060A	609840		
92528350003	031721NPW-4	EPA 9060A	609840		
92528350004	031721NPW-5	EPA 9060A	609840		
92528350005	031721NPW-12	EPA 9060A	609840		
92528350006	031721NPW-13	EPA 9060A	609840		
92528350007	031721FBField Blank	EPA 9060A	609840		
92528350008	031721FDDuplicate	EPA 9060A	609840		

**REPORT OF LABORATORY ANALYSIS**

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CHAIN-OF-CUSTODY Analytical Request Document

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

Company: **Goldier Associates Inc.**

Billing Information: **Dominion**

Address: 2108 W. Laburnum Ave., Suite 200  
Richmond, VA 23227

Report To: **Rachel Powell**

Email To: **ripowell@golder.com**

Copy To: **Martha Smith/Michael Williams**

Site Collection Info/Address: **Clover Power Station**

Customer Project Name/Number: **2013993121**

State: **VA** / County/City: **Clover** Time Zone Collected: **ET**

Phone: 804-517-3381  
Email: **ripowell@golder.com**

Site/Facility ID #: **Clover Power Station - SSB - VSWMR**

Compliance Monitoring?  Yes  No

Collected By (Print): **M. Anello/ Steele**

Purchase Order #: **PO# 50149081**

DW PWS ID #: **DW Location Code:**

Collected By (Signature): *[Signature]*

Turnaround Date Required: **Standard**

Field Filtered (if applicable):  Yes  No

Sample Disposal:  Return  Dispose as appropriate

Rush:  Same Day  Next Day  2 Day  3 Day  4 Day  5 Day

Analysis:  Yes  No

Hold: 6 months

\* 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)		Composite End		Res Cl	# of Chns
			Date	Time	Date	Time		
031721 V PW-2	GW	GRAB	3/17/21	1133	--	--	N	8
031721 V PW-3	GW	GRAB	3/17/21	1249	--	--	N	8
031721 V PW-4	GW	GRAB	3/17/21	1345	--	--	N	8
031721 V PW-5	GW	GRAB	3/17/21	1130	--	--	N	8
031721 V PW-12	GW	GRAB	3/17/21	1426	--	--	N	8
031721 V PW-13	GW	GRAB	3/17/21	1220	--	--	N	8
031721 Field Blank	GW	GRAB	3/17/21	1315	--	--	N	8
031721 Field Duplicate	GW	GRAB	3/17/21	1255	--	--	N	8

Customer Remarks / Special Conditions / Possible Hazards:  
All samples preserved on ice  
Level II data package requested  
See Sample Memo - Reporting Group C for more details  
COC ID: Clover-15A2021-SSBVSWMR-C-1-1  
MS/MSD taken at 03/22/21/15

Relinquished by/Company: (Signature) *[Signature]* Date/Time: 3/17/21 1730  
Received by/Company: (Signature) *[Signature]* Date/Time: 3-18-21

Relinquished by/Company: (Signature) *[Signature]* Date/Time: *[Blank]*  
Received by/Company: (Signature) *[Signature]* Date/Time: *[Blank]*

LAB U **MO# : 92528350** Number or **92528350**

Container Preservative Type \*\*  
1 1 4 A/S U O

Lab Project Manager: *[Blank]*

Lab Sample/Line: *[Blank]*

Lab Profile/Line: *[Blank]*

Lab Sample Receipt Checklist:

Custody Seals Present/Intact  Y  N  
Custody Signatures Present  Y  N  
Collector Signature Present  Y  N  
Bottles Intact  Y  N  
Correct Bottles  Y  N  
Sufficient Volume  Y  N  
Samples Received on Ice  Y  N  
VOA - Headspace Acceptable  Y  N  
USDA Regulated Soils  Y  N  
Samples in Holding Time  Y  N  
Residual Chlorine Present  Y  N  
CI Strips: **1020**  Y  N  
Sample pH Acceptable  Y  N  
pH Strips: **2238/194V/10/10401**  Y  N  
Sulfide Present  Y  N  
Lead Acetate Strips: *[Blank]*  Y  N

LAB USE ONLY: **92528350**  
Lab Sample # / Comments: *[Blank]*

Type of Ice Used:		Wet	Blue	Dry	None	Samples received via:		Lab Tracking #:		Lab Sample Temperature Info:		
Packing Material Used:		b. bags				SHORT HOLDS PRESENT (<22 hours):		Client		Courier		
Raddchem sample(s) screened (<500 cpm):		Y	N	N/A		FEDEX	UPS	Client	MTL LAB USE ONLY	Temp Blank Received:	Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA	
Temp Blank Received:		Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA	Therm ID#:	IR927064	Cooler 1 Temp Upon Receipt:	FC	OC	Cooler 1 Therm Corr. Factor:	FC	OC	Cooler 1 Corrected Temp:	OC
Comments:		0.6/0.10/0.4/0.9										
Trip Blank Received:		Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA	HCL	MeOH	TSP	Other	Non Conformance(s):	Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NO	Page:	1	of:	1

**Sample Receiving Non-Conformance Form (NCF)**

Date: 3-18-21	Evaluated by: AMP
Client: Golder Assoc	

Affix V Work	<b>WO# : 92528350</b>
	PM: NMG      Due Date: 03/30/21
	CLIENT: 92-DomEnergy

**1. If Chain-of-Custody (COC) is not received:** contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

**2. If COC is incomplete, check applicable issues below and add details where appropriate:**

Collection date/time missing or incorrect	Analyses or analytes: missing or clarification needed	Samples listed on COC do not match samples received (missing, additional, etc.)
Sample IDs on COC do not match sample labels	Required trip blanks were not received	Required signatures are missing

**Comments/Details/Other Issues not listed above:**

**3. Sample integrity issues: check applicable issues below and add details where appropriate:**

Samples: Past holding time	Samples: Condition needs to be brought to lab personnel's attention (details below)	Preservation: Improper
Samples: Not field filtered	Containers: Broken or compromised	Temperature: not within acceptance criteria (typically 0-6C)
Samples: Insufficient volume received	Containers: Incorrect	Temperature: Samples arrived frozen
Samples: Cooler damaged or compromised	Custody Seals: Missing or compromised on samples, trip blanks or coolers	Vials received with improper headspace
Samples: contain chlorine or sulfides	Packing Material: Insufficient/Improper	Other:

**Comments/Details:**

Only 8 containers for sample "PW-13"

**4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:**

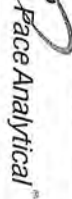
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Amount/type pres added:
Preserved by:	Initial and Final pH:	Lot # of pres added:

**5. Client Contact: If client is contacted for any issue listed above, fill in details below:**

Client: Rachel P	Contacted per: phone
PM Initials: NMG	Date/Time: 3/18/21

**Client Comments/Instructions:**

Informed client ms/msd containers did not arrive  
(arrived Friday 3/19/21, in temperature)



# CHAIN-OF-CUSTODY Analytical Request Document

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

Company: **Goldier Associates Inc.**

Billing Information: **Dominion**

Address: 2108 W. Labourum Ave, Suite 200  
Richmond, VA 23227

Report To: **Rachel Powell**

Email To: **ripowell@golder.com**

Copy To: **Martha Smith/Michael Williams**

Site Collection Info/Address: **Clover Power Station**

Customer Project Name/Number: **2013993121**

State: **VA** / County/City: **Clover** / Time Zone Collected: **ET**

Phone: 804-517-3381

Site/Facility ID #: **Clover Power Station - SSB - VSWMR**

Compliance Monitoring?  Yes  No

Email: **ripowell@golder.com**

Purchase Order #: **PO# 50149081**

DW PWS ID #: \_\_\_\_\_

Collected By (print): **M. Stahl**

Turnaround Date Required: **Standard**

Immediatly Packed on Ice:  Yes  No

Sample Disposal:  Return  Dispose as appropriate

Rush:  Same Day  Next Day  2 Day  3 Day  4 Day  5 Day

Field Filtered (if applicable):  Yes  No

Archived:  Yes  No

Analysis: \_\_\_\_\_

Hold:  6 months

\* 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)		Composite End		Res Cl	# of Cns
			Date	Time	Date	Time		
031721 N PW-2	GW	GRAB	3/17/21	1133	--	--	N	1
031721 N PW-3	GW	GRAB	3/17/21	1248	--	--	N	1
031721 N PW-4	GW	GRAB	3/17/21	1345	--	--	N	1
031721 N PW-5	GW	GRAB	3/17/21	1300	--	--	N	1
031721 N PW-12	GW	GRAB	3/17/21	1426	--	--	N	1
031721 N PW-13	GW	GRAB	3/17/21	1220	--	--	N	3
031721 FB Field Blank	GW	GRAB	3/17/21	1315	--	--	N	1
031721 FD Duplicate	GW	GRAB	3/17/21	1255	--	--	N	1

Type of Ice Used:	Wet	Blue	Dry	None
Wet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Blue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Customer Remarks / Special Conditions / Possible Hazards:	Packing Material Used:	Lab Tracking #:	Sample Received Via:	Client:	Courier:	MTIL LAB USE ONLY
Customer Remarks / Special Conditions / Possible Hazards: All samples preserved on ice Level II data package requested See Sample Memo - Reporting Group C for more details COC ID: Clover-1SA2021-SSBhexchrom-C-1-1 MS/MSD taken at 031721/14-13	Wet NONE	SHORT HOLDS PRESENT (<72 hours): <input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> N/A	FEDEX	UPS	Client	MTIL LAB USE ONLY
Relinquished by/Company: (Signature)	Date/Time: 3/17/21 1730	Received by/Company: (Signature)	Date/Time: 3-18-21	1030		
Relinquished by/Company: (Signature)	Date/Time: 3/17/21 1730	Received by/Company: (Signature)	Date/Time: 3-18-21	1030		
Relinquished by/Company: (Signature)	Date/Time: 3/17/21 1730	Received by/Company: (Signature)	Date/Time: 3-18-21	1030		

LAB USE ONLY - Affix Workorder #  
**ALL SHADED /**

MO# : 92528350  
PM : NMG Due Date : 03/30/21  
CLIENT : 92-DomEnergy

Container Preservative Type \*\*  
U

Lab Project Manager: \_\_\_\_\_

Lab Profile/Line: \_\_\_\_\_

Lab Sample Receipt Checklist:

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 Solids  Y  N  NA

Samples in Holding Time  Y  N  NA

Residual Chlorine Present  Y  N  NA

CI Strips:  Y  N  NA

Sample pH Acceptable  Y  N  NA

pH Strips:  Y  N  NA

Sulfide Present  Y  N  NA

Lead Acetate Strips:  Y  N  NA

LAB USE ONLY: Lab Sample # / Comments: **92528350**

Lab Sample # / Comments: **773122216809**

Lab Sample Temperature Info:

Temp Blank Received:  Y  N  NA

Therm ID#: **93-7071**

Cooler 1 Temp Upon Receipt: **5.0** °C

Cooler 1 Therm Corr. Factor: **0** °C

Cooler 1 Corrected Temp: **5.0** °C

Comments: \_\_\_\_\_

Non Conformance(s): **YES (NO)** Page: **1** of: **1**



**Analysis Detects Report**

Client Name:  
Client Site ID:  
Submitted To:

Date Issued:

**Laboratory Sample ID:**

**Client Sample ID:**

Parameter

Samp ID

Reference Method

Sample Results

Qual

DL

LOQ

Dil.

Factor

Units

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

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



## Certificate of Analysis

*Final Report*

Laboratory Order ID 21C1005

Client Name: Pace Analytical - Huntersville, NC  
9800 Kinney Ave. Suite 100  
Huntersville, NC 28078

Submitted To: Nicole Gasiorowski

Client Site I.D.: Clover PS SSB (C)

Date Received: March 19, 2021 11:20  
Date Issued: March 23, 2021 13:58  
Project Number: 92528350  
Purchase Order: NMG 8350

Enclosed are the results of analyses for samples received by the laboratory on 03/19/2021 11:20. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars  
Technical Director

**End Notes:**

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

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

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

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover PS SSB (C)  
Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
031721NPW-2	21C1005-01	Non-Potable Water	03/17/2021 11:33	03/19/2021 11:20
031721NPW-3	21C1005-02	Non-Potable Water	03/17/2021 12:48	03/19/2021 11:20
031721NPW-4	21C1005-03	Non-Potable Water	03/17/2021 13:45	03/19/2021 11:20
031721NPW-5	21C1005-04	Non-Potable Water	03/17/2021 11:30	03/19/2021 11:20
031721NPW-12	21C1005-05	Non-Potable Water	03/17/2021 14:26	03/19/2021 11:20
031721NPW-13	21C1005-06	Non-Potable Water	03/17/2021 12:20	03/19/2021 11:20
031721FBFieldBlank	21C1005-07	Non-Potable Water	03/17/2021 13:15	03/19/2021 11:20
031721FDDuplicate	21C1005-08	Non-Potable Water	03/17/2021 12:55	03/19/2021 11:20

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover PS SSB (C)  
Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721NPW-2

Laboratory Sample ID: 21C1005-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	01	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721NPW-3

Laboratory Sample ID: 21C1005-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	02	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721NPW-4

Laboratory Sample ID: 21C1005-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	03	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721NPW-5

Laboratory Sample ID: 21C1005-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	04	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721NPW-12

Laboratory Sample ID: 21C1005-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	05	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721NPW-13

Laboratory Sample ID: 21C1005-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Sulfide	06	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721FBFieldBlank Laboratory Sample ID: 21C1005-07

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	07	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Client Sample ID: 031721FDDuplicate Laboratory Sample ID: 21C1005-08

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
Wet Chemistry Analysis												
Sulfide	08	18496-25-8	SW9215	03/22/2021 10:30	03/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover PS SSB (C)  
Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

Wet Chemistry Analysis - Quality Control  
Air Water & Soil Laboratories, Inc.

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Qual
<b>Batch BEC0740 - No Prep Wet Chem</b>								
<b>Blank (BEC0740-BLK1)</b>								
Sulfide	ND	1.00	mg/L					
<b>LCS (BEC0740-BS1)</b>								
Sulfide	5.06	1	mg/L	5.00		101	80-120	
<b>LCS Dup (BEC0740-BSD1)</b>								
Sulfide	5.02	1	mg/L	5.00		100	80-120	20
<b>Matrix Spike (BEC0740-MS1)</b>								
Sulfide	5.02	1.00	mg/L	5.00	BLOD	100	75-125	
<b>Matrix Spike Dup (BEC0740-MSD1)</b>								
Sulfide	4.93	1.00	mg/L	5.00	BLOD	98.6	75-125	20

## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover PS SSB (C)  
Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>					
21C1005-01	6.00 mL / 6.00 mL	SW9215	BEC0740	No Prep Wet Chem SEC0721	
21C1005-02	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	
21C1005-03	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	
21C1005-04	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	
21C1005-05	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	
21C1005-06	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	
21C1005-07	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	
21C1005-08	6.00 mL / 6.00 mL	SW9215	BEC0740	SEC0721	

## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

### Certified Analyses included in this Report

Analyte	Certifications			
SW9215 in Non-Potable Water				
Sulfide		VELAP		
Code	Description	Laboratory ID	Expires	
MdDOE	Maryland DE Drinking Water	341	12/31/2021	
NCDEQ	North Carolina DEQ	495	12/31/2021	
NCDOH	North Carolina Department of Health	51714	07/31/2021	
NJDEP	NELAC-New Jersey DEP	VA015	06/30/2021	
NYDOH	New York DOH Drinking Water	12096	04/01/2021	
PADEP	NELAC-Pennsylvania Certificate #006	68-03503	10/31/2021	
VELAP	NELAC-Virginia Certificate #11064	460021	06/14/2021	

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover PS SSB (C)  
Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

**Qualifiers and Definitions**

RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection
BLOD	Below Limit of Detection
LOQ	Limit of Quantitation
DF	Dilution Factor
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

# Chain of Custody

PASI Charlotte Laboratory



Workorder: 92528350

Workorder Name: Clover PS SSB (C)

Results Requested By: 3/30/2021

Report / Invoice To

Subcontract To

Requested Analysis

Nicole Gasiorowski  
Pace Analytical Charlotte  
9800 Kinsey Ave. Suite 100  
Huntersville, NC 28078  
Phone (704)875-9092  
Email: nicole.gasiorowski@pacelabs.com

Enthalpy / AWS P.O. # 8350  
1941 Reymet Rd  
Richmond, VA 23237  
(804) 358-8295

State of Sample Origin: VA

Preserved Containers

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Date/Time	LAB USE ONLY
					Unpreserved	Other		
1	031721NPW-2	3/17/2021 11:33	92528350001	Water		Z		X
2	031721NPW-3	3/17/2021 12:48	92528350002	Water		Z		X
3	031721NPW-4	3/17/2021 13:45	92528350003	Water		Z		X
4	031721NPW-5	3/17/2021 11:30	92528350004	Water		Z		X
5	031721NPW-12	3/17/2021 14:26	92528350005	Water		Z		X
6	031721NPW-13 (MS/MSD)	3/17/2021 12:20	92528350006	Water		Z		X
7	031721FBField Blank	3/17/2021 13:15	92528350007	Water		Z		X
8	031721FDDuplicate	3/17/2021 12:55	92528350008	Water		Z		X
9								
10								
11								
12								

Comments

Please report J-flags to MOL  
Please provide EDDs (2)

Transfers	Released By	Date/Time	Received By	Date/Time	Received on Ice	Y or N	Y or N	Y or N	Samples Intact	Y or N
1	AMM	PACE 3-18-2021 1800	ledex exp							
2	ledex exp		REM 3-19-21	11-20						
3			1.9°C #271 no seals	write						

Cooler Temperature on Receipt °C

Received on Ice Y or N

Samples Intact Y or N

PCE-C  
Sulfide  
21C1005

Recd: 03/19/2021 Due: 03/26/2021



**Sample Preservation Log**

Date Performed: 3-19-11

Order ID: 21C1065

Analyst Performing Check: RUF

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508)		SVOC (525,2/8270/62)		CrVI		Pest/PCB (508) / SVOC(525)		Final pH (adjust)			
		pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	Res/Cls Received	Present/Absent	Res/Cls Received	Present/Absent	pH as Received	Other	pH as Received	Other	pH as Received	Other
01	A					✓																							
01	B			✓																									
02	A			✓																									
02	B			✓																									
03	A			✓																									
03	B			✓																									
04	A			✓																									
04	B			✓																									
05	A			✓																									
05	B			✓																									
06	A			✓																									
06	B			✓																									
07	A			✓																									
07	B			✓																									
08	A			✓																									

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ CrVI preserved date/time: \_\_\_\_\_ Analyst initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ NazS2O3 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_ \* pH must be adjusted between 9.3 - 9.7  
 HCL ID: \_\_\_\_\_ NazSO3 ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_



**Sample Preservation Log**

Date Performed: 3-19-21

Order ID: 21C105

Analyst Performing Check: RUF

Sample ID	Container ID	Metals			Cyanide			Sulfide			Ammonia			TKN			Phos, Tot			NO3+NO2			DRO			Pesticide (8081/608/608)			SVOC (525.2/8270/625)			CrVI *			Pes/PCB (508) / SVOC(525)			pH as Received		
		pH as Received	<2	Other	pH as Received	>12	Other	pH as Received	>9	Other	pH as Received	<2	Other	pH as Received	<2	Other	pH as Received	<2	Other	pH as Received	<2	Other	Res/Glas Received	Present	Absent	Res/Glas Received	Present	Absent	pH as Received	<2	Other	pH as Received	<2	Other	pH as Received	<2	Other			
086																																								

*RUF*  
*3-19-21*

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ CrVI preserved date/time: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ NazS2O3 ID: \_\_\_\_\_ \* pH must be adjusted between 9.3 - 9.7  
 HCL ID: \_\_\_\_\_ NazSO3 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 5N NaOH: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover PS SSB (C)  
 Submitted To: Nicole Gasiorowski

Date Issued: 3/23/2021 1:58:52PM

**Sample Conditions Checklist**

Samples Received at:	1.90°C
How were samples received?	FedEx Express
Were Custody Seals used? If so, were they received intact?	No
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

---

**Certificate of Analysis**  
**1034350**

Nicole Gasiorowski  
Pace Analytical Services LLC Charlotte  
9800 Kinsey Ave, Suite 100  
Huntersville NC, 28078

Customer ID: 44-102116  
Report Printed: 04/12/2021 15:26

---

Project Name: Nicole Gasiorowski PM

Workorder: 1034350

Dear Nicole Gasiorowski

Enclosed are the analytical results for samples received by the laboratory 03/19/2021 10:00.

The results relate 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 LLC Kentucky - Pikeville

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



#460210 Madisonville, KY  
#460291 Pikeville, KY



---

Mark DeMoss For Melissia Brown, Project Coordinator



**SAMPLE SUMMARY**

Lab ID	Client Sample ID/Alias	Matrix	Date Collected	Date Received	Sampled By
1034350-01	Dominion Energy/031721NPW-2	Water	03/17/2021 11:33	03/23/2021 9:30	PACE
1034350-02	Non Potable Water 92528350002/031721NPW-3	Water	03/17/2021 12:48	03/19/2021 10:00	PACE
1034350-03	Non Potable Water 92528350003/031721NPW-4	Water	03/17/2021 13:45	03/19/2021 10:00	PACE
1034350-04	Non Potable Water 92528350004/031721NPW-5	Water	03/17/2021 11:30	03/19/2021 10:00	PACE
1034350-05	Non Potable Water 92528350005/031721NPW-12	Water	03/17/2021 14:26	03/19/2021 10:00	PACE
1034350-06	Non Potable Water 92528350006/031721NPW-13	Water	03/17/2021 12:20	03/19/2021 10:00	PACE
1034350-07	Non Potable Water 92528350007/031721NPW-FB field blank	Water	03/17/2021 13:15	03/19/2021 10:00	PACE
1034350-08	Non Potable Water 92528350008/031721NPW-FDD Duplicate	Water	03/17/2021 13:15	03/19/2021 10:00	PACE

**Work Order Comments:**

Additional Comments:

Sample 031721NPW-2 arrived in initial shipment and container was damaged. A replacement sample was delivered to our Pikeville, KY laboratory and was received on March 23, 2021. The receipt date and time on the certificate of analysis has been revised to indicate receipt of this replacement sample.



**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-01**  
 Description: **Dominion Energy 031721NPW-2**

Sample Collection Date Time: 03/17/2021 11:33  
 Sample Received Date Time: 03/23/2021 09:30

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	10.3	Y1	mg/L	10.0	4.3	EPA 310.2	03/25/2021 10:32	03/25/2021 10:32	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-02**  
 Description: **Non Potable Water 92528350002 031721NPW-3**

Sample Collection Date Time: 03/17/2021 12:48  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	11.7		mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-03**  
 Description: **Non Potable Water 92528350003 031721NPW-4**

Sample Collection Date Time: 03/17/2021 13:45  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	28.0		mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-04**  
 Description: **Non Potable Water 92528350004 031721NPW-5**

Sample Collection Date Time: 03/17/2021 11:30  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	37.9		mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT



**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-05**  
 Description: **Non Potable Water 92528350005 031721NPW-12**

Sample Collection Date Time: 03/17/2021 14:26  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	13.4		mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-06**  
 Description: **Non Potable Water 92528350006 031721NPW-13**

Sample Collection Date Time: 03/17/2021 12:20  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	36.7		mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-07**  
 Description: **Non Potable Water 92528350007 031721NPW-FB**  
**field blank**

Sample Collection Date Time: 03/17/2021 13:15  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	ND	u	mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1034350-08**  
 Description: **Non Potable Water 92528350008 031721NPW-FDD**  
**Duplicate**

Sample Collection Date Time: 03/17/2021 13:15  
 Sample Received Date Time: 03/19/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	12.5		mg/L	10.0	4.3	EPA 310.2	03/23/2021 09:47	03/23/2021 09:47	TAT

**Notes for work order 1034350**

- Samples collected by PACE personnel are done so in accordance with procedures set forth in PACE field services SOPs .
- Results contained in this report are only representative of the samples received.
- PACE does not provide interpretation of these results unless otherwise stated .
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identification based on the presumptive evidence of the mass spectra.  
Concentrations reported are estimated values.

**Qualifiers**

- U Target analyte was analyzed for, but was below detection limit (the value associated with the qualifier is the laboratory method detection limit in our LIMS system).
- Y1 Sample RPD exceeded the method control limit.

**Standard Qualifiers/Acronymns**

- MDL Method Detection Limit
- MRL Minimum Reporting Limit
- ND Not Detected
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- % Rec Percent Recovery
- RPD Relative Percent Difference
- > Greater than
- < Less than





Conventional Chemistry Analyses Pikeville - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch BAC3440 - Default Prep Wet Chem 2</b>										
<b>Blank (BAC3440-BLK1)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	ND	10.0	mg/L							U
<b>Blank (BAC3440-BLK2)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	ND	10.0	mg/L							U
<b>LCS (BAC3440-BS1)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	108	10.0	mg/L	100		108	80-120			
<b>LCS (BAC3440-BS2)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	108	10.0	mg/L	100		108	80-120			
<b>LCS (BAC3440-BS3)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	110	10.0	mg/L	100		110	80-120			
<b>Duplicate (BAC3440-DUP1) Source: 1033701-01</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	68.6	10.0	mg/L		69.3			1.02	10	
<b>Duplicate (BAC3440-DUP2) Source: 1033900-01</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	87.8	10.0	mg/L		88.1			0.341	10	
<b>Duplicate (BAC3440-DUP3) Source: 1034350-07</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	ND	10.0	mg/L		ND				10	U
<b>Matrix Spike (BAC3440-MS1) Source: 1033701-01</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	120		mg/L	58.3	61.2	101	85-115			
<b>Matrix Spike (BAC3440-MS2) Source: 1033900-01</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	135		mg/L	58.3	77.8	98.2	85-115			



**Conventional Chemistry Analyses Pikeville - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch BAC3440 - Default Prep Wet Chem 2</b>										
<b>Matrix Spike (BAC3440-MS3)</b>		<b>Source: 1034350-07</b>								
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	61.5		mg/L	58.3	1.6	103	85-115			
<b>Reference (BAC3440-SRM1)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	113		mg/L	100		113	0-200			
<b>Reference (BAC3440-SRM2)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	116		mg/L	100		116	0-200			
<b>Reference (BAC3440-SRM3)</b>										
Prepared: 3/23/2021 9:47, Analyzed: 3/23/2021 9:47										
Total Alkalinity	114		mg/L	100		114	0-200			
<b>Batch BAC3875 - Default Prep Wet Chem 2</b>										
<b>Blank (BAC3875-BLK1)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	ND	10.0	mg/L							U
<b>Blank (BAC3875-BLK2)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	ND	10.0	mg/L							U
<b>LCS (BAC3875-BS1)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	116		mg/L	100		116	80-120			
<b>LCS (BAC3875-BS2)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	117		mg/L	100		117	80-120			
<b>LCS (BAC3875-BS3)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	119		mg/L	100		119	80-120			



Conventional Chemistry Analyses Pikeville - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch BAC3875 - Default Prep Wet Chem 2</b>										
<b>LCS (BAC3875-BS4)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	116		mg/L	100		116	80-120			
<b>Duplicate (BAC3875-DUP1) Source: 1034489-02</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	80.1	10.0	mg/L		79.6			0.626	10	
<b>Duplicate (BAC3875-DUP2) Source: 1034744-08</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	63.9	10.0	mg/L		63.0			1.42	10	
<b>Duplicate (BAC3875-DUP3) Source: 1034795-02</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	81.2	10.0	mg/L		80.4			0.990	10	
<b>Duplicate (BAC3875-DUP4) Source: 1034350-01</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	11.8	10.0	mg/L		10.3			13.6	10	Y1
<b>Matrix Spike (BAC3875-MS1) Source: 1034489-02</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	123		mg/L	58.3	70.3	89.6	85-115			
<b>Matrix Spike (BAC3875-MS2) Source: 1034744-08</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	108		mg/L	58.3	55.6	88.9	85-115			
<b>Matrix Spike (BAC3875-MS4) Source: 1034806-01</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	62.5		mg/L	58.3		107	85-115			
<b>Reference (BAC3875-SRM1)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	120		mg/L	100		120	0-200			
<b>Reference (BAC3875-SRM2)</b>										
Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32										
Total Alkalinity	119		mg/L	100		119	0-200			



**Conventional Chemistry Analyses Pikeville - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch BAC3875 - Default Prep Wet Chem 2**

**Reference (BAC3875-SRM3)**

Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32

Total Alkalinity	120		mg/L	100		120	0-200			
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**Reference (BAC3875-SRM4)**

Prepared: 3/25/2021 10:32, Analyzed: 3/25/2021 10:32

Total Alkalinity	120		mg/L	100		120	0-200			
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**Certified Analyses included in this Report**

Analyte	Certifications
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**EPA 310.2 in Water**

Total Alkalinity KY Wastewater Pkv (00050) WV Wastewater Pikeville (102), 173 Island Creek Rd Pikeville, KY 41501

<b>Sample Acceptance Checklist for Work Order 1034350</b>	
Shipped By: Fed Ex	Temperature: 3.10° Celcius
<b>Condition</b>	
Check if Custody Seals are Present/Intact	<input type="checkbox"/>
Check if Custody Signatures are Present	<input checked="" type="checkbox"/>
Check if Collector Signature Present	<input checked="" type="checkbox"/>
Check if bottles are intact	<input checked="" type="checkbox"/>
Check if bottles are correct	<input checked="" type="checkbox"/>
Check if bottles have sufficient volume	<input checked="" type="checkbox"/>
Check if samples received on ice	<input checked="" type="checkbox"/>
Check if VOA headspace is acceptable	<input type="checkbox"/>
Check if samples received in holding time.	<input checked="" type="checkbox"/>
Check if samples are preserved properly	<input checked="" type="checkbox"/>

# Internal Transfer Chain of Custody

1034350



Samples Pre-Logged into eCOC.

Workorder: 92528350    Workorder Name: Clover PS SSB (C)

State Of Origin: VA  
 Cert. Needed:  Yes     No  
 Owner Received Date: 3/18/2021    Results Requested By: 3/30/2021



Nicole Gasiorowski  
 Pace Analytical Charlotte  
 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092

*Pace Analytical*  
 173 Island Creek Rd  
 Pikeville, KY 41501

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved Containers	310.2 Alkalinity	LAB USE ONLY
1	031721NPW-2	PS	3/17/2021 11:33	92528350001	Water	1		X	
2	031721NPW-3	PS	3/17/2021 12:48	92528350002	Water	1		X	
3	031721NPW-4	PS	3/17/2021 13:45	92528350003	Water	1		X	
4	031721NPW-5	PS	3/17/2021 11:30	92528350004	Water	1		X	
5	031721NPW-12	PS	3/17/2021 14:26	92528350005	Water	1		X	
6	031721NPW-13	RQS	3/17/2021 12:20	92528350006	Water	3		X	
7	031721FBField Blank	PS	3/17/2021 13:15	92528350007	Water	1		X	
8	031721FDDuplicate	PS	3/17/2021 12:55	92528350008	Water	1		X	

Transfers	Released By	Date/Time	Received By	Date/Time	Received on Ice	Y or N	Samples Intact	Y or N
1	<i>[Signature]</i>	3-18-2021	<i>[Signature]</i>					
2								
3	<i>D. Williams</i>	3-19-21						

*Please report 5 flags to MDL*

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

1034350

# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: VA  
Cert. Needed:  Yes  No  
Owner Received Date: 3/18/2021



www.paceanal.com

Workorder: 92528350

Workorder Name: Clover PS SSB (C)

Requested Analysis

Results Requested By: 3/30/2021

Nicole Gasiorowski  
Pace Analytical Charlotte  
9800 Kinoy Ave. Suite 100  
Huntersville, NC 28078  
Phone (704)875-9092

Pace Analytical  
173 Island Creek Rd  
Pikeville, KY 41501

Sample ID	Sample Type	Collection Date/Time	Field ID	Matrix	Preservation	Received Containers	310.2 Alkalinity	LAB USE ONLY
1 031721NPMW-2	PS	3/17/2021 11:33	92528350001	Water	1	X		
2 031721NPMW-3	PS	3/17/2021 12:48	92528350002	Water	1	X		
3 031721NPMW-4	PS	3/17/2021 13:45	92528350003	Water	1	X		
4 031721NPMW-5	PS	3/17/2021 11:30	92528350004	Water	1	X		
5 031721NPMW-12	PS	3/17/2021 14:26	92528350005	Water	1	X		
6 031721NPMW-13	ROGS	3/17/2021 12:20	92528350006	Water	3	X		
7 031721FBField Blank	PS	3/17/2021 13:15	92528350007	Water	1	X		
8 031721DDuplicate	PS	3/17/2021 12:55	92528350008	Water	1	X		

Transfers Requested By: *[Signature]* Date/Time: *3/22/21 17:20* Received By: *[Signature]* Date/Time: *3/23/21 09:30*

Cooler Temperature on Receipt: *0.4* °C Custody Seal Y or N: *Y* Received on Ice Y or N: *Y* Samples Intact Y or N: *Y*

*Please report J-Flags to MDL*

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

April 15, 2021

Kelly Hicks  
Dominion Energy Services, Inc.  
120 Tredegar Street  
Richmond, VA 23219

RE: Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on March 18, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - 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: Rachel Powell, Golder Associates  
Amanda Reynolds, Golder Associates  
Martha Smith, Golder Associates Inc.  
Environmental Standards, Inc., Environmental Standards,  
Inc.  
Mike Williams, Golder Associates Inc



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

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### **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

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### **Pace Analytical Services Asheville**

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

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

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### **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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92528431001	031721NPW-2	Water	03/17/21 11:33	03/18/21 10:15
92528431002	031721NPW-3	Water	03/17/21 12:48	03/18/21 10:15
92528431003	031721NPW-4	Water	03/17/21 13:45	03/18/21 10:15
92528431004	031721NPW-5	Water	03/17/21 11:30	03/18/21 10:15
92528431005	031721NPW-12	Water	03/17/21 14:26	03/18/21 10:15
92528431006	031721NPW-13	Water	03/17/21 12:20	03/18/21 10:15
92528431007	031721FBFieldBlank	Water	03/17/21 13:15	03/18/21 10:15
92528431008	031721FDDuplicate	Water	03/17/21 12:55	03/18/21 10:15

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92528431001	031721NPW-2	SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92528431002	031721NPW-3	SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92528431003	031721NPW-4	SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92528431004	031721NPW-5	SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92528431005	031721NPW-12	SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92528431006	031721NPW-13	EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
		SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
92528431007	031721FBFieldBlank	EPA 9056A	CDC	3	PASI-A
		SM 2540C-2011	MLS1	1	PASI-E
		EPA 6010D	RDT	1	PASI-A
		EPA 6020B	JOR	13	PASI-A
		EPA 7470A	SOO	1	PASI-A
		EPA 9315	CLA	1	PASI-PA
		EPA 9320	VAL	1	PASI-PA
		Total Radium Calculation	CMC	1	PASI-PA
		EPA 9056A	CDC	3	PASI-A
		92528431008	031721FDDuplicate	SM 2540C-2011	MLS1
EPA 6010D	RDT			1	PASI-A
EPA 6020B	JOR			13	PASI-A
EPA 7470A	SOO			1	PASI-A
EPA 9315	CLA			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

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92528431001</b>	<b>031721NPW-2</b>					
SM 2540C-2011	Total Dissolved Solids	88.0	mg/L	25.0	03/22/21 16:00	
EPA 6020B	Barium	3.8	ug/L	1.0	03/31/21 14:45	
EPA 6020B	Beryllium	0.069J	ug/L	0.10	03/31/21 14:45	
EPA 6020B	Calcium	6560	ug/L	200	03/31/21 14:45	
EPA 6020B	Chromium	13.7	ug/L	1.0	03/31/21 14:45	
EPA 6020B	Cobalt	0.28J	ug/L	1.0	03/31/21 14:45	
EPA 6020B	Lead	0.16J	ug/L	1.0	03/31/21 14:45	
EPA 6020B	Lithium	1.9J	ug/L	2.5	03/31/21 14:45	
EPA 9315	Radium-226	0.218U ± 0.217 (0.426)	pCi/L		03/29/21 07:36	
EPA 9320	Radium-228	C:70% T:NA 0.294U ± 0.329 (0.689)	pCi/L		04/09/21 12:06	
Total Radium Calculation	Total Radium	C:77% T:83% 0.512U ± 0.546 (1.12)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	12.4	mg/L	1.0	03/22/21 08:59	
EPA 9056A	Fluoride	0.12	mg/L	0.10	03/22/21 08:59	
EPA 9056A	Sulfate	0.76J	mg/L	1.0	03/22/21 08:59	
<b>92528431002</b>	<b>031721NPW-3</b>					
SM 2540C-2011	Total Dissolved Solids	246	mg/L	25.0	03/22/21 16:00	
EPA 6020B	Arsenic	0.088J	ug/L	1.0	03/31/21 14:48	
EPA 6020B	Barium	83.9	ug/L	1.0	03/31/21 14:48	
EPA 6020B	Beryllium	0.25	ug/L	0.10	03/31/21 14:48	
EPA 6020B	Calcium	28700	ug/L	4000	03/31/21 15:26	
EPA 6020B	Chromium	15.2	ug/L	1.0	03/31/21 14:48	
EPA 6020B	Cobalt	0.39J	ug/L	1.0	03/31/21 14:48	
EPA 6020B	Lead	0.30J	ug/L	1.0	03/31/21 14:48	
EPA 6020B	Lithium	3.1	ug/L	2.5	03/31/21 14:48	
EPA 6020B	Selenium	1.0J	ug/L	2.0	03/31/21 14:48	
EPA 9315	Radium-226	0.248U ± 0.212 (0.395)	pCi/L		03/29/21 09:10	
EPA 9320	Radium-228	C:76% T:NA 0.902 ± 0.453 (0.796)	pCi/L		04/09/21 12:06	
Total Radium Calculation	Total Radium	C:77% T:78% 1.15U ± 0.665 (1.19)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	11.7	mg/L	1.0	03/22/21 09:12	
EPA 9056A	Sulfate	94.3	mg/L	1.0	03/22/21 09:12	
<b>92528431003</b>	<b>031721NPW-4</b>					
SM 2540C-2011	Total Dissolved Solids	243	mg/L	25.0	03/22/21 16:00	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92528431003</b>	<b>031721NPW-4</b>					
EPA 6020B	Barium	33.7	ug/L	1.0	03/31/21 14:52	
EPA 6020B	Calcium	32600	ug/L	4000	03/31/21 15:29	
EPA 6020B	Chromium	18.7	ug/L	1.0	03/31/21 14:52	
EPA 6020B	Cobalt	0.34J	ug/L	1.0	03/31/21 14:52	
EPA 6020B	Lithium	2.1J	ug/L	2.5	03/31/21 14:52	
EPA 6020B	Selenium	0.38J	ug/L	2.0	03/31/21 14:52	
EPA 9315	Radium-226	0.187U ± 0.208 (0.434)	pCi/L		03/29/21 07:37	
EPA 9320	Radium-228	C:69% T:NA 0.974 ± 0.464 (0.806)	pCi/L		04/09/21 12:05	
Total Radium Calculation	Total Radium	C:77% T:81% 1.16U ± 0.672 (1.24)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	66.8	mg/L	1.0	03/25/21 21:16	
EPA 9056A	Sulfate	1.8	mg/L	1.0	03/25/21 21:16	
<b>92528431004</b>	<b>031721NPW-5</b>					
SM 2540C-2011	Total Dissolved Solids	460	mg/L	25.0	03/22/21 16:00	
EPA 6010D	Boron	793	ug/L	50.0	04/10/21 16:35	
EPA 6020B	Arsenic	0.14J	ug/L	1.0	03/31/21 14:55	
EPA 6020B	Barium	12.7	ug/L	1.0	03/31/21 14:55	
EPA 6020B	Calcium	66900	ug/L	4000	03/31/21 15:32	
EPA 6020B	Chromium	5.4	ug/L	1.0	03/31/21 14:55	
EPA 6020B	Cobalt	0.26J	ug/L	1.0	03/31/21 14:55	
EPA 6020B	Lead	0.14J	ug/L	1.0	03/31/21 14:55	
EPA 6020B	Lithium	4.0	ug/L	2.5	03/31/21 14:55	
EPA 6020B	Molybdenum	0.23J	ug/L	1.0	03/31/21 14:55	
EPA 6020B	Selenium	1.3J	ug/L	2.0	03/31/21 14:55	
EPA 9315	Radium-226	0.0264U ± 0.168 (0.429)	pCi/L		03/29/21 07:36	
EPA 9320	Radium-228	C:75% T:NA 0.673U ± 0.448 (0.848)	pCi/L		04/09/21 14:42	
Total Radium Calculation	Total Radium	C:65% T:83% 0.699U ± 0.616 (1.28)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	82.8	mg/L	3.0	03/26/21 18:34	
EPA 9056A	Fluoride	0.070J	mg/L	0.10	03/25/21 21:31	
EPA 9056A	Sulfate	108	mg/L	3.0	03/26/21 18:34	
<b>92528431005</b>	<b>031721NPW-12</b>					
SM 2540C-2011	Total Dissolved Solids	100	mg/L	25.0	03/22/21 16:00	
EPA 6020B	Barium	18.2	ug/L	1.0	03/31/21 14:58	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92528431005</b>	<b>031721NPW-12</b>					
EPA 6020B	Beryllium	0.092J	ug/L	0.10	03/31/21 14:58	
EPA 6020B	Calcium	3770	ug/L	200	03/31/21 14:58	
EPA 6020B	Chromium	1.7	ug/L	1.0	03/31/21 14:58	
EPA 6020B	Cobalt	0.11J	ug/L	1.0	03/31/21 14:58	
EPA 6020B	Lithium	2.0J	ug/L	2.5	03/31/21 14:58	
EPA 9315	Radium-226	-0.00117U ± 0.138 (0.367) C:100% T:NA	pCi/L		03/29/21 07:37	
EPA 9320	Radium-228	0.531U ± 0.366 (0.706) C:75% T:89%	pCi/L		04/09/21 12:06	
Total Radium Calculation	Total Radium	0.531U ± 0.504 (1.07)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	5.6	mg/L	1.0	03/26/21 12:38	
<b>92528431006</b>	<b>031721NPW-13</b>					
SM 2540C-2011	Total Dissolved Solids	632	mg/L	25.0	03/22/21 16:00	
EPA 6010D	Boron	825	ug/L	50.0	04/10/21 16:41	
EPA 6020B	Arsenic	0.096J	ug/L	1.0	03/31/21 14:21	
EPA 6020B	Barium	10.8	ug/L	1.0	03/31/21 14:21	
EPA 6020B	Calcium	103000	ug/L	4000	03/31/21 15:15	M6
EPA 6020B	Chromium	2.9	ug/L	1.0	03/31/21 14:21	
EPA 6020B	Cobalt	0.15J	ug/L	1.0	03/31/21 14:21	
EPA 6020B	Lead	0.099J	ug/L	1.0	03/31/21 14:21	
EPA 6020B	Lithium	3.0	ug/L	2.5	03/31/21 14:21	
EPA 6020B	Molybdenum	0.34J	ug/L	1.0	03/31/21 14:21	
EPA 6020B	Selenium	1.7J	ug/L	2.0	03/31/21 14:21	
EPA 9315	Radium-226	0.187U ± 0.186 (0.370) C:90% T:NA	pCi/L		03/29/21 09:10	
EPA 9320	Radium-228	0.734 ± 0.384 (0.670) C:76% T:84%	pCi/L		04/09/21 12:06	
Total Radium Calculation	Total Radium	0.921U ± 0.570 (1.04)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	91.7	mg/L	5.0	03/26/21 06:01	M6
EPA 9056A	Sulfate	195	mg/L	5.0	03/26/21 06:01	M6
<b>92528431007</b>	<b>031721FBFieldBlank</b>					
EPA 9315	Radium-226	0.180U ± 0.181 (0.351) C:84% T:NA	pCi/L		03/29/21 07:36	

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### SUMMARY OF DETECTION

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92528431007</b>	<b>031721FBFieldBlank</b>					
EPA 9320	Radium-228	0.713 ± 0.382 (0.691) C:78% T:90%	pCi/L		04/09/21 12:05	
Total Radium Calculation	Total Radium	0.893U ± 0.563 (1.04)	pCi/L		04/12/21 13:46	
<b>92528431008</b>	<b>031721FDDuplicate</b>					
SM 2540C-2011	Total Dissolved Solids	245	mg/L	25.0	03/22/21 16:00	
EPA 6020B	Arsenic	0.12J	ug/L	1.0	03/31/21 15:05	
EPA 6020B	Barium	85.3	ug/L	1.0	03/31/21 15:05	
EPA 6020B	Beryllium	0.26	ug/L	0.10	03/31/21 15:05	
EPA 6020B	Calcium	29000	ug/L	4000	03/31/21 15:39	
EPA 6020B	Chromium	14.8	ug/L	1.0	03/31/21 15:05	
EPA 6020B	Cobalt	0.32J	ug/L	1.0	03/31/21 15:05	
EPA 6020B	Lead	0.22J	ug/L	1.0	03/31/21 15:05	
EPA 6020B	Lithium	3.0	ug/L	2.5	03/31/21 15:05	
EPA 6020B	Molybdenum	0.13J	ug/L	1.0	03/31/21 15:05	
EPA 6020B	Selenium	0.88J	ug/L	2.0	03/31/21 15:05	
EPA 9315	Radium-226	0.276U ± 0.230 (0.437) C:82% T:NA	pCi/L		03/29/21 07:36	
EPA 9320	Radium-228	0.539U ± 0.351 (0.660) C:75% T:85%	pCi/L		04/09/21 12:06	
Total Radium Calculation	Total Radium	0.815U ± 0.581 (1.10)	pCi/L		04/12/21 13:46	
EPA 9056A	Chloride	10.8	mg/L	1.0	03/26/21 14:27	
EPA 9056A	Sulfate	98.9	mg/L	1.0	03/26/21 14:27	

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** SM 2540C-2011

**Description:** 2540C Total Dissolved Solids

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

**General Information:**

8 samples were analyzed for SM 2540C-2011 by Pace Analytical Services Eden. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 6010D

**Description:** 6010 MET ICP

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

**General Information:**

8 samples were analyzed for EPA 6010D by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 6020B

**Description:** 6020 MET ICPMS

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

### General Information:

8 samples were analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 609970

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92528431006,92529400006

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

- MS (Lab ID: 3212422)
  - Barium
  - Calcium
- MSD (Lab ID: 3212423)
  - Barium
  - Calcium

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

- MS (Lab ID: 3212420)
  - Calcium
- MSD (Lab ID: 3212421)
  - Calcium

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 6020B

**Description:** 6020 MET ICPMS

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

### Additional Comments:

Analyte Comments:

QC Batch: 609970

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

- MS (Lab ID: 3212422)
  - Calcium
- MSD (Lab ID: 3212423)
  - Calcium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

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**Method:** EPA 7470A  
**Description:** 7470 Mercury  
**Client:** Dominion Energy\_VA  
**Date:** April 15, 2021

**General Information:**

8 samples were analyzed for EPA 7470A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 9315

**Description:** 9315 Total Radium

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

**General Information:**

8 samples were analyzed for EPA 9315 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 9320

**Description:** 9320 Radium 228

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

**General Information:**

8 samples were analyzed for EPA 9320 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** Total Radium Calculation

**Description:** Total Radium 228+226

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

**General Information:**

8 samples were analyzed for Total Radium Calculation by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 9056A

**Description:** 9056 IC anions 28 Days

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

### General Information:

8 samples were analyzed for EPA 9056A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 607985

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92526435007,92526613003

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

- MS (Lab ID: 3202758)
  - Chloride
  - Fluoride
  - Sulfate
- MS (Lab ID: 3202760)
  - Sulfate
- MSD (Lab ID: 3202759)
  - Chloride
  - Fluoride
  - Sulfate
- MSD (Lab ID: 3202761)
  - Sulfate

QC Batch: 609246

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92528431006,92529163015

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

- MS (Lab ID: 3208942)
  - Chloride
  - Sulfate
- MSD (Lab ID: 3208943)
  - Chloride
  - Sulfate

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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**Method:** EPA 9056A

**Description:** 9056 IC anions 28 Days

**Client:** Dominion Energy\_VA

**Date:** April 15, 2021

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Sample: 031721NPW-2		Lab ID: 92528431001		Collected: 03/17/21 11:33		Received: 03/18/21 10:15		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011									
Pace Analytical Services - Eden									
Total Dissolved Solids	<b>88.0</b>	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 16:25	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 14:45	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 14:45	7440-38-2	
Barium	<b>3.8</b>	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 14:45	7440-39-3	
Beryllium	<b>0.069J</b>	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 14:45	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 14:45	7440-43-9	
Calcium	<b>6560</b>	ug/L	200	35.0	1	03/29/21 15:50	03/31/21 14:45	7440-70-2	
Chromium	<b>13.7</b>	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 14:45	7440-47-3	
Cobalt	<b>0.28J</b>	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:45	7440-48-4	
Lead	<b>0.16J</b>	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 14:45	7439-92-1	
Lithium	<b>1.9J</b>	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 14:45	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 14:45	7439-98-7	
Selenium	ND	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 14:45	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:45	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:38	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A									
Pace Analytical Services - Asheville									
Chloride	<b>12.4</b>	mg/L	1.0	0.60	1		03/22/21 08:59	16887-00-6	
Fluoride	<b>0.12</b>	mg/L	0.10	0.050	1		03/22/21 08:59	16984-48-8	
Sulfate	<b>0.76J</b>	mg/L	1.0	0.50	1		03/22/21 08:59	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Sample: 031721NPW-3      Lab ID: 92528431002      Collected: 03/17/21 12:48      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	246	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 16:28	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 14:48	7440-36-0	
Arsenic	0.088J	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 14:48	7440-38-2	
Barium	83.9	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 14:48	7440-39-3	
Beryllium	0.25	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 14:48	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 14:48	7440-43-9	
Calcium	28700	ug/L	4000	700	20	03/29/21 15:50	03/31/21 15:26	7440-70-2	
Chromium	15.2	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 14:48	7440-47-3	
Cobalt	0.39J	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:48	7440-48-4	
Lead	0.30J	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 14:48	7439-92-1	
Lithium	3.1	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 14:48	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 14:48	7439-98-7	
Selenium	1.0J	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 14:48	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:48	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:41	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	11.7	mg/L	1.0	0.60	1		03/22/21 09:12	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/22/21 09:12	16984-48-8	
Sulfate	94.3	mg/L	1.0	0.50	1		03/22/21 09:12	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Sample: 031721NPW-4      Lab ID: 92528431003      Collected: 03/17/21 13:45      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>243</b>	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 16:31	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 14:52	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 14:52	7440-38-2	
Barium	<b>33.7</b>	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 14:52	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 14:52	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 14:52	7440-43-9	
Calcium	<b>32600</b>	ug/L	4000	700	20	03/29/21 15:50	03/31/21 15:29	7440-70-2	
Chromium	<b>18.7</b>	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 14:52	7440-47-3	
Cobalt	<b>0.34J</b>	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:52	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 14:52	7439-92-1	
Lithium	<b>2.1J</b>	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 14:52	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 14:52	7439-98-7	
Selenium	<b>0.38J</b>	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 14:52	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:52	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:43	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>66.8</b>	mg/L	1.0	0.60	1		03/25/21 21:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/25/21 21:16	16984-48-8	
Sulfate	<b>1.8</b>	mg/L	1.0	0.50	1		03/25/21 21:16	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Sample: 031721NPW-5      Lab ID: 92528431004      Collected: 03/17/21 11:30      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>460</b>	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	<b>793</b>	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 16:35	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 14:55	7440-36-0	
Arsenic	<b>0.14J</b>	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 14:55	7440-38-2	
Barium	<b>12.7</b>	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 14:55	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 14:55	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 14:55	7440-43-9	
Calcium	<b>66900</b>	ug/L	4000	700	20	03/29/21 15:50	03/31/21 15:32	7440-70-2	
Chromium	<b>5.4</b>	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 14:55	7440-47-3	
Cobalt	<b>0.26J</b>	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:55	7440-48-4	
Lead	<b>0.14J</b>	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 14:55	7439-92-1	
Lithium	<b>4.0</b>	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 14:55	7439-93-2	
Molybdenum	<b>0.23J</b>	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 14:55	7439-98-7	
Selenium	<b>1.3J</b>	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 14:55	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:55	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:45	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>82.8</b>	mg/L	3.0	1.8	3		03/26/21 18:34	16887-00-6	
Fluoride	<b>0.070J</b>	mg/L	0.10	0.050	1		03/25/21 21:31	16984-48-8	
Sulfate	<b>108</b>	mg/L	3.0	1.5	3		03/26/21 18:34	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Sample: 031721NPW-12      Lab ID: 92528431005      Collected: 03/17/21 14:26      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	100	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 16:38	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 14:58	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 14:58	7440-38-2	
Barium	18.2	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 14:58	7440-39-3	
Beryllium	0.092J	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 14:58	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 14:58	7440-43-9	
Calcium	3770	ug/L	200	35.0	1	03/29/21 15:50	03/31/21 14:58	7440-70-2	
Chromium	1.7	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 14:58	7440-47-3	
Cobalt	0.11J	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:58	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 14:58	7439-92-1	
Lithium	2.0J	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 14:58	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 14:58	7439-98-7	
Selenium	ND	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 14:58	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:58	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:48	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	5.6	mg/L	1.0	0.60	1		03/26/21 12:38	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/26/21 12:38	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/26/21 12:38	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

**Sample:** 031721NPW-13      **Lab ID:** 92528431006      Collected: 03/17/21 12:20      Received: 03/18/21 10:15      Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>632</b>	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	<b>825</b>	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 16:41	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 14:21	7440-36-0	
Arsenic	<b>0.096J</b>	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 14:21	7440-38-2	
Barium	<b>10.8</b>	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 14:21	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 14:21	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 14:21	7440-43-9	
Calcium	<b>103000</b>	ug/L	4000	700	20	03/29/21 15:50	03/31/21 15:15	7440-70-2	M6
Chromium	<b>2.9</b>	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 14:21	7440-47-3	
Cobalt	<b>0.15J</b>	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:21	7440-48-4	
Lead	<b>0.099J</b>	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 14:21	7439-92-1	
Lithium	<b>3.0</b>	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 14:21	7439-93-2	
Molybdenum	<b>0.34J</b>	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 14:21	7439-98-7	
Selenium	<b>1.7J</b>	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 14:21	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 14:21	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:50	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>91.7</b>	mg/L	5.0	3.0	5		03/26/21 06:01	16887-00-6	M6
Fluoride	ND	mg/L	0.10	0.050	1		03/26/21 12:53	16984-48-8	
Sulfate	<b>195</b>	mg/L	5.0	2.5	5		03/26/21 06:01	14808-79-8	M6

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Sample: 031721FBFieldBlank      Lab ID: 92528431007      Collected: 03/17/21 13:15      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 17:03	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 15:02	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 15:02	7440-38-2	
Barium	ND	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 15:02	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 15:02	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 15:02	7440-43-9	
Calcium	ND	ug/L	200	35.0	1	03/29/21 15:50	03/31/21 15:02	7440-70-2	
Chromium	ND	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 15:02	7440-47-3	
Cobalt	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 15:02	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 15:02	7439-92-1	
Lithium	ND	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 15:02	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 15:02	7439-98-7	
Selenium	ND	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 15:02	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 15:02	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:57	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		03/26/21 14:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/26/21 14:11	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		03/26/21 14:11	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Sample: 031721FDDuplicate      Lab ID: 92528431008      Collected: 03/17/21 12:55      Received: 03/18/21 10:15      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	245	mg/L	25.0	25.0	1		03/22/21 16:00		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	04/01/21 01:52	04/10/21 17:06	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	03/29/21 15:50	03/31/21 15:05	7440-36-0	
Arsenic	0.12J	ug/L	1.0	0.087	1	03/29/21 15:50	03/31/21 15:05	7440-38-2	
Barium	85.3	ug/L	1.0	0.21	1	03/29/21 15:50	03/31/21 15:05	7440-39-3	
Beryllium	0.26	ug/L	0.10	0.050	1	03/29/21 15:50	03/31/21 15:05	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	03/29/21 15:50	03/31/21 15:05	7440-43-9	
Calcium	29000	ug/L	4000	700	20	03/29/21 15:50	03/31/21 15:39	7440-70-2	
Chromium	14.8	ug/L	1.0	0.50	1	03/29/21 15:50	03/31/21 15:05	7440-47-3	
Cobalt	0.32J	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 15:05	7440-48-4	
Lead	0.22J	ug/L	1.0	0.077	1	03/29/21 15:50	03/31/21 15:05	7439-92-1	
Lithium	3.0	ug/L	2.5	0.50	1	03/29/21 15:50	03/31/21 15:05	7439-93-2	
Molybdenum	0.13J	ug/L	1.0	0.13	1	03/29/21 15:50	03/31/21 15:05	7439-98-7	
Selenium	0.88J	ug/L	2.0	0.072	1	03/29/21 15:50	03/31/21 15:05	7782-49-2	
Thallium	ND	ug/L	1.0	0.050	1	03/29/21 15:50	03/31/21 15:05	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A    Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	03/24/21 14:35	03/24/21 17:59	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	10.8	mg/L	1.0	0.60	1		03/26/21 14:27	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		03/26/21 14:27	16984-48-8	
Sulfate	98.9	mg/L	1.0	0.50	1		03/26/21 14:27	14808-79-8	

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### QUALITY CONTROL DATA

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

QC Batch: 607983      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: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK: 3202740      Matrix: Water  
Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	03/22/21 15:59	

LABORATORY CONTROL SAMPLE: 3202741

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

SAMPLE DUPLICATE: 3202742

Parameter	Units	92528440001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	774	756	2	25	

SAMPLE DUPLICATE: 3202743

Parameter	Units	92528431006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	632	650	3	25	

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### QUALITY CONTROL DATA

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

QC Batch:	608882	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470 Mercury
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK: 3206978 Matrix: Water

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	03/24/21 17:09	

LABORATORY CONTROL SAMPLE: 3206979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.4	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206980 3206981

Parameter	Units	92527700017 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	2.3	93	93	75-125	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3206982 3206983

Parameter	Units	92528431006 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	2.5	2.5	99	98	75-125	1	25	

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**QUALITY CONTROL DATA**

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

QC Batch:	610654	Analysis Method:	EPA 6010D
QC Batch Method:	EPA 3010A	Analysis Description:	6010 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK: 3215584 Matrix: Water

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	50.0	32.4	04/10/21 16:13	

LABORATORY CONTROL SAMPLE: 3215585

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	500	488	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3215586 3215587

Parameter	Units	92528431006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	825	500	500	1400	1390	114	114	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3215588 3215589

Parameter	Units	92529405003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	180	500	500	699	709	104	106	75-125	2	20	

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### QUALITY CONTROL DATA

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

QC Batch: 609970 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK: 3212418 Matrix: Water  
Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.20	03/31/21 14:14	
Arsenic	ug/L	ND	1.0	0.087	03/31/21 14:14	
Barium	ug/L	ND	1.0	0.21	03/31/21 14:14	
Beryllium	ug/L	ND	0.10	0.050	03/31/21 14:14	
Cadmium	ug/L	ND	0.20	0.060	03/31/21 14:14	
Calcium	ug/L	ND	200	35.0	03/31/21 14:14	
Chromium	ug/L	ND	1.0	0.50	03/31/21 14:14	
Cobalt	ug/L	ND	1.0	0.050	03/31/21 14:14	
Lead	ug/L	ND	1.0	0.077	03/31/21 14:14	
Lithium	ug/L	ND	2.5	0.50	03/31/21 14:14	
Molybdenum	ug/L	ND	1.0	0.13	03/31/21 14:14	
Selenium	ug/L	ND	2.0	0.072	03/31/21 14:14	
Thallium	ug/L	ND	1.0	0.050	03/31/21 14:14	

LABORATORY CONTROL SAMPLE: 3212419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	48.6	97	80-120	
Arsenic	ug/L	10	9.6	96	80-120	
Barium	ug/L	50	47.7	95	80-120	
Beryllium	ug/L	10	10.3	103	80-120	
Cadmium	ug/L	10	10.0	100	80-120	
Calcium	ug/L	625	615	98	80-120	
Chromium	ug/L	50	48.8	98	80-120	
Cobalt	ug/L	10	9.9	99	80-120	
Lead	ug/L	50	49.5	99	80-120	
Lithium	ug/L	50	49.3	99	80-120	
Molybdenum	ug/L	50	50.7	101	80-120	
Selenium	ug/L	50	48.8	98	80-120	
Thallium	ug/L	10	9.8	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3212420 3212421

Parameter	Units	92528431006 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Result							
Antimony	ug/L	ND	50	50	50.1	50.9	100	102	75-125	2	20	

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### QUALITY CONTROL DATA

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3212420												3212421	
Parameter	Units	92528431006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Arsenic	ug/L	0.096J	10	10	10.2	10.1	101	100	75-125	1	20		
Barium	ug/L	10.8	50	50	57.2	58.1	93	94	75-125	1	20		
Beryllium	ug/L	ND	10	10	10.5	10.4	105	104	75-125	1	20		
Cadmium	ug/L	ND	10	10	10.1	10.1	101	101	75-125	0	20		
Calcium	ug/L	103000	625	625	103000	103000	29	25	75-125	0	20	M6	
Chromium	ug/L	2.9	50	50	52.1	52.5	98	99	75-125	1	20		
Cobalt	ug/L	0.15J	10	10	10.1	10.1	99	99	75-125	0	20		
Lead	ug/L	0.099J	50	50	50.6	50.8	101	101	75-125	0	20		
Lithium	ug/L	3.0	50	50	52.3	52.0	99	98	75-125	1	20		
Molybdenum	ug/L	0.34J	50	50	51.3	51.5	102	102	75-125	0	20		
Selenium	ug/L	1.7J	50	50	50.9	49.7	98	96	75-125	2	20		
Thallium	ug/L	ND	10	10	10.1	10.3	101	103	75-125	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3212422												3212423	
Parameter	Units	92529400006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Antimony	ug/L	ND	50	50	41.1	40.1	82	80	75-125	3	20		
Arsenic	ug/L	1.2	10	10	9.3	9.1	81	79	75-125	2	20		
Barium	ug/L	41.1	50	50	76.6	72.7	71	63	75-125	5	20	M1	
Beryllium	ug/L	0.087J	10	10	8.3	8.1	82	81	75-125	2	20		
Cadmium	ug/L	ND	10	10	8.4	8.1	84	81	75-125	4	20		
Calcium	ug/L	82600	625	625	75900	74400	-1070	-1320	75-125	2	20	E,M1	
Chromium	ug/L	1.7	50	50	41.6	40.3	80	77	75-125	3	20		
Cobalt	ug/L	0.74J	10	10	8.8	8.5	81	77	75-125	4	20		
Lead	ug/L	0.70J	50	50	42.4	40.6	83	80	75-125	4	20		
Lithium	ug/L	1.4J	50	50	40.9	40.2	79	78	75-125	2	20		
Molybdenum	ug/L	0.14J	50	50	42.0	41.2	84	82	75-125	2	20		
Selenium	ug/L	0.12J	50	50	39.9	39.5	79	79	75-125	1	20		
Thallium	ug/L	ND	10	10	8.3	8.0	83	80	75-125	5	20		

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### QUALITY CONTROL DATA

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

QC Batch: 607985

Analysis Method: EPA 9056A

QC Batch Method: EPA 9056A

Analysis Description: 9056 IC anions 28 Days

Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92528431001, 92528431002

METHOD BLANK: 3202756

Matrix: Water

Associated Lab Samples: 92528431001, 92528431002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/22/21 02:13	
Fluoride	mg/L	ND	0.10	0.050	03/22/21 02:13	
Sulfate	mg/L	ND	1.0	0.50	03/22/21 02:13	

LABORATORY CONTROL SAMPLE: 3202757

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	54.4	109	90-110	
Fluoride	mg/L	2.5	2.7	106	90-110	
Sulfate	mg/L	50	54.7	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202758 3202759

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526435007	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	58.5	50	50	50	100	99.5	84	82	90-110	1	10	M1
Fluoride	mg/L	ND	2.5	2.5	2.5	3.0	2.8	118	111	90-110	5	10	M1
Sulfate	mg/L	59.3	50	50	50	96.3	95.9	74	73	90-110	0	10	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3202760 3202761

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92526613003	Result	Spike Conc.	Spike Conc.								
Chloride	mg/L	3.2	50	50	50	54.7	52.8	103	99	90-110	4	10	
Fluoride	mg/L	ND	2.5	2.5	2.5	2.8	2.6	110	103	90-110	7	10	
Sulfate	mg/L	56.7	50	50	50	92.4	89.7	71	66	90-110	3	10	M1

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### QUALITY CONTROL DATA

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

QC Batch: 609246 Analysis Method: EPA 9056A  
QC Batch Method: EPA 9056A Analysis Description: 9056 IC anions 28 Days  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK: 3208938 Matrix: Water  
Associated Lab Samples: 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	03/25/21 15:53	
Fluoride	mg/L	ND	0.10	0.050	03/25/21 15:53	
Sulfate	mg/L	ND	1.0	0.50	03/25/21 15:53	

LABORATORY CONTROL SAMPLE: 3208939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.5	103	90-110	
Fluoride	mg/L	2.5	2.7	108	90-110	
Sulfate	mg/L	50	53.4	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3208940 3208941

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92529163015 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	4.7	50	50	54.7	55.2	100	101	90-110	1	10		
Fluoride	mg/L	ND	2.5	2.5	2.6	2.6	103	104	90-110	1	10		
Sulfate	mg/L	1.8	50	50	54.8	55.4	106	107	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3208942 3208943

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92528431006 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	91.7	50	50	128	129	73	74	90-110	0	10	M6	
Fluoride	mg/L	ND	2.5	2.5	2.4	2.5	96	98	90-110	2	10		
Sulfate	mg/L	195	50	50	230	234	71	78	90-110	2	10	M6	

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### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

**Sample:** 031721NPW-2      **Lab ID:** 92528431001      Collected: 03/17/21 11:33      Received: 03/18/21 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	<b>0.218U ± 0.217 (0.426)</b> <b>C:70% T:NA</b>	pCi/L	03/29/21 07:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.294U ± 0.329 (0.689)</b> <b>C:77% T:83%</b>	pCi/L	04/09/21 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.512U ± 0.546 (1.12)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: 031721NPW-3</b> <b>Lab ID: 92528431002</b> Collected: 03/17/21 12:48      Received: 03/18/21 10:15      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.248U ± 0.212 (0.395)</b> <b>C:76% T:NA</b>	pCi/L	03/29/21 09:10	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.902 ± 0.453 (0.796)</b> <b>C:77% T:78%</b>	pCi/L	04/09/21 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.15U ± 0.665 (1.19)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

**Sample:** 031721NPW-4      **Lab ID:** 92528431003      Collected: 03/17/21 13:45      Received: 03/18/21 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	<b>0.187U ± 0.208 (0.434)</b> <b>C:69% T:NA</b>	pCi/L	03/29/21 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.974 ± 0.464 (0.806)</b> <b>C:77% T:81%</b>	pCi/L	04/09/21 12:05	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>1.16U ± 0.672 (1.24)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: 031721NPW-5</b> <b>Lab ID: 92528431004</b> Collected: 03/17/21 11:30      Received: 03/18/21 10:15      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.0264U ± 0.168 (0.429)</b> <b>C:75% T:NA</b>	pCi/L	03/29/21 07:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.673U ± 0.448 (0.848)</b> <b>C:65% T:83%</b>	pCi/L	04/09/21 14:42	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.699U ± 0.616 (1.28)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: 031721NPW-12</b> <b>Lab ID: 92528431005</b> Collected: 03/17/21 14:26      Received: 03/18/21 10:15      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>-0.00117U ± 0.138 (0.367)</b> <b>C:100% T:NA</b>	pCi/L	03/29/21 07:37	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.531U ± 0.366 (0.706)</b> <b>C:75% T:89%</b>	pCi/L	04/09/21 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.531U ± 0.504 (1.07)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

**Sample:** 031721NPW-13      **Lab ID:** 92528431006      Collected: 03/17/21 12:20      Received: 03/18/21 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	<b>0.187U ± 0.186 (0.370)</b> <b>C:90% T:NA</b>	pCi/L	03/29/21 09:10	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.734 ± 0.384 (0.670)</b> <b>C:76% T:84%</b>	pCi/L	04/09/21 12:06	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.921U ± 0.570 (1.04)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

**Sample:** 031721FBFieldBlank    **Lab ID:** 92528431007    Collected: 03/17/21 13:15    Received: 03/18/21 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	<b>0.180U ± 0.181 (0.351)</b> <b>C:84% T:NA</b>	pCi/L	03/29/21 07:36	13982-63-3	
Pace Analytical Services - Greensburg						
Radium-228	EPA 9320	<b>0.713 ± 0.382 (0.691)</b> <b>C:78% T:90%</b>	pCi/L	04/09/21 12:05	15262-20-1	
Pace Analytical Services - Greensburg						
Total Radium	Total Radium Calculation	<b>0.893U ± 0.563 (1.04)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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**ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
<b>Sample: 031721FDDuplicate</b> <b>Lab ID: 92528431008</b> Collected: 03/17/21 12:55      Received: 03/18/21 10:15      Matrix: Water PWS:      Site ID:      Sample Type:						
	Pace Analytical Services - Greensburg					
Radium-226	EPA 9315	<b>0.276U ± 0.230 (0.437)</b> <b>C:82% T:NA</b>	pCi/L	03/29/21 07:36	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 9320	<b>0.539U ± 0.351 (0.660)</b> <b>C:75% T:85%</b>	pCi/L	04/09/21 12:06	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Radium	Total Radium Calculation	<b>0.815U ± 0.581 (1.10)</b>	pCi/L	04/12/21 13:46	7440-14-4	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

QC Batch: 440197

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92528431004

METHOD BLANK: 2125126

Matrix: Water

Associated Lab Samples: 92528431004

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.833 ± 0.523 (0.984) C:64% T:74%	pCi/L	04/09/21 11:35	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

QC Batch:	439779	Analysis Method:	EPA 9315
QC Batch Method:	EPA 9315	Analysis Description:	9315 Total Radium
		Laboratory:	Pace Analytical Services - Greensburg

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK:	2123480	Matrix:	Water
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Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431004, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.00660 ± 0.163 (0.432) C:92% T:NA	pCi/L	03/29/21 08:25	

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### QUALITY CONTROL - RADIOCHEMISTRY

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

QC Batch: 440490

Analysis Method: EPA 9320

QC Batch Method: EPA 9320

Analysis Description: 9320 Radium 228

Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431005, 92528431006, 92528431007, 92528431008

METHOD BLANK: 2126643

Matrix: Water

Associated Lab Samples: 92528431001, 92528431002, 92528431003, 92528431005, 92528431006, 92528431007, 92528431008

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.738 ± 0.321 (0.495) C:74% T:97%	pCi/L	04/09/21 12:06	

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## QUALIFIERS

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

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### 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

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

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

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Clover PS SSP MA (B)

Pace Project No.: 92528431

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92528431001	031721NPW-2	SM 2540C-2011	607983		
92528431002	031721NPW-3	SM 2540C-2011	607983		
92528431003	031721NPW-4	SM 2540C-2011	607983		
92528431004	031721NPW-5	SM 2540C-2011	607983		
92528431005	031721NPW-12	SM 2540C-2011	607983		
92528431006	031721NPW-13	SM 2540C-2011	607983		
92528431007	031721FBFieldBlank	SM 2540C-2011	607983		
92528431008	031721FDDuplicate	SM 2540C-2011	607983		
92528431001	031721NPW-2	EPA 3010A	610654	EPA 6010D	610675
92528431002	031721NPW-3	EPA 3010A	610654	EPA 6010D	610675
92528431003	031721NPW-4	EPA 3010A	610654	EPA 6010D	610675
92528431004	031721NPW-5	EPA 3010A	610654	EPA 6010D	610675
92528431005	031721NPW-12	EPA 3010A	610654	EPA 6010D	610675
92528431006	031721NPW-13	EPA 3010A	610654	EPA 6010D	610675
92528431007	031721FBFieldBlank	EPA 3010A	610654	EPA 6010D	610675
92528431008	031721FDDuplicate	EPA 3010A	610654	EPA 6010D	610675
92528431001	031721NPW-2	EPA 3010A	609970	EPA 6020B	610082
92528431002	031721NPW-3	EPA 3010A	609970	EPA 6020B	610082
92528431003	031721NPW-4	EPA 3010A	609970	EPA 6020B	610082
92528431004	031721NPW-5	EPA 3010A	609970	EPA 6020B	610082
92528431005	031721NPW-12	EPA 3010A	609970	EPA 6020B	610082
92528431006	031721NPW-13	EPA 3010A	609970	EPA 6020B	610082
92528431007	031721FBFieldBlank	EPA 3010A	609970	EPA 6020B	610082
92528431008	031721FDDuplicate	EPA 3010A	609970	EPA 6020B	610082
92528431001	031721NPW-2	EPA 7470A	608882	EPA 7470A	608945
92528431002	031721NPW-3	EPA 7470A	608882	EPA 7470A	608945
92528431003	031721NPW-4	EPA 7470A	608882	EPA 7470A	608945
92528431004	031721NPW-5	EPA 7470A	608882	EPA 7470A	608945
92528431005	031721NPW-12	EPA 7470A	608882	EPA 7470A	608945
92528431006	031721NPW-13	EPA 7470A	608882	EPA 7470A	608945
92528431007	031721FBFieldBlank	EPA 7470A	608882	EPA 7470A	608945
92528431008	031721FDDuplicate	EPA 7470A	608882	EPA 7470A	608945
92528431001	031721NPW-2	EPA 9315	439779		
92528431002	031721NPW-3	EPA 9315	439779		
92528431003	031721NPW-4	EPA 9315	439779		
92528431004	031721NPW-5	EPA 9315	439779		
92528431005	031721NPW-12	EPA 9315	439779		
92528431006	031721NPW-13	EPA 9315	439779		
92528431007	031721FBFieldBlank	EPA 9315	439779		
92528431008	031721FDDuplicate	EPA 9315	439779		
92528431001	031721NPW-2	EPA 9320	440490		
92528431002	031721NPW-3	EPA 9320	440490		
92528431003	031721NPW-4	EPA 9320	440490		
92528431004	031721NPW-5	EPA 9320	440197		
92528431005	031721NPW-12	EPA 9320	440490		

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Clover PS SSP MA (B)  
Pace Project No.: 92528431

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92528431006	031721NPW-13	EPA 9320	440490		
92528431007	031721FBFieldBlank	EPA 9320	440490		
92528431008	031721FDDuplicate	EPA 9320	440490		
92528431001	031721NPW-2	Total Radium Calculation	442893		
92528431002	031721NPW-3	Total Radium Calculation	442893		
92528431003	031721NPW-4	Total Radium Calculation	442893		
92528431004	031721NPW-5	Total Radium Calculation	442893		
92528431005	031721NPW-12	Total Radium Calculation	442893		
92528431006	031721NPW-13	Total Radium Calculation	442893		
92528431007	031721FBFieldBlank	Total Radium Calculation	442893		
92528431008	031721FDDuplicate	Total Radium Calculation	442893		
92528431001	031721NPW-2	EPA 9056A	607985		
92528431002	031721NPW-3	EPA 9056A	607985		
92528431003	031721NPW-4	EPA 9056A	609246		
92528431004	031721NPW-5	EPA 9056A	609246		
92528431005	031721NPW-12	EPA 9056A	609246		
92528431006	031721NPW-13	EPA 9056A	609246		
92528431007	031721FBFieldBlank	EPA 9056A	609246		
92528431008	031721FDDuplicate	EPA 9056A	609246		

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CHAIN-OF-CUSTODY Analytical Request Document

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

Company: **Goldier Associates Inc.**

Address: 2108 W. Laburnum Ave, Suite 200  
Richmond, VA 23227

Billing Information:  
**Dominion**

Report To: **Rachel Powell**

Email To: **ripowell@golder.com**

Copy To: **Martha Smith/Michael Williams**

Site Collection Info/Address:  
**Clover Power Station**

Customer Project Name/Number:  
**2013993121**

State: **VA / Clover** Time Zone Collected:  
**PT MT CT ET**

Phone: 804-517-3381  
Email: **ripowell@golder.com**

Site/Facility ID #: **Clover Power Station - SSB - Appendix III and IV**  
Purchase Order #: **PO# 50149081**  
Quote #: **DW PWS ID #: DW Location Code:**

Collected By (signature): *M. Antello Steele*

Turnaround Date Required:  
**Standard**  
Immediately Packed on Ice:  
 Yes  No

Sample Disposal:  
 Return  
 Dispose as appropriate  
 Archive

Rush:  Same Day  Next Day  
 2 Day  3 Day  4 Day  5 Day  
Field Filtered (if applicable):  Yes  No  
Analysis: \_\_\_\_\_

\* Hold: 6 months

\* 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 for Composite Start)		Composite End		Res Cl	# of Cns
			Date	Time	Date	Time		
031721N/PW-2	GW	GRAB	3/17/21	1333	--	--	N	6
031721N/PW-3	GW	GRAB	3/17/21	1248	--	--	N	6
031721N/PW-4	GW	GRAB	3/17/21	1345	--	--	N	6
031721N/PW-5	GW	GRAB	3/17/21	1130	--	--	N	6
031721N/PW-12	GW	GRAB	3/17/21	1426	--	--	N	6
031721N/PW-13	GW	GRAB	3/17/21	1220	--	--	N	14
031721 Field Blank	GW	GRAB	3/17/21	1315	--	--	N	6
031721FD Duplicate	GW	GRAB	3/17/21	1255	--	--	N	6

Customer Remarks / Special Conditions / Possible Hazards:  
All samples preserved on ice  
Level II data package requested  
See Sample Memo - Reporting Group B for more details  
COC ID: Clover-15A2021-SSBAPP13IV-B-1-1  
MSMSD taken at 03/17/21/13

Relinquished by/Company: (Signature) *Rachel Powell/Golder* Date/Time: 3/17/21 1730  
Received by/Company: (Signature) *[Signature]* Date/Time: 3-18-21 10:15

Relinquished by/Company: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Received by/Company: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

LAB USE ONLY - Affix Workorder/Login!  
MTL Log: **W0# : 92528431**

Container Preservative Type: **1 U U U 1**

ALL SHADED AREA 92528431

Lab Project Manager: \_\_\_\_\_

Lab Profile/Line: \_\_\_\_\_

Lab Sample Receipt Checklist:

- Custody Seals Present/Intact  Y  N NA
- Custody Signatures Present  Y  N NA
- Collector Signatures Present  Y  N NA
- Bottles Intact  Y  N NA
- Correct Bottles  Y  N NA
- Sufficient Volume  Y  N NA
- VOL - 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: **23891AV**  Y  N NA
- Sulfide Present  Y  N NA
- Lead Acetate Strips: \_\_\_\_\_

LAB USE ONLY:  
Lab Sample # / Comments:  
**92528431**

Lab Sample Temperature Info:  
Temp Blank Received:  Y  N NA  
Therm ID#: **IR921064**  
Cooler 1 Temp Upon Receipt: **10.15** °C  
Cooler 1 Therm Corr. Factor: **±0** °C  
Cooler 1 Corrected Temp: **10.15** °C  
Comments: **0.6/0.1/0.4/0.9**

Non Conformance(s): **YES / 3-18-21** Page: **1** of **1**

Informed client M/MSD containers did not arrive (arrived Friday 3/19/21, in temperature)

Client Comments/Instructions:	
Client: Rachel P	PM Initials: JMB
Contacted per: phone	Date/Time: 3/18/21

5. Client Contact: If client is contacted for any issue listed above, fill in details below:

Sample ID:	Date/Time:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Initial and Final pH:	Lot # of pres added:
Sample ID:	Date/Time:	Initial and Final pH:	Lot # of pres added:

4. If Samples not preserved properly and Sample Receiving adjusts pH, add details below:

Comments/Details: Only have 6 containers for sample "PW-13"

Sample Integrity Issues	Check applicable issues below and add details where appropriate:
Samples: Past holding time	Samples: Condition needs to be brought to lab personnel's attention (details below)
Samples: Not field filtered	Containers: Broken or compromised
Samples: Insufficient volume received	Containers: Incorrect
Samples: Cooler damaged or compromised	Custody Seals: Missing or compromised on samples, trip blanks or coolers
Samples: contain chlorine or sulfides	Packing Material: Insufficient/improper
	Other:

3. Sample integrity issues: check applicable issues below and add details where appropriate:

Collection date/time missing or incorrect	Analyses or analytes: missing or clarification needed	Samples listed on COC do not match samples received (missing, additional, etc.)
Sample IDs on COC do not match sample labels	Required trip blanks were not received	Required signatures are missing

Comments/Details/Other issues not listed above:

2. If COC is incomplete, check applicable issues below and add details where appropriate:

1. If Chain-of-Custody (COC) is not received: contact client and if necessary, fill out a COC and indicate that it was filled out by lab personnel. Note issues on this NCF.

Sample Receiving Non-Conformance Form (NCF)



Client: Golden Assoc  
 Date: 3-18-21  
 Evaluated by: AMP  
 PM: NMG  
 Due Date: 04/08/21  
 CLIENT: 92-DomEnergy  
 MO#: 92528431  
 Face Analytical



# Quality Control Sample Performance Assessment



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

Test: Ra-226  
Analyst: CLA  
Date: 3/26/2021  
Worklist: 59453  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2129480
MB Concentration:	-0.007
MB Counting Uncertainty:	0.163
MB MDC:	0.432
MB Numerical Performance Indicator:	-0.08
MB Status vs Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCSD (Y or N)?	
	LCSD59453	LCSD59453
Count Date:	3/29/2021	3/29/2021
Spike I.D.:	19-033	19-033
Decay Corrected Spike Concentration (pCi/mL):	24.039	24.039
Volume Used (mL):	0.10	0.10
Aliquot Volume (L, g, F):	0.503	0.505
Target Conc. (pCi/L, g, F):	4.780	4.759
Uncertainty (Calculated):	0.057	0.057
Result (pCi/L, g, F):	3.897	3.978
LCSD Counting Uncertainty (pCi/L, g, F):	0.623	0.583
Numerical Performance Indicator:	-2.77	-2.61
Percent Recovery:	81.54%	83.59%
Status vs. Numerical Indicator:	N/A	N/A
Status vs Recovery:	Pass	Pass
Upper % Recovery Limits:	125%	125%
Lower % Recovery Limits:	75%	75%

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below:
Sample I.D.:	LCSD59453
Duplicate Sample I.D.:	LCSD59453
Sample Result (pCi/L, g, F):	3.897
Sample Result Counting Uncertainty (pCi/L, g, F):	0.623
Sample Duplicate Result (pCi/L, g, F):	3.978
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.583
Ave sample and/or duplicate results below RL?	NO
Duplicate Numerical Performance Indicator:	-0.186
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	2.49%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Pass
% RPD Limit:	25%

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

Comments:

*M 3/30/21*  
*LCM3/30/21*

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

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

# Quality Control Sample Performance Assessment

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



Test: Ra-226  
Analyst: CLA  
Date: 3/26/2021  
Worklist: 59453  
Matrix: DW

Method Blank Assessment	
MB Sample ID	2123480
MB Concentration:	-0.007
MB Counting Uncertainty:	0.163
MB MDC:	0.432
MB Numerical Performance Indicator:	-0.08
MB Status vs. Numerical Indicator:	N/A
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment	LCS/D (Y or N)?		N
	LCS59453	LCS09453	
Count Date:	3/29/2021		LCS09453
Spike I.D.:	19-033		
Decay Corrected Spike Concentration (pCi/mL):	24.039		
Volume Used (mL):	0.10		
Aliquot Volume (L, g, F):	0.503		
Target Conc. (pCi/L, g, F):	4.780		
Uncertainty (Calculated):	0.057		
Result (pCi/L, g, F):	3.897		
LCS/LCSD Counting Uncertainty (pCi/L, g, F):	0.623		
Numerical Performance Indicator:	-2.77		
Percent Recovery:	81.54%		
Status vs Numerical Indicator:	N/A		
Status vs Recovery:	Pass		
Upper % Recovery Limits:	125%		
Lower % Recovery Limits:	75%		

Duplicate Sample Assessment	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Sample I.D.:	92527242019
Duplicate Sample I.D.:	92527242019DUP
Sample Result (pCi/L, g, F):	1.172
Sample Result Counting Uncertainty (pCi/L, g, F):	0.336
Sample Duplicate Result (pCi/L, g, F):	0.742
Sample Duplicate Result Counting Uncertainty (pCi/L, g, F):	0.339
Are sample and/or duplicate results below RL?	See Below.##
Duplicate Numerical Performance Indicator:	1.768
Duplicate RPD:	44.99%
Duplicate Status vs Numerical Indicator:	N/A
Duplicate Status vs RPD:	Fail***
% RPD Limit:	25%

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

Comments:

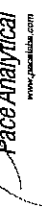
\*\*\*Batch must be re-assessed due to unacceptable precision. N/A WAM 3/30/21

Results c Sp MDC, NI - 3 acceptable - N/A 3/30/21

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

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

# Quality Control Sample Performance Assessment



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

Test: Ra-228  
Analyst: VAL  
Date: 4/5/2021  
Worklist: 59502  
Matrix: WT

Method Blank Assessment	
MB Sample ID	2125126
MB concentration:	0.833
MB 2 Sigma CSU:	0.523
MB MDC:	0.984
MB Numerical Performance Indicator:	3.12
MB Status vs Numerical Indicator:	Fail
MB Status vs. MDC:	Pass

Laboratory Control Sample Assessment		LCSD (Y or N)?	Y
Count Date:	4/9/2021	LCSD59502	4/9/2021
Spike I.D.:	21-003		21-003
Decay Corrected Spike Concentration (pCi/mL):	38.142		38.142
Volume Used (mL):	0.10		0.10
Aliquot Volume (L, g, F):	0.808		0.810
Target Conc. (pCi/L, g, F):	4.723		4.707
Uncertainty (Calculated):	0.231		0.231
Result (pCi/L, g, F):	5.736		5.059
LCSD/LCSD 2 Sigma CSU (pCi/L, g, F):	1.327		1.202
Numerical Performance Indicator:	1.47		0.56
Percent Recovery:	121.45%		107.49%
Status vs Numerical Indicator:	N/A		N/A
Status vs Recovery:	Pass		Pass
Upper % Recovery Limits:	135%		135%
Lower % Recovery Limits:	60%		60%

Duplicate Sample Assessment		Enter Duplicate sample IDs if other than LCS/LCSD in the space below.	
Sample I.D.:	LCS59502		
Duplicate Sample I.D.:	LCSD59502		
Sample Result (pCi/L, g, F):	5.736		
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.327		
Sample Duplicate Result (pCi/L, g, F):	5.059		
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.202		
Are sample and/or duplicate results below RL?	NO		
Duplicate Numerical Performance Indicator:	0.741		
Duplicate Percent Recoveries:	12.20%		
Duplicate Status vs Numerical Indicator:	Pass		
Duplicate Status vs RPD:	Pass		
% RPD Limit:	36%		

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

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

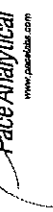
## Evaluation of duplicate precision is not applicable if either the sample or duplicate results are below the MDC.

Comments:

\*if the lowest activity sample in this batch is greater than ten times the blank value, the blank is acceptable; otherwise this batch must be re-prepped.

*OK/initials*

# Quality Control Sample Performance Assessment



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

Test: Ra-228  
Analyst: VAL  
Date: 4/5/2021  
Worklist: 59551  
Matrix: WT

**Method Blank Assessment**

MB Sample ID: 2126643  
MB concentration: 0.738  
MB 2 Sigma CSU: 0.321  
MB MDC: 0.495  
MB Numerical Performance Indicator: 4.51  
MB Status vs Numerical Indicator: Fail\*  
MB Status vs. MDC: See Comment\*

Laboratory Control Sample Assessment		LCS# (Y or N)?	Y
Count Date:		LCS#59551	
Spike I.D.:		4/9/2021	
Decay Corrected Spike Concentration (pCi/mL):		21-003	
Volume Used (mL):		38.142	
Aliquot Volume (L, g, F):		0.10	
Target Conc. (pCi/L, g, F):		0.804	
Uncertainty (Calculated):		4.743	
Result (pCi/L, g, F):		0.232	
LCS/LCSD 2 Sigma CSU (pCi/L, g, F):		5.331	
Numerical Performance Indicator:		1.169	
Percent Recovery:		0.97	
Status vs Numerical Indicator:		112.40%	
Upper % Recovery Limits:		N/A	
Lower % Recovery Limits:		Pass	
		135%	
		69%	

**Duplicate Sample Assessment**

Sample I.D.:	LCS59551	Enter Duplicate sample IDs if other than LCS/LCSD in the space below.
Duplicate Sample I.D.:	LCS#59551	
Sample Result (pCi/L, g, F):	5.331	
Sample Result 2 Sigma CSU (pCi/L, g, F):	1.769	
Sample Duplicate Result (pCi/L, g, F):	5.382	
Sample Duplicate Result 2 Sigma CSU (pCi/L, g, F):	1.184	
Are sample and/or duplicate results below RL?	NO	
Duplicate Numerical Performance Indicator:	-0.060	
(Based on the LCS/LCSD Percent Recoveries) Duplicate RPD:	1.92%	
Duplicate Status vs Numerical Indicator:	Pass	
Duplicate Status vs RPD:	Pass	
% RPD Limit:	36%	

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

**Matrix Spike/Matrix Spike Duplicate Sample Assessment**

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

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

Comments:  
\*The method blank result is below the reporting limit for this analysis and is acceptable.

*Handwritten signature/initials*

*Handwritten signature/initials*

## **APPENDIX D.2**

# **LABORATORY ANALYTICAL RESULTS**

**SECOND SEMI-ANNUAL 2021 MODIFIED  
ASSESSMENT MONITORING PROGRAM  
(SEPTEMBER 2021)**

December 02, 2021

Kelly Hicks  
Dominion Energy Services, Inc.  
120 Tredegar Street  
Richmond, VA 23219

RE: Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

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

- Pace Analytical Services - Asheville
- Pace Analytical Services - Eden

Revision 1: This was issued on 12/2/21 to report metals by the originally requested method.

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

Sincerely,



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

Enclosures

cc: Arielle Green, Golder Associates Inc.  
Dawn Prell, Golder Associates, Inc.  
Environmental Standards, Inc., Environmental Standards,  
Inc.  
Mike Williams, Golder Associates Inc



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

---

### **Pace Analytical Services Asheville**

2225 Riverside Drive, Asheville, NC 28804

Florida/NELAP Certification #: E87648

North Carolina Drinking Water Certification #: 37712

North Carolina Wastewater Certification #: 40

South Carolina Laboratory ID: 99030

South Carolina Certification #: 99030001

Virginia/VELAP Certification #: 460222

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### **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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92562554001	092021NPW2	Water	09/20/21 16:10	09/22/21 11:30
92562554002	092021NPW3	Water	09/20/21 16:05	09/22/21 11:30
92562554003	092121FBFieldBlank	Water	09/21/21 11:35	09/22/21 15:35
92562554004	092121NPW4	Water	09/21/21 10:45	09/22/21 15:35
92562554005	092121NPW5	Water	09/21/21 09:55	09/22/21 15:35
92562554006	092121NPW12	Water	09/21/21 11:10	09/22/21 15:35
92562554007	092121NPW13	Water	09/21/21 09:45	09/22/21 15:35
92562554008	092121FDFieldDuplicate	Water	09/21/21 11:10	09/22/21 15:35

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92562554001	092021NPW2	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554002	092021NPW3	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554003	092121FBFieldBlank	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554004	092121NPW4	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554005	092121NPW5	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554006	092121NPW12	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554007	092121NPW13	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A
		EPA 6020B	CRW	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A
92562554008	092121FDFieldDuplicate	SM 2540C-2011	MWF	1	PASI-E
		EPA 6010D	CBV	1	PASI-A

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 6020B	CRW, JOR	13	PASI-A
		EPA 7470A	DBB1	1	PASI-A
		EPA 9056A	CDC	3	PASI-A

PASI-A = Pace Analytical Services - Asheville

PASI-E = Pace Analytical Services - Eden

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92562554001</b>	<b>092021NPW2</b>					
SM 2540C-2011	Total Dissolved Solids	95.0	mg/L	25.0	09/27/21 12:49	
EPA 6020B	Barium	2.4	ug/L	1.0	11/19/21 15:42	
EPA 6020B	Beryllium	0.059J	ug/L	0.10	11/19/21 15:42	
EPA 6020B	Calcium	6850	ug/L	200	11/19/21 15:42	
EPA 6020B	Chromium	12.2	ug/L	1.0	11/19/21 15:42	
EPA 6020B	Lithium	1.7J	ug/L	2.5	11/19/21 15:42	
EPA 9056A	Chloride	13.0	mg/L	1.0	09/25/21 00:26	
EPA 9056A	Fluoride	0.098J	mg/L	0.10	09/25/21 00:26	
EPA 9056A	Sulfate	0.84J	mg/L	1.0	09/25/21 00:26	
<b>92562554002</b>	<b>092021NPW3</b>					
SM 2540C-2011	Total Dissolved Solids	247	mg/L	25.0	09/27/21 12:49	
EPA 6020B	Barium	82.2	ug/L	1.0	11/19/21 15:46	
EPA 6020B	Beryllium	0.22	ug/L	0.10	11/19/21 15:46	
EPA 6020B	Calcium	29400	ug/L	2000	11/19/21 16:42	
EPA 6020B	Chromium	13.9	ug/L	1.0	11/19/21 15:46	
EPA 6020B	Cobalt	0.095J	ug/L	1.0	09/27/21 21:23	
EPA 6020B	Lithium	3.2	ug/L	2.5	09/27/21 21:23	
EPA 6020B	Selenium	0.86J	ug/L	2.0	11/19/21 15:46	
EPA 9056A	Chloride	10.7	mg/L	1.0	09/25/21 00:41	
EPA 9056A	Sulfate	98.9	mg/L	1.0	09/25/21 00:41	
<b>92562554004</b>	<b>092121NPW4</b>					
SM 2540C-2011	Total Dissolved Solids	244	mg/L	25.0	09/27/21 12:50	
EPA 6020B	Barium	35.3	ug/L	1.0	11/19/21 15:53	
EPA 6020B	Calcium	32400	ug/L	2000	11/19/21 16:46	
EPA 6020B	Chromium	12.6	ug/L	1.0	11/19/21 15:53	
EPA 6020B	Cobalt	0.12J	ug/L	1.0	09/27/21 18:57	
EPA 6020B	Lithium	2.0J	ug/L	2.5	09/27/21 18:57	
EPA 6020B	Selenium	0.32J	ug/L	2.0	11/19/21 15:53	
EPA 9056A	Chloride	69.3	mg/L	1.0	09/24/21 06:30	
EPA 9056A	Sulfate	3.8	mg/L	1.0	09/24/21 06:30	
<b>92562554005</b>	<b>092121NPW5</b>					
SM 2540C-2011	Total Dissolved Solids	524	mg/L	25.0	09/27/21 12:50	
EPA 6010D	Boron	863	ug/L	50.0	09/28/21 19:06	
EPA 6020B	Arsenic	0.10J	ug/L	1.0	11/19/21 16:03	
EPA 6020B	Barium	13.9	ug/L	1.0	11/19/21 16:03	
EPA 6020B	Cobalt	0.14J	ug/L	1.0	11/19/21 16:03	
EPA 6020B	Chromium	4.0	ug/L	1.0	11/19/21 16:03	
EPA 6020B	Molybdenum	0.28J	ug/L	1.0	11/19/21 16:03	
EPA 6020B	Selenium	1.4J	ug/L	2.0	11/19/21 16:03	
EPA 6020B	Lithium	3.8	ug/L	2.5	11/19/21 16:03	
EPA 6020B	Calcium	84900	ug/L	2000	11/19/21 16:50	M1
EPA 9056A	Chloride	112	mg/L	4.0	09/24/21 13:33	M1
EPA 9056A	Fluoride	0.069J	mg/L	0.10	09/24/21 07:15	M1
EPA 9056A	Sulfate	162	mg/L	4.0	09/24/21 13:33	M1

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92562554006</b>	<b>092121NPW12</b>					
SM 2540C-2011	Total Dissolved Solids	104	mg/L	25.0	09/27/21 12:50	
EPA 6020B	Barium	21.1	ug/L	1.0	11/19/21 16:28	
EPA 6020B	Beryllium	0.10	ug/L	0.10	11/19/21 16:28	
EPA 6020B	Calcium	4380	ug/L	200	11/19/21 16:28	
EPA 6020B	Chromium	3.8	ug/L	1.0	11/19/21 16:28	
EPA 6020B	Cobalt	0.13J	ug/L	1.0	09/27/21 19:18	
EPA 6020B	Lead	0.099J	ug/L	1.0	09/27/21 19:18	
EPA 6020B	Lithium	2.3J	ug/L	2.5	09/27/21 19:18	
EPA 6020B	Selenium	0.89J	ug/L	2.0	11/19/21 16:28	
EPA 6020B	Thallium	0.050J	ug/L	0.47	09/27/21 19:18	
EPA 9056A	Chloride	6.2	mg/L	1.0	09/24/21 07:30	
EPA 9056A	Sulfate	4.9	mg/L	1.0	09/24/21 07:30	
<b>92562554007</b>	<b>092121NPW13</b>					
SM 2540C-2011	Total Dissolved Solids	550	mg/L	25.0	09/27/21 12:50	
EPA 6010D	Boron	574	ug/L	50.0	09/28/21 19:26	
EPA 6020B	Barium	7.6	ug/L	1.0	11/19/21 16:32	
EPA 6020B	Calcium	91000	ug/L	2000	11/19/21 17:11	
EPA 6020B	Chromium	1.7	ug/L	1.0	11/19/21 16:32	
EPA 6020B	Cobalt	0.22J	ug/L	1.0	09/27/21 19:22	
EPA 6020B	Lead	0.15J	ug/L	1.0	09/27/21 19:22	
EPA 6020B	Lithium	2.7	ug/L	2.5	09/27/21 19:22	
EPA 6020B	Molybdenum	0.42J	ug/L	1.0	11/19/21 16:32	
EPA 6020B	Selenium	1.3J	ug/L	2.0	11/19/21 16:32	
EPA 6020B	Thallium	0.055J	ug/L	0.47	09/27/21 19:22	
EPA 9056A	Chloride	99.7	mg/L	1.0	09/24/21 07:45	
EPA 9056A	Fluoride	0.050J	mg/L	0.10	09/24/21 07:45	
EPA 9056A	Sulfate	201	mg/L	4.0	09/24/21 13:48	
<b>92562554008</b>	<b>092121FDFieldDuplicate</b>					
SM 2540C-2011	Total Dissolved Solids	285	mg/L	25.0	09/27/21 12:51	
EPA 6020B	Arsenic	0.087J	ug/L	1.0	11/19/21 16:35	
EPA 6020B	Barium	34.5	ug/L	1.0	11/19/21 16:35	
EPA 6020B	Calcium	32300	ug/L	2000	11/19/21 17:15	
EPA 6020B	Chromium	15.0	ug/L	1.0	11/19/21 16:35	
EPA 6020B	Cobalt	0.077J	ug/L	1.0	09/27/21 21:30	
EPA 6020B	Lithium	2.0J	ug/L	2.5	09/27/21 21:30	
EPA 6020B	Molybdenum	0.38J	ug/L	1.0	11/19/21 16:35	
EPA 6020B	Selenium	0.31J	ug/L	2.0	11/19/21 16:35	
EPA 9056A	Chloride	78.0	mg/L	1.0	09/25/21 03:10	
EPA 9056A	Sulfate	3.2	mg/L	1.0	09/25/21 03:10	

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

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**Method:** SM 2540C-2011

**Description:** 2540C Total Dissolved Solids

**Client:** Dominion Energy\_VA

**Date:** December 02, 2021

**General Information:**

8 samples were analyzed for SM 2540C-2011 by Pace Analytical Services Eden. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

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**Method:** EPA 6010D

**Description:** 6010 MET ICP

**Client:** Dominion Energy\_VA

**Date:** December 02, 2021

**General Information:**

8 samples were analyzed for EPA 6010D by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

---

**Method:** EPA 6020B  
**Description:** 6020 MET ICPMS  
**Client:** Dominion Energy\_VA  
**Date:** December 02, 2021

### General Information:

8 samples were analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 661000

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92562554005

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

- MS (Lab ID: 3463713)
  - Calcium
- MSD (Lab ID: 3463714)
  - Calcium

### Additional Comments:

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

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**Method:** EPA 7470A  
**Description:** 7470 Mercury  
**Client:** Dominion Energy\_VA  
**Date:** December 02, 2021

**General Information:**

8 samples were analyzed for EPA 7470A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

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**Method:** EPA 9056A

**Description:** 9056 IC anions 28 Days

**Client:** Dominion Energy\_VA

**Date:** December 02, 2021

### General Information:

8 samples were analyzed for EPA 9056A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 649120

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92562554005,92562781001

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

- MS (Lab ID: 3404902)
  - Fluoride
- MS (Lab ID: 3406093)
  - Chloride
  - Fluoride
  - Sulfate
- MSD (Lab ID: 3404903)
  - Fluoride
- MSD (Lab ID: 3406094)
  - Chloride
  - Fluoride
  - Sulfate

QC Batch: 649316

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92562179009,92562252001

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

- MS (Lab ID: 3405801)
  - Chloride
  - Fluoride
- MS (Lab ID: 3405803)
  - Fluoride
- MSD (Lab ID: 3405802)
  - Chloride
  - Fluoride
- MSD (Lab ID: 3405804)

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

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**Method:** EPA 9056A

**Description:** 9056 IC anions 28 Days

**Client:** Dominion Energy\_VA

**Date:** December 02, 2021

QC Batch: 649316

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92562179009,92562252001

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

- Chloride
- Fluoride

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Sample: 092021NPW2      Lab ID: 92562554001      Collected: 09/20/21 16:10      Received: 09/22/21 11:30      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	95.0	mg/L	25.0	25.0	1		09/27/21 12:49		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 18:46	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 15:42	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 15:42	7440-38-2	
Barium	2.4	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 15:42	7440-39-3	
Beryllium	0.059J	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 15:42	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 15:42	7440-43-9	
Calcium	6850	ug/L	200	35.0	1	11/19/21 03:09	11/19/21 15:42	7440-70-2	
Chromium	12.2	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 15:42	7440-47-3	
Cobalt	ND	ug/L	1.0	0.050	1	11/19/21 03:09	11/19/21 15:42	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	11/19/21 03:09	11/19/21 15:42	7439-92-1	
Lithium	1.7J	ug/L	2.5	0.50	1	11/19/21 03:09	11/19/21 15:42	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 15:42	7439-98-7	
Selenium	ND	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 15:42	7782-49-2	
Thallium	ND	ug/L	0.47	0.050	1	11/19/21 03:09	11/19/21 15:42	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:28	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	13.0	mg/L	1.0	0.60	1		09/25/21 00:26	16887-00-6	
Fluoride	0.098J	mg/L	0.10	0.050	1		09/25/21 00:26	16984-48-8	
Sulfate	0.84J	mg/L	1.0	0.50	1		09/25/21 00:26	14808-79-8	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Sample: 092021NPW3		Lab ID: 92562554002		Collected: 09/20/21 16:05	Received: 09/22/21 11:30	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
<b>2540C Total Dissolved Solids</b>		Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden								
Total Dissolved Solids	<b>247</b>	mg/L	25.0	25.0	1		09/27/21 12:49			
<b>6010 MET ICP</b>		Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Boron	ND	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 18:56	7440-42-8		
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville								
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 15:46	7440-36-0		
Arsenic	ND	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 15:46	7440-38-2		
Barium	<b>82.2</b>	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 15:46	7440-39-3		
Beryllium	<b>0.22</b>	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 15:46	7440-41-7		
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 15:46	7440-43-9		
Calcium	<b>29400</b>	ug/L	2000	350	10	11/19/21 03:09	11/19/21 16:42	7440-70-2		
Chromium	<b>13.9</b>	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 15:46	7440-47-3		
Cobalt	<b>0.095J</b>	ug/L	1.0	0.050	1	09/27/21 12:36	09/27/21 21:23	7440-48-4		
Lead	ND	ug/L	1.0	0.077	1	09/27/21 12:36	09/27/21 21:23	7439-92-1		
Lithium	<b>3.2</b>	ug/L	2.5	0.50	1	09/27/21 12:36	09/27/21 21:23	7439-93-2		
Molybdenum	ND	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 15:46	7439-98-7		
Selenium	<b>0.86J</b>	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 15:46	7782-49-2		
Thallium	ND	ug/L	0.47	0.050	1	09/27/21 12:36	09/27/21 21:23	7440-28-0		
<b>7470 Mercury</b>		Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville								
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:30	7439-97-6		
<b>9056 IC anions 28 Days</b>		Analytical Method: EPA 9056A Pace Analytical Services - Asheville								
Chloride	<b>10.7</b>	mg/L	1.0	0.60	1		09/25/21 00:41	16887-00-6		
Fluoride	ND	mg/L	0.10	0.050	1		09/25/21 00:41	16984-48-8		
Sulfate	<b>98.9</b>	mg/L	1.0	0.50	1		09/25/21 00:41	14808-79-8		

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Sample: 092121FBFieldBlank      Lab ID: 92562554003      Collected: 09/21/21 11:35      Received: 09/22/21 15:35      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	ND	mg/L	25.0	25.0	1		09/27/21 12:49		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 18:59	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 15:49	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 15:49	7440-38-2	
Barium	ND	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 15:49	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 15:49	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 15:49	7440-43-9	
Calcium	ND	ug/L	200	35.0	1	11/19/21 03:09	11/19/21 15:49	7440-70-2	
Chromium	ND	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 15:49	7440-47-3	
Cobalt	ND	ug/L	1.0	0.050	1	09/27/21 12:36	09/27/21 21:26	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	09/27/21 12:36	09/27/21 21:26	7439-92-1	
Lithium	ND	ug/L	2.5	0.50	1	09/27/21 12:36	09/27/21 21:26	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 15:49	7439-98-7	
Selenium	ND	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 15:49	7782-49-2	
Thallium	ND	ug/L	0.47	0.050	1	09/27/21 12:36	09/27/21 21:26	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:33	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	ND	mg/L	1.0	0.60	1		09/25/21 00:56	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/25/21 00:56	16984-48-8	
Sulfate	ND	mg/L	1.0	0.50	1		09/25/21 00:56	14808-79-8	

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## ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Sample: 092121NPW4      Lab ID: 92562554004      Collected: 09/21/21 10:45      Received: 09/22/21 15:35      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>244</b>	mg/L	25.0	25.0	1		09/27/21 12:50		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 19:03	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 15:53	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 15:53	7440-38-2	
Barium	<b>35.3</b>	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 15:53	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 15:53	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 15:53	7440-43-9	
Calcium	<b>32400</b>	ug/L	2000	350	10	11/19/21 03:09	11/19/21 16:46	7440-70-2	
Chromium	<b>12.6</b>	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 15:53	7440-47-3	
Cobalt	<b>0.12J</b>	ug/L	1.0	0.050	1	09/23/21 14:38	09/27/21 18:57	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	09/23/21 14:38	09/27/21 18:57	7439-92-1	
Lithium	<b>2.0J</b>	ug/L	2.5	0.50	1	09/23/21 14:38	09/27/21 18:57	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 15:53	7439-98-7	
Selenium	<b>0.32J</b>	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 15:53	7782-49-2	
Thallium	ND	ug/L	0.47	0.050	1	09/23/21 14:38	09/27/21 18:57	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:35	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>69.3</b>	mg/L	1.0	0.60	1		09/24/21 06:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/21 06:30	16984-48-8	
Sulfate	<b>3.8</b>	mg/L	1.0	0.50	1		09/24/21 06:30	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

Sample: 092121NPW5      Lab ID: 92562554005      Collected: 09/21/21 09:55      Received: 09/22/21 15:35      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>524</b>	mg/L	25.0	25.0	1		09/27/21 12:50		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	<b>863</b>	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 19:06	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Arsenic	<b>0.10J</b>	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 16:03	7440-38-2	
Beryllium	ND	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 16:03	7440-41-7	
Barium	<b>13.9</b>	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 16:03	7440-39-3	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 16:03	7440-43-9	
Cobalt	<b>0.14J</b>	ug/L	1.0	0.050	1	11/19/21 03:09	11/19/21 16:03	7440-48-4	
Chromium	<b>4.0</b>	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 16:03	7440-47-3	
Molybdenum	<b>0.28J</b>	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 16:03	7439-98-7	
Lead	ND	ug/L	1.0	0.077	1	11/19/21 03:09	11/19/21 16:03	7439-92-1	
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 16:03	7440-36-0	
Selenium	<b>1.4J</b>	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 16:03	7782-49-2	
Thallium	ND	ug/L	0.47	0.050	1	11/19/21 03:09	11/19/21 16:03	7440-28-0	
Lithium	<b>3.8</b>	ug/L	2.5	0.50	1	11/19/21 03:09	11/19/21 16:03	7439-93-2	
Calcium	<b>84900</b>	ug/L	2000	350	10	11/19/21 03:09	11/19/21 16:50	7440-70-2	M1
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:38	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>112</b>	mg/L	4.0	2.4	4		09/24/21 13:33	16887-00-6	M1
Fluoride	<b>0.069J</b>	mg/L	0.10	0.050	1		09/24/21 07:15	16984-48-8	M1
Sulfate	<b>162</b>	mg/L	4.0	2.0	4		09/24/21 13:33	14808-79-8	M1

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## ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

Sample: 092121NPW12      Lab ID: 92562554006      Collected: 09/21/21 11:10      Received: 09/22/21 15:35      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	104	mg/L	25.0	25.0	1		09/27/21 12:50		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 19:23	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 16:28	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 16:28	7440-38-2	
Barium	21.1	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 16:28	7440-39-3	
Beryllium	0.10	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 16:28	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 16:28	7440-43-9	
Calcium	4380	ug/L	200	35.0	1	11/19/21 03:09	11/19/21 16:28	7440-70-2	
Chromium	3.8	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 16:28	7440-47-3	
Cobalt	0.13J	ug/L	1.0	0.050	1	09/23/21 14:38	09/27/21 19:18	7440-48-4	
Lead	0.099J	ug/L	1.0	0.077	1	09/23/21 14:38	09/27/21 19:18	7439-92-1	
Lithium	2.3J	ug/L	2.5	0.50	1	09/23/21 14:38	09/27/21 19:18	7439-93-2	
Molybdenum	ND	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 16:28	7439-98-7	
Selenium	0.89J	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 16:28	7782-49-2	
Thallium	0.050J	ug/L	0.47	0.050	1	09/23/21 14:38	09/27/21 19:18	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A    Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:45	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	6.2	mg/L	1.0	0.60	1		09/24/21 07:30	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/24/21 07:30	16984-48-8	
Sulfate	4.9	mg/L	1.0	0.50	1		09/24/21 07:30	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Sample: 092121NPW13      Lab ID: 92562554007      Collected: 09/21/21 09:45      Received: 09/22/21 15:35      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>550</b>	mg/L	25.0	25.0	1		09/27/21 12:50		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	<b>574</b>	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 19:26	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 16:32	7440-36-0	
Arsenic	ND	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 16:32	7440-38-2	
Barium	<b>7.6</b>	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 16:32	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 16:32	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 16:32	7440-43-9	
Calcium	<b>91000</b>	ug/L	2000	350	10	11/19/21 03:09	11/19/21 17:11	7440-70-2	
Chromium	<b>1.7</b>	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 16:32	7440-47-3	
Cobalt	<b>0.22J</b>	ug/L	1.0	0.050	1	09/23/21 14:38	09/27/21 19:22	7440-48-4	
Lead	<b>0.15J</b>	ug/L	1.0	0.077	1	09/23/21 14:38	09/27/21 19:22	7439-92-1	
Lithium	<b>2.7</b>	ug/L	2.5	0.50	1	09/23/21 14:38	09/27/21 19:22	7439-93-2	
Molybdenum	<b>0.42J</b>	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 16:32	7439-98-7	
Selenium	<b>1.3J</b>	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 16:32	7782-49-2	
Thallium	<b>0.055J</b>	ug/L	0.47	0.050	1	09/23/21 14:38	09/27/21 19:22	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A      Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 13:52	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>99.7</b>	mg/L	1.0	0.60	1		09/24/21 07:45	16887-00-6	
Fluoride	<b>0.050J</b>	mg/L	0.10	0.050	1		09/24/21 07:45	16984-48-8	
Sulfate	<b>201</b>	mg/L	4.0	2.0	4		09/24/21 13:48	14808-79-8	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

Sample: 092121FDFieldDuplicate Lab ID: 92562554008 Collected: 09/21/21 11:10 Received: 09/22/21 15:35 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>2540C Total Dissolved Solids</b>									
Analytical Method: SM 2540C-2011 Pace Analytical Services - Eden									
Total Dissolved Solids	<b>285</b>	mg/L	25.0	25.0	1		09/27/21 12:51		
<b>6010 MET ICP</b>									
Analytical Method: EPA 6010D Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Boron	ND	ug/L	50.0	32.4	1	09/25/21 04:34	09/28/21 19:42	7440-42-8	
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Antimony	ND	ug/L	1.0	0.20	1	11/19/21 03:09	11/19/21 16:35	7440-36-0	
Arsenic	<b>0.087J</b>	ug/L	1.0	0.087	1	11/19/21 03:09	11/19/21 16:35	7440-38-2	
Barium	<b>34.5</b>	ug/L	1.0	0.21	1	11/19/21 03:09	11/19/21 16:35	7440-39-3	
Beryllium	ND	ug/L	0.10	0.050	1	11/19/21 03:09	11/19/21 16:35	7440-41-7	
Cadmium	ND	ug/L	0.20	0.060	1	11/19/21 03:09	11/19/21 16:35	7440-43-9	
Calcium	<b>32300</b>	ug/L	2000	350	10	11/19/21 03:09	11/19/21 17:15	7440-70-2	
Chromium	<b>15.0</b>	ug/L	1.0	0.50	1	11/19/21 03:09	11/19/21 16:35	7440-47-3	
Cobalt	<b>0.077J</b>	ug/L	1.0	0.050	1	09/27/21 12:36	09/27/21 21:30	7440-48-4	
Lead	ND	ug/L	1.0	0.077	1	09/27/21 12:36	09/27/21 21:30	7439-92-1	
Lithium	<b>2.0J</b>	ug/L	2.5	0.50	1	09/27/21 12:36	09/27/21 21:30	7439-93-2	
Molybdenum	<b>0.38J</b>	ug/L	1.0	0.13	1	11/19/21 03:09	11/19/21 16:35	7439-98-7	
Selenium	<b>0.31J</b>	ug/L	2.0	0.072	1	11/19/21 03:09	11/19/21 16:35	7782-49-2	
Thallium	ND	ug/L	0.47	0.050	1	09/27/21 12:36	09/27/21 21:30	7440-28-0	
<b>7470 Mercury</b>									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A Pace Analytical Services - Asheville									
Mercury	ND	ug/L	0.20	0.12	1	09/29/21 12:00	10/01/21 14:00	7439-97-6	
<b>9056 IC anions 28 Days</b>									
Analytical Method: EPA 9056A Pace Analytical Services - Asheville									
Chloride	<b>78.0</b>	mg/L	1.0	0.60	1		09/25/21 03:10	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		09/25/21 03:10	16984-48-8	
Sulfate	<b>3.2</b>	mg/L	1.0	0.50	1		09/25/21 03:10	14808-79-8	

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

QC Batch:	649462	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: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

METHOD BLANK: 3406318 Matrix: Water

Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	25.0	09/27/21 12:48	

LABORATORY CONTROL SAMPLE: 3406319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	238	95	90-110	

SAMPLE DUPLICATE: 3406320

Parameter	Units	92562320006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	84.0	88.0	5	25	

SAMPLE DUPLICATE: 3406321

Parameter	Units	92562554005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	524	541	3	25	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

QC Batch: 649930 Analysis Method: EPA 7470A  
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

METHOD BLANK: 3408710 Matrix: Water  
Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.12	10/01/21 13:23	

LABORATORY CONTROL SAMPLE: 3408711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.6	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3408712 3408713

Parameter	Units	92562554005 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	2.6	102	105	75-125	3	25	

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

QC Batch: 649360 Analysis Method: EPA 6010D  
QC Batch Method: EPA 3010A Analysis Description: 6010 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

METHOD BLANK: 3406028 Matrix: Water  
Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Boron	ug/L	ND	50.0	32.4	09/28/21 18:39	

LABORATORY CONTROL SAMPLE: 3406029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	500	502	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406030 3406031

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92562554005 Result	Spike Conc.	Spike Conc.	Result						
Boron	ug/L	863	500	500	1370	101	97	75-125	1	20	

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

QC Batch: 649019 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562554004, 92562554006, 92562554007

METHOD BLANK: 3404175 Matrix: Water  
Associated Lab Samples: 92562554004, 92562554005, 92562554006, 92562554007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.050	09/27/21 18:14	
Lead	ug/L	ND	1.0	0.077	09/27/21 18:14	
Lithium	ug/L	ND	2.5	0.50	09/27/21 18:14	
Thallium	ug/L	ND	0.47	0.050	09/27/21 18:14	

LABORATORY CONTROL SAMPLE: 3404176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	51.9	104	80-120	
Lead	ug/L	50	49.8	100	80-120	
Lithium	ug/L	50	52.2	104	80-120	
Thallium	ug/L	25	24.8	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404177 3404178

Parameter	Units	92562243006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Cobalt	ug/L	0.19J	50	50	51.2	50.1	102	100	75-125	2	20	
Lead	ug/L	0.14J	50	50	50.9	50.5	102	101	75-125	1	20	
Lithium	ug/L	4.2	50	50	55.6	56.4	103	104	75-125	2	20	
Thallium	ug/L	ND	25	25	25.5	25.4	102	101	75-125	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404179 3404180

Parameter	Units	92562554005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Cobalt	ug/L	0.14J	50	50	50.6	50.0	101	100	75-125	1	20	
Lead	ug/L	ND	50	50	50.2	50.9	100	101	75-125	1	20	
Lithium	ug/L	3.8	50	50	57.2	57.5	106	106	75-125	1	20	
Thallium	ug/L	ND	25	25	25.0	25.4	100	101	75-125	1	20	

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

QC Batch: 649482 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562554002, 92562554003, 92562554008

METHOD BLANK: 3406400 Matrix: Water  
Associated Lab Samples: 92562554002, 92562554003, 92562554008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cobalt	ug/L	ND	1.0	0.050	09/27/21 19:46	
Lead	ug/L	ND	1.0	0.077	09/27/21 19:46	
Lithium	ug/L	ND	2.5	0.50	09/27/21 19:46	
Thallium	ug/L	ND	0.47	0.050	09/27/21 19:46	

LABORATORY CONTROL SAMPLE: 3406401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cobalt	ug/L	50	50.9	102	80-120	
Lead	ug/L	50	49.1	98	80-120	
Lithium	ug/L	50	54.6	109	80-120	
Thallium	ug/L	25	24.6	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406402 3406403

Parameter	Units	92562240001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result						
Cobalt	ug/L	0.36J	50	50	50	51.9	51.7	103	103	75-125	0	20
Lead	ug/L	0.16J	50	50	50	50.8	50.2	101	100	75-125	1	20
Lithium	ug/L	3.8	50	50	50	58.2	57.2	109	107	75-125	2	20
Thallium	ug/L	ND	25	25	25	25.3	25.2	101	101	75-125	1	20

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

QC Batch:	661000	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3010A	Analysis Description:	6020 MET
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

METHOD BLANK:	3463711	Matrix:	Water
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Associated Lab Samples: 92562554001, 92562554002, 92562554003, 92562554004, 92562554005, 92562554006, 92562554007, 92562554008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	0.20	11/19/21 15:35	
Arsenic	ug/L	ND	1.0	0.087	11/19/21 15:35	
Barium	ug/L	ND	1.0	0.21	11/19/21 15:35	
Beryllium	ug/L	ND	0.10	0.050	11/19/21 15:35	
Cadmium	ug/L	ND	0.20	0.060	11/19/21 15:35	
Calcium	ug/L	ND	200	35.0	11/19/21 15:35	
Chromium	ug/L	ND	1.0	0.50	11/19/21 15:35	
Cobalt	ug/L	ND	1.0	0.050	11/19/21 15:35	
Lead	ug/L	ND	1.0	0.077	11/19/21 15:35	
Lithium	ug/L	ND	2.5	0.50	11/19/21 15:35	
Molybdenum	ug/L	ND	1.0	0.13	11/19/21 15:35	
Selenium	ug/L	ND	2.0	0.072	11/19/21 15:35	
Thallium	ug/L	ND	0.47	0.050	11/19/21 15:35	

LABORATORY CONTROL SAMPLE: 3463712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	50.8	102	80-120	
Arsenic	ug/L	50	50.2	100	80-120	
Barium	ug/L	50	49.4	99	80-120	
Beryllium	ug/L	50	49.5	99	80-120	
Cadmium	ug/L	50	49.8	100	80-120	
Calcium	ug/L	2500	2500	100	80-120	
Chromium	ug/L	50	49.4	99	80-120	
Cobalt	ug/L	50	49.8	100	80-120	
Lead	ug/L	50	49.6	99	80-120	
Lithium	ug/L	50	48.8	98	80-120	
Molybdenum	ug/L	50	49.9	100	80-120	
Selenium	ug/L	50	48.6	97	80-120	
Thallium	ug/L	25	25.0	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3463713 3463714

Parameter	Units	92562554005 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Antimony	ug/L	ND	50	50	49.5	49.5	99	99	75-125	0	20	

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3463713 3463714													
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		92562554005 Result	Spike Conc.	Spike Conc.	MS Result								
Arsenic	ug/L	0.10J	50	50	49.2	48.9	98	98	75-125	1	20		
Barium	ug/L	13.9	50	50	62.2	60.6	97	93	75-125	3	20		
Beryllium	ug/L	ND	50	50	48.8	49.0	98	98	75-125	0	20		
Cadmium	ug/L	ND	50	50	48.0	47.5	96	95	75-125	1	20		
Calcium	ug/L	84900	2500	2500	87600	87600	105	104	75-125	0	20	M1	
Chromium	ug/L	4.0	50	50	53.9	52.2	100	96	75-125	3	20		
Cobalt	ug/L	0.14J	50	50	48.3	47.9	96	95	75-125	1	20		
Lead	ug/L	ND	50	50	48.0	47.9	96	96	75-125	0	20		
Lithium	ug/L	3.8	50	50	51.4	51.9	95	96	75-125	1	20		
Molybdenum	ug/L	0.28J	50	50	48.9	49.2	97	98	75-125	1	20		
Selenium	ug/L	1.4J	50	50	48.9	48.3	95	94	75-125	1	20		
Thallium	ug/L	ND	25	25	24.4	24.2	98	97	75-125	1	20		

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**QUALITY CONTROL DATA**

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

QC Batch: 649120 Analysis Method: EPA 9056A  
 QC Batch Method: EPA 9056A Analysis Description: 9056 IC anions 28 Days  
 Laboratory: Pace Analytical Services - Asheville  
 Associated Lab Samples: 92562554004, 92562554005, 92562554006, 92562554007

METHOD BLANK: 3404900 Matrix: Water  
 Associated Lab Samples: 92562554004, 92562554005, 92562554006, 92562554007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/24/21 03:30	
Fluoride	mg/L	ND	0.10	0.050	09/24/21 03:30	
Sulfate	mg/L	ND	1.0	0.50	09/24/21 03:30	

LABORATORY CONTROL SAMPLE: 3404901

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	2.4	98	90-110	
Sulfate	mg/L	50	53.7	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404902 3404903

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result								
Chloride	mg/L	1.4	50	50	52.6	54.0	102	105	90-110	3	10		
Fluoride	mg/L	ND	2.5	2.5	2.9	2.9	115	115	90-110	0	10	M1	
Sulfate	mg/L	45.3	50	50	95.9	97.1	101	104	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406093 3406094

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result								
Chloride	mg/L	112	50	50	151	152	78	81	90-110	1	10	M1	
Fluoride	mg/L	0.069J	2.5	2.5	2.2	2.3	87	89	90-110	2	10	M1	
Sulfate	mg/L	162	50	50	199	201	73	78	90-110	1	10	M1	

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**QUALITY CONTROL DATA**

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

QC Batch: 649316 Analysis Method: EPA 9056A  
 QC Batch Method: EPA 9056A Analysis Description: 9056 IC anions 28 Days  
 Laboratory: Pace Analytical Services - Asheville  
 Associated Lab Samples: 92562554001, 92562554002, 92562554003

METHOD BLANK: 3405799 Matrix: Water  
 Associated Lab Samples: 92562554001, 92562554002, 92562554003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/24/21 17:41	
Fluoride	mg/L	ND	0.10	0.050	09/24/21 17:41	
Sulfate	mg/L	ND	1.0	0.50	09/24/21 17:41	

LABORATORY CONTROL SAMPLE: 3405800

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	48.7	97	90-110	
Fluoride	mg/L	2.5	2.4	94	90-110	
Sulfate	mg/L	50	50.1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3405801 3405802

Parameter	Units	92562179009		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	114	50	50	156	157	85	86	90-110	0	10	M1	
Fluoride	mg/L	0.13	2.5	2.5	4.1	3.9	157	149	90-110	5	10	M1	
Sulfate	mg/L	1.2	50	50	53.1	53.4	104	105	90-110	1	10		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3405803 3405804

Parameter	Units	92562252001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Chloride	mg/L	282	50	50	328	324	91	83	90-110	1	10	M1	
Fluoride	mg/L	ND	2.5	2.5	2.3	2.3	89	89	90-110	1	10	M1	
Sulfate	mg/L	47.5	50	50	97.1	97.9	99	101	90-110	1	10		

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

QC Batch: 649318	Analysis Method: EPA 9056A
QC Batch Method: EPA 9056A	Analysis Description: 9056 IC anions 28 Days
	Laboratory: Pace Analytical Services - Asheville

Associated Lab Samples: 92562554008

METHOD BLANK: 3405805 Matrix: Water

Associated Lab Samples: 92562554008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.60	09/25/21 01:26	
Fluoride	mg/L	ND	0.10	0.050	09/25/21 01:26	
Sulfate	mg/L	ND	1.0	0.50	09/25/21 01:26	

LABORATORY CONTROL SAMPLE: 3405806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.1	102	90-110	
Fluoride	mg/L	2.5	2.4	98	90-110	
Sulfate	mg/L	50	52.8	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3405807 3405808

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92562567002 Result	Spike Conc.	Spike Conc.	Result								
Chloride	mg/L	3.0	50	50	54.3	54.7	103	104	90-110	1	10		
Fluoride	mg/L	0.076J	2.5	2.5	2.6	2.7	103	104	90-110	1	10		
Sulfate	mg/L	0.76J	50	50	53.7	54.0	106	106	90-110	1	10		

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## QUALIFIERS

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

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

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Clover PS Sludge Sed Pond (C)-Revised Report  
Pace Project No.: 92562554

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92562554001	092021NPW2	SM 2540C-2011	649462		
92562554002	092021NPW3	SM 2540C-2011	649462		
92562554003	092121FBFieldBlank	SM 2540C-2011	649462		
92562554004	092121NPW4	SM 2540C-2011	649462		
92562554005	092121NPW5	SM 2540C-2011	649462		
92562554006	092121NPW12	SM 2540C-2011	649462		
92562554007	092121NPW13	SM 2540C-2011	649462		
92562554008	092121FDFieldDuplicate	SM 2540C-2011	649462		
92562554001	092021NPW2	EPA 3010A	649360	EPA 6010D	649385
92562554002	092021NPW3	EPA 3010A	649360	EPA 6010D	649385
92562554003	092121FBFieldBlank	EPA 3010A	649360	EPA 6010D	649385
92562554004	092121NPW4	EPA 3010A	649360	EPA 6010D	649385
92562554005	092121NPW5	EPA 3010A	649360	EPA 6010D	649385
92562554006	092121NPW12	EPA 3010A	649360	EPA 6010D	649385
92562554007	092121NPW13	EPA 3010A	649360	EPA 6010D	649385
92562554008	092121FDFieldDuplicate	EPA 3010A	649360	EPA 6010D	649385
92562554001	092021NPW2	EPA 3010A	661000	EPA 6020B	661021
92562554002	092021NPW3	EPA 3010A	649482	EPA 6020B	649569
92562554002	092021NPW3	EPA 3010A	661000	EPA 6020B	661021
92562554003	092121FBFieldBlank	EPA 3010A	649482	EPA 6020B	649569
92562554003	092121FBFieldBlank	EPA 3010A	661000	EPA 6020B	661021
92562554004	092121NPW4	EPA 3010A	649019	EPA 6020B	649113
92562554004	092121NPW4	EPA 3010A	661000	EPA 6020B	661021
92562554005	092121NPW5	EPA 3010A	661000	EPA 6020B	661021
92562554006	092121NPW12	EPA 3010A	649019	EPA 6020B	649113
92562554006	092121NPW12	EPA 3010A	661000	EPA 6020B	661021
92562554007	092121NPW13	EPA 3010A	649019	EPA 6020B	649113
92562554007	092121NPW13	EPA 3010A	661000	EPA 6020B	661021
92562554008	092121FDFieldDuplicate	EPA 3010A	649482	EPA 6020B	649569
92562554008	092121FDFieldDuplicate	EPA 3010A	661000	EPA 6020B	661021
92562554001	092021NPW2	EPA 7470A	649930	EPA 7470A	650170
92562554002	092021NPW3	EPA 7470A	649930	EPA 7470A	650170
92562554003	092121FBFieldBlank	EPA 7470A	649930	EPA 7470A	650170
92562554004	092121NPW4	EPA 7470A	649930	EPA 7470A	650170
92562554005	092121NPW5	EPA 7470A	649930	EPA 7470A	650170
92562554006	092121NPW12	EPA 7470A	649930	EPA 7470A	650170
92562554007	092121NPW13	EPA 7470A	649930	EPA 7470A	650170
92562554008	092121FDFieldDuplicate	EPA 7470A	649930	EPA 7470A	650170
92562554001	092021NPW2	EPA 9056A	649316		
92562554002	092021NPW3	EPA 9056A	649316		
92562554003	092121FBFieldBlank	EPA 9056A	649316		

**REPORT OF LABORATORY ANALYSIS**

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without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Clover PS Sludge Sed Pond (C)-Revised Report

Pace Project No.: 92562554

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92562554004	092121NPW4	EPA 9056A	649120		
92562554005	092121NPW5	EPA 9056A	649120		
92562554006	092121NPW12	EPA 9056A	649120		
92562554007	092121NPW13	EPA 9056A	649120		
92562554008	092121FDFieldDuplicate	EPA 9056A	649318		

### REPORT OF LABORATORY ANALYSIS

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Document Name:  
Sample Condition Upon Receipt(SCUR)

Document Revised: October 28, 2020  
Page 1 of 2

Document No.:  
F-CAR-CS-033-Rev.07

Issuing Authority:  
Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

Sample Condition Upon Receipt

Client Name:

Dominion

Project #:

Clover

WO#: **92562554**



Courier:

Commercial

Fed Ex

UPS

USPS

Client

Pace

Other:

Custody Seal Present?

Yes

No

Seals Intact?

Yes

No

Date/Initials Person Examining Contents:

9-21-21

Packing Material:

Bubble Wrap

Bubble Bags

None

Other

Biological Tissue Frozen?

Yes

No

N/A

RSB

Thermometer:

IR Gun ID:

T-3

Type of Ice:

Wet

Blue

None

Cooler Temp:

2.4

Correction Factor:

Add/Subtract (°C)

0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

2.4

USDA Regulated Soil (  N/A, water sample)

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

Yes

No

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

Comments/Discrepancy:

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCURF Review:

Date:

Project Manager SRF Review:

Date:





Document Name:  
**Sample Condition Upon Receipt(SCUR)**  
 Document No.:  
**F-CAR-CS-033-Rev.07**

Document Revised: October 28, 2020  
 Page 2 of 2  
 Issuing Authority:  
 Pace Carolinas Quality Office

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

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

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

Project #

**WO# : 92562554**

PM: **NMG** Due Date: **10/13/21**

CLIENT: **92-DomEnergy**

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1		1	1		2																			2				
2		1	1		2																			2				
3																												
4																												
5																												
6																												
7																												
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10																												
11																												
12																												

**pH Adjustment Log for Preserved Samples**

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

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



### CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>.

Section A  
 Required Client Information:  
 Company: Dominion Energy VA  
 Address: 120 Tredegar Street  
 Richmond, VA 23219

Section B  
 Required Project Information:  
 Report To: Kelly Hicks  
 Copy To: Kelly Hicks  
 Purchase Order #:  
 Project Name: Clover PS Sludge Sed Pond (C)  
 Project #:  
 Requested Due Date:

Section C  
 Invoice Information:  
 Attention:  
 Company Name:  
 Address:  
 Pace Quote:  
 Pace Project Manager: nicole.d'olee@pacelabs.com,  
 Pace Profile #: 13861

Regulatory Agency  
 State / Location  
 Page: 1 of 1

ITEM #	SAMPLE ID (A-Z, 0-9 /, -) Sample ids must be unique	MATRIX Drinking Water DW Water W Waste Water WW Product P Soil/Solid SL Oil OI Wipe WI Air AR Other OT Tissue TS	CODE DW W WW P SL OI WI AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS							Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	SAMPLE CONDITIONS	
						DATE	TIME		DATE	TIME	Unpreserved	H2SO4	HNO3	HCl	NaOH				Na2S2O3
1	<del>09-2145B</del>			WT															
2	<del>09-244B</del>			WT															
3	09-25 21NPW2			WT	WT	9/20/21	1610	6	1	1									DD1
4	09-28 21NPV3			WT	WT	9/20/21	1435	6	1	1									DD2
5	<del>09-24NPW4</del>			WT															
6	<del>09-24NPW5</del>			WT															
7	<del>09-21NPVT2</del>			WT															
8	<del>09-24-</del>			WT															
9	<del>09-21NPW1G</del>			WT															
10																			
11																			
12																			

Additional Comments: Clover-25A21-CR-C-2-1

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
<i>[Signature]</i> RECS	9/21/21	0900	<i>[Signature]</i> RECS	09/21/21	0900
<i>[Signature]</i> RECS	9/21/21	11:30	Rachel Burrows	9-21-21	1130
SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER: K. Bradwell / Z. Hecks-					
SIGNATURE of SAMPLER: <i>[Signature]</i> DATE Signed: 9/20/21					
TEMP in C	24				
Received on Ice (Y/N)	Y				
Custody Sealed Cooler (Y/N)	Y				
Samples Intact (Y/N)	Y				



Document Name:  
Sample Condition Upon Receipt(SCUR)

Document No.:  
F-CAR-CS-033-Rev.07

Document Revised: October 28, 2020  
Page 1 of 2

Issuing Authority:  
Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

Sample Condition Upon Receipt

Client Name:  
Dominion

Project #:

**WO# : 92562554**

Courier:  
 Commercial

Fed Ex  UPS  USPS  Pace  Other:

Glover  
 Client

PM: NMG

Due Date: 10/13/21

CLIENT: 92-DomEnergy

Custody Seal Present?  Yes  No Seals Intact?  Yes  No

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

RSB

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Biological Tissue Frozen?

Yes  No  N/A

Thermometer:

IR Gun ID: T-3

Type of Ice:

Wet  Blue  None

Cooler Temp: 1.3 Correction Factor: Add/Subtract (°C) 0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C): 1.3

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:

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager SRF Review: \_\_\_\_\_ Date: \_\_\_\_\_



Document Name:  
**Sample Condition Upon Receipt(SCUR)**  
 Document No.:  
**F-CAR-CS-033-Rev.07**

Document Revised: October 28, 2020  
 Page 2 of 2  
 Issuing Authority:  
 Pace Carolinas Quality Office

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

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

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

Project #

**WO# : 92562554**

PM: NMG

Due Date: 10/13/21

CLIENT: 92-DomEnergy

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1		1	1		2																		2					
2		1	1		2																			2				
3		1	1		2																			2				
4		3	3		6																			6				
5		1	1		2																			2				
6		1	1		2																			2				
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.



www.pacelabs.com

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

# CHAIN-OF-CUSTODY / Analytical Request Document

## Section A

### Required Client Information:

Company: Dominion Energy VA  
 Address: 120 Tredegar Street  
 Richmond, VA 23219  
 Email: Kelly.a.hicks@dominionenergy.com  
 Phone: (804)273-4903 Fax  
 Requested Due Date:

Report To: Kelly Hicks  
 Copy To:  
 Purchase Order #:  
 Project Name: Clover PS Sludge Sed Pond (C)  
 Project #:

Attention:  
 Company Name:  
 Address:  
 Pace Quote:  
 Pace Project Manager: nicole.doleo@pacelabs.com,  
 Pace Profile #: 13861

Regulatory Agency  
 State / Location  
 VA

## Section B

### Required Project Information:

### Invoice Information:

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H2SO4 HNO3 HCl NaOH Na2S2O3 Methanol Other	Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
						DATE	TIME							DATE
1	09 21 21FB Field Blank			WT		9/21/21	1135				X	X	X	003
2	09 21 21FD Field Duplicate			WT		9/21/21	1110				X	X	X	008
3	09 21 21NPW2			WT							X	X	X	
4	09 21 21NPW4			WT							X	X	X	
5	09 21 21NPW4			WT		9/21/21	1045				X	X	X	004
6	09 21 21NPW5			WT		9/21/21	0955				X	X	X	M/SMSD taken here 005
7	09 21 21NPW12			WT		9/21/21	1110				X	X	X	006
8	09 21 21NPW13			WT		9/21/21	0945				X	X	X	007
9				WT							X	X	X	
10														
11														
12														

Clover - 25AZ1-CCR-C-2-2

RELINQUISHED BY / AFFILIATION: *K. Bradwell* 9/21/21  
 DATE: 9/21/21  
 TIME: 1515  
 ACCEPTED BY / AFFILIATION: *Rachel Burrows* 9/21/21  
 DATE: 9/21/21  
 TIME: 1535

SAMPLER NAME AND SIGNATURE: *K. Bradwell / Z. Hub*  
 PRINT Name of SAMPLER: K. Bradwell / Z. Hub  
 SIGNATURE of SAMPLER: *K. Bradwell / Z. Hub*  
 DATE Signed: 9/21/21

TEMP in C: 13  
 Received on Ice (Y/N): Y  
 Custody Sealed Cooler (Y/N): Y  
 Samples Intact (Y/N): Y

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

## Pace Analytical - Huntersville, NC

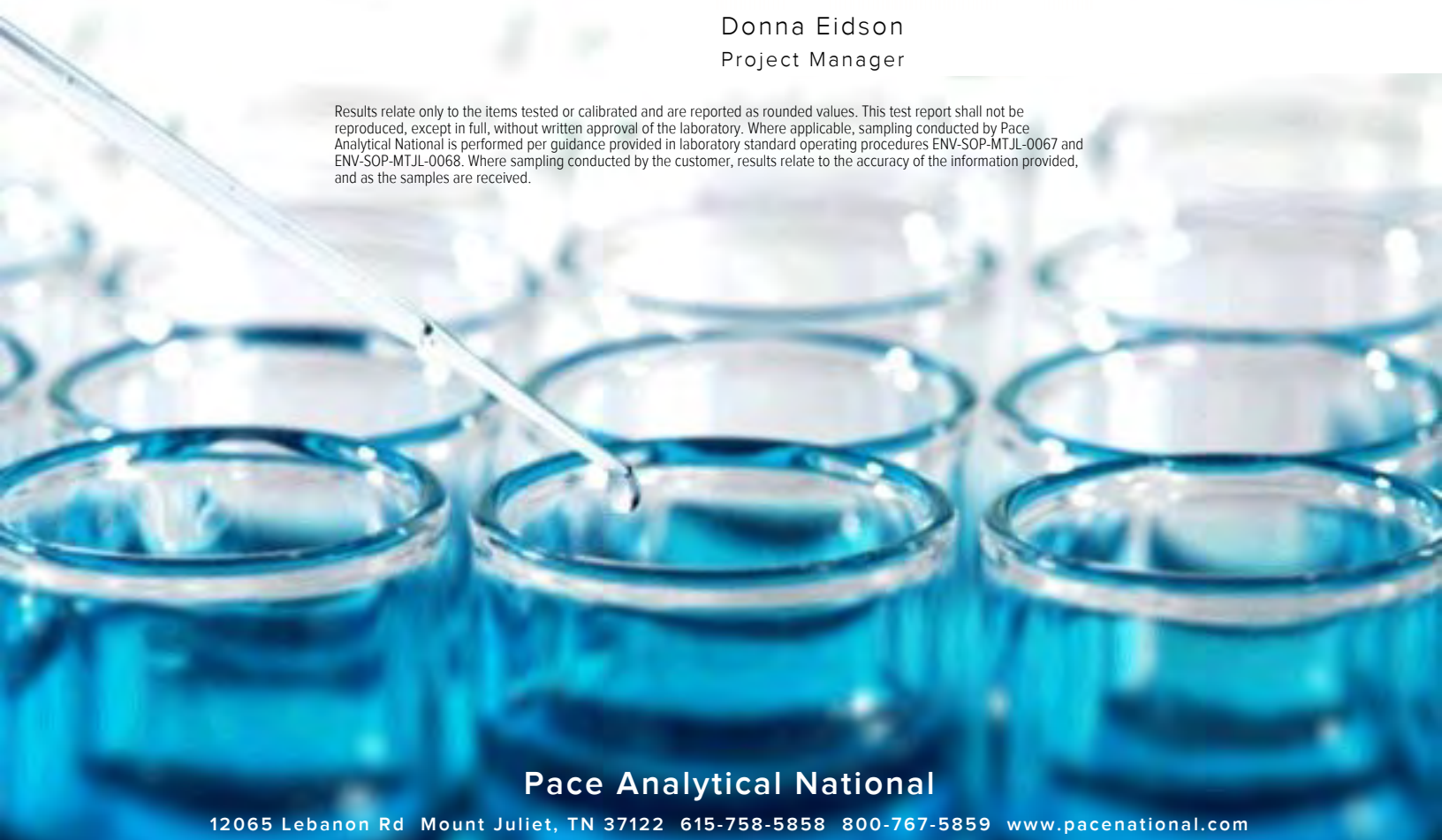
Sample Delivery Group: L1408698  
Samples Received: 09/24/2021  
Project Number: 92562554  
Description: Clover PS Sludge Sed Pond (C)  
Site: 001  
Report To: Nicole D'Oleo  
9800 Kincey Avenue, Suite 100  
Huntersville, NC 28078

Entire Report Reviewed By:



Donna Eidson  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

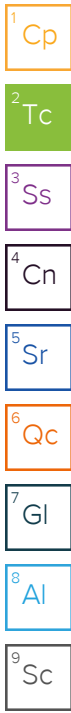


**Pace Analytical National**

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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# SAMPLE SUMMARY

## 092021NPW2 L1408698-01 Non-Potable Water

Collected by  
Collected date/time  
Received date/time

09/20/21 16:10  
09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## 092021NPW3 L1408698-02 Non-Potable Water

Collected by  
Collected date/time  
Received date/time

09/20/21 16:05  
09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN

## 092121FBLANK L1408698-03 Non-Potable Water

Collected by  
Collected date/time  
Received date/time

09/21/21 11:35  
09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN

## 092121NPW4 L1408698-04 Non-Potable Water

Collected by  
Collected date/time  
Received date/time

09/21/21 10:25  
09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 18:50	SNR	Mt. Juliet, TN

## 092121NPW5 L1408698-05 Non-Potable Water

Collected by  
Collected date/time  
Received date/time

09/21/21 09:55  
09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN

## 092121NPW12 L1408698-06 Non-Potable Water

Collected by  
Collected date/time  
Received date/time

09/21/21 11:10  
09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN



# SAMPLE SUMMARY

## 092121NPW13 L1408698-07 Non-Potable Water

Collected by \_\_\_\_\_ Collected date/time 09/21/21 09:45 Received date/time 09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

## 092121FDFIELD DUPLICATE L1408698-08 Non-Potable Water

Collected by \_\_\_\_\_ Collected date/time 09/21/21 11:10 Received date/time 09/24/21 15:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 903.0/9315	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN
Radiochemistry by Method 904/9320	WG1753910	1	10/12/21 14:55	10/15/21 12:25	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1747272	1	09/30/21 14:33	10/18/21 19:51	SNR	Mt. Juliet, TN

# CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Donna Eidson  
Project Manager

## Report Revision History

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Level II Report - Version 1: 10/22/21 14:40  
Level II Report - Version 2: 11/06/21 21:17

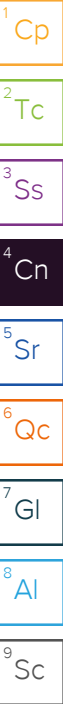
## Project Narrative

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Per customer request, updated Uncertainty and MDA for Combined Radium to calculate using the square root of the sum of squares.

Per customer request, MB & DUP uncertainties & MDA were added.

Per customer request, sample dates were changed on -01 & -02 to 9/20/21.



Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.0867	<u>U</u>	0.104	0.148	10/18/2021 18:50	<a href="#">WG1747272</a>
(T) Barium	103			30.0-143	10/18/2021 18:50	<a href="#">WG1747272</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0431	<u>U</u>	0.295	0.576	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	108			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	96.7			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0867	<u>U</u>	0.313	0.595	10/18/2021 18:50	<a href="#">WG1747272</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.185		0.143	0.157	10/18/2021 18:50	<a href="#">WG1747272</a>
(T) Barium	96.2			30.0-143	10/18/2021 18:50	<a href="#">WG1747272</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.134	<u>U</u>	0.270	0.53	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	106			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	108			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

4 Cn

5 Sr

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.185	<u>U</u>	0.306	0.553	10/18/2021 18:50	<a href="#">WG1747272</a>

6 Qc

7 Gl

8 Al

9 Sc

## Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.0222	<u>U</u>	0.115	0.222	10/18/2021 18:50	<a href="#">WG1747272</a>
(T) Barium	104			30.0-143	10/18/2021 18:50	<a href="#">WG1747272</a>

1 Cp

2 Tc

3 Ss

## Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.828		0.308	0.57	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	105			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	101			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

4 Cn

5 Sr

## Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.850		0.329	0.612	10/18/2021 18:50	<a href="#">WG1747272</a>

6 Qc

7 Gl

8 Al

9 Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.131	<u>U</u>	0.121	0.148	10/18/2021 18:50	<a href="#">WG1747272</a>
(T) Barium	104			30.0-143	10/18/2021 18:50	<a href="#">WG1747272</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.0281	<u>U</u>	0.327	0.634	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	97.8			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	106			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

<sup>4</sup>Cn

<sup>5</sup>Sr

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.131	<u>U</u>	0.349	0.651	10/18/2021 18:50	<a href="#">WG1747272</a>

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.0867	<u>U</u>	0.104	0.146	10/18/2021 19:51	<a href="#">WG1747272</a>
(T) Barium	105			30.0-143	10/18/2021 19:51	<a href="#">WG1747272</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-0.177	<u>U</u>	0.337	0.666	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	103			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	98.4			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

4 Cn

5 Sr

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0867	<u>U</u>	0.353	0.682	10/18/2021 19:51	<a href="#">WG1747272</a>

6 Qc

7 Gl

8 Al

9 Sc

## Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.311		0.174	0.152	10/18/2021 19:51	<a href="#">WG1747272</a>
(T) Barium	101			30.0-143	10/18/2021 19:51	<a href="#">WG1747272</a>

1 Cp

2 Tc

3 Ss

## Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.715	<u>U</u>	0.466	0.884	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	103			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	95.9			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

4 Cn

5 Sr

## Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.03		0.497	0.897	10/18/2021 19:51	<a href="#">WG1747272</a>

6 Qc

7 Gl

8 Al

9 Sc



Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.0222	<u>U</u>	0.115	0.222	10/18/2021 19:51	<a href="#">WG1747272</a>
(T) Barium	104			30.0-143	10/18/2021 19:51	<a href="#">WG1747272</a>

1 Cp

2 Tc

3 Ss

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	-1.46	<u>U</u>	0.398	0.818	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	97.5			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	89.1			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

4 Cn

5 Sr

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.0222	<u>U</u>	0.414	0.848	10/18/2021 19:51	<a href="#">WG1747272</a>

6 Qc

7 Gl

8 Al

9 Sc

## Radiochemistry by Method 903.0/9315

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Radium-226	0.153		0.129	0.149	10/18/2021 19:51	<a href="#">WG1747272</a>
(T) Barium	103			30.0-143	10/18/2021 19:51	<a href="#">WG1747272</a>

1 Cp

2 Tc

3 Ss

## Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.705		0.346	0.649	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Barium	107			62.0-143	10/15/2021 12:25	<a href="#">WG1753910</a>
(T) Yttrium	92.7			79.0-136	10/15/2021 12:25	<a href="#">WG1753910</a>

4 Cn

5 Sr

## Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.858		0.369	0.666	10/18/2021 19:51	<a href="#">WG1747272</a>

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3720099-1 10/18/21 16:50

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-226	0.0110	<u>U</u>	0.0372	0.101
(T) Barium	101		101	

L1408702-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1408702-05 10/18/21 21:51 • (DUP) R3720099-5 10/18/21 17:50

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-226	0.0444	0.123	0.216	0.0876	0.105	0.216	1	65.4	0.267	<u>U</u>	20	3
(T) Barium	107			104	104							

Laboratory Control Sample (LCS)

(LCS) R3720099-2 10/18/21 17:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.01	4.35	86.9	80.0-120	
(T) Barium			99.7		

L1408698-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1408698-05 10/18/21 19:51 • (MS) R3720099-3 10/18/21 17:50 • (MSD) R3720099-4 10/18/21 17:50

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	10.0	0.0867	8.47	9.52	83.8	94.4	1	75.0-125			11.7		20
(T) Barium		105			102	101							

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R3719558-1 10/15/21 12:25

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	0.234	↓	0.230	0.439
(T) Barium	104		104	
(T) Yttrium	93.9		93.9	

L1408627-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1408627-01 10/15/21 12:25 • (DUP) R3719558-5 10/15/21 12:25

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	16.2	0.518	0.615	16.1	0.983	0.615	1	0.744	0.108		20	3
(T) Barium	183			190	190					⊥		
(T) Yttrium	110			100	100							

Laboratory Control Sample (LCS)

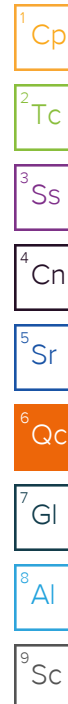
(LCS) R3719558-2 10/15/21 12:25

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.49	89.9	80.0-120	
(T) Barium			100		
(T) Yttrium			93.5		

L1408698-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1408698-05 10/15/21 12:25 • (MS) R3719558-3 10/15/21 12:25 • (MSD) R3719558-4 10/15/21 12:25

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	-0.177	19.2	21.5	115	129	1	70.0-130			11.3		20
(T) Barium		103			107	104							
(T) Yttrium		98.4			105	97.4							



# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

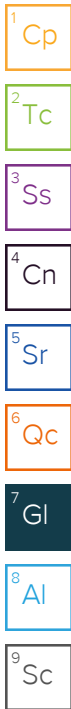
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C1	Tracer recovery limits have been exceeded; values are outside upper control limits.
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.



# ACCREDITATIONS & LOCATIONS

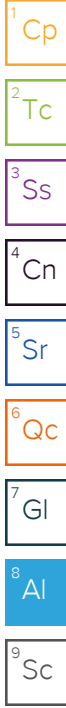
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: VA  
 Cert. Needed:  Yes  No



Workorder: 92562554      Workorder Name: Clover PS Sludge Sed Pond (C)

Owner Received Date: 9/22/2021      Results Requested By: 10/13/2021

Nicole D'Oleo  
 Pace Analytical Charlotte  
 9800 Kincoy Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092

Pace National  
 12065 Lebanon Rd  
 Mt. Juliet, TN 37122  
 Phone (615) 758-5858

Report To: \_\_\_\_\_      Subcontract To: \_\_\_\_\_      Requested Analysis: \_\_\_\_\_

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Combined Radium	Radium 226/228 (9315/9320)	LAB USE ONLY
1	092021NPM2	PS	9/20/2021 16:10	92562554001	Water	2	X	X	
2	092021NPM3	PS	9/20/2021 16:05	92562554002	Water	2	X	X	
3	092121FBFieldBlank	PS	9/21/2021 11:35	92562554003	Water	2	X	X	
4	092121NPM4	PS	9/21/2021 10:45	92562554004	Water	2	X	X	
5	092121NPM5	RQS	9/21/2021 09:55	92562554005	Water	2	X	X	
6	092121NPM12	PS	9/21/2021 11:10	92562554006	Water	2	X	X	
7	092121NPM13	PS	9/21/2021 09:45	92562554007	Water	2	X	X	
8	092121FDFieldDuplicate	PS	9/21/2021 11:10	92562554008	Water	2	X	X	
Comments									
Transfers		Released By	Date/Time	Received By	Date/Time				
1									
2									
3									
Cooler Temperature on Receipt		°C	Custody Seal	Y or N	Received on Ice	Y or N	Samples Intact Y or N		

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: VA  
 Cert. Needed:  Yes  No  
 Owner Received Date: 9/22/2021 Results Requested By: 10/13/2021

Workorder: 92562554 Workorder Name: Clover PS Sludge Sed Pond (C)

Report To: Nicole D'Oleo  
 Subcontract To: Pace National  
 Requested Analysis: Radium 226/228 (9315/9320)

Nicole D'Oleo  
 Pace Analytical Charlotte  
 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092

Pace National  
 12065 Lebanon Rd  
 Mt. Juliet, TN 37122  
 Phone (615) 758-5858

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers				HNO3	Combined Radium	Radium 226/228 (9315/9320)	LAB USE ONLY
1	092021NPW2	PS	9/21/2021 16:10	92562554001	Water						X	X	-01
2	092021NPW3	PS	9/21/2021 16:05	92562554002	Water						X	X	-02
3	092121FBFieldBlank	PS	9/21/2021 11:35	92562554003	Water						X	X	-03
4	092121NPW4	PS	9/21/2021 10:25	92562554004	Water						X	X	-04
5	092121NPW5	RQS	9/21/2021 09:55	92562554005	Water					B	X	X	-05
6	092121NPW12	PS	9/21/2021 11:10	92562554006	Water						X	X	-06
7	092121NPW13	PS	9/21/2021 09:45	92562554007	Water						X	X	-07
8	092121FDFieldDuplicate	PS	9/21/2021 11:10	92562554008	Water						X	X	-08

4408698  
LAB USE ONLY

Comments

Transfers	Released By	Date/Time	Received By	Date/Time
1	R Burruss	9-23-21 11:00		
2				
3			W. J. ...	9/24/21 15:25

Cooler Temperature on Receipt °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.

22.675 = 22.6  
A6R

Sample Receipt Checklist

COC Seal Present/Intact:  N If Applicable  
 COC Signed/Accurate:  N VOA Zero Headspace:  Y N  
 Bottles arrive intact:  N Pres. Correct/Check:  Y N  
 Correct bottles used:  N  
 Sufficient volume sent:  N  
 RAD Screen <0.5 mR/hr:  Y N

2840 9714 2541  
 2840 9716 5755  
 2840 9716 5170  
 2840 9716 5023

B144



November 04, 2021

Kelly Hicks  
Dominion Energy Services, Inc.  
120 Tredegar Street  
Richmond, VA 23219

RE: Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

Dear Kelly Hicks:

Enclosed are the analytical results for sample(s) received by the laboratory on September 21, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

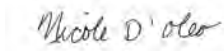
Some analyses were subcontracted outside of the Pace Network. The test report from the external subcontractor is attached to this report in its entirety.

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

- Pace Analytical Services - Asheville

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

Sincerely,



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

Enclosures

cc: Shannon George, Golder Associates, Inc.  
Rachel Powell, Golder Associates  
Environmental Standards, Inc., Environmental Standards,  
Inc.  
Mike Williams, Golder Associates Inc



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

---

### **Pace Analytical Services Asheville**

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

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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92562243001	092021NPW2	Water	09/20/21 16:10	09/21/21 11:30
92562243002	092021NPW3	Water	09/20/21 16:05	09/21/21 11:30
92562243003	092121FBFieldBlank	Water	09/21/21 11:35	09/21/21 15:35
92562243004	092121FDFieldDuplicate	Water	09/21/21 11:10	09/21/21 15:35
92562243005	092121NPW4	Water	09/21/21 10:45	09/21/21 15:35
92562243006	092121NPW5	Water	09/21/21 09:55	09/21/21 15:35
92562243007	092121NPW12	Water	09/21/21 11:10	09/21/21 15:35
92562243008	092121NPW13	Water	09/21/21 09:45	09/21/21 15:35

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92562243001	092021NPW2	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243002	092021NPW3	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243003	092121FBFieldBlank	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243004	092121FDFieldDuplicate	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243005	092121NPW4	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243006	092121NPW5	EPA 6020B	CRW	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243007	092121NPW12	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A
92562243008	092121NPW13	EPA 6020B	CRW, JOR	10	PASI-A
		EPA 9012B	DMN	1	PASI-A
		EPA 9060A	MEM1	5	PASI-A

PASI-A = Pace Analytical Services - Asheville

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>92562243001</b>	<b>092021NPW2</b>					
EPA 6020B	Iron	58.3	ug/L	50.0	09/27/21 20:15	
EPA 6020B	Manganese	1.6J	ug/L	2.0	09/27/21 20:15	
EPA 6020B	Nickel	4.0	ug/L	1.0	09/27/21 20:15	
EPA 6020B	Sodium	3400	ug/L	250	09/27/21 20:15	
EPA 6020B	Hardness, Total(SM 2340B)	30900	ug/L	541	09/28/21 17:05	
EPA 6020B	Vanadium	4.5	ug/L	1.0	09/27/21 20:15	
<b>92562243002</b>	<b>092021NPW3</b>					
EPA 6020B	Iron	45.4J	ug/L	50.0	09/27/21 20:19	
EPA 6020B	Manganese	8.4	ug/L	2.0	09/27/21 20:19	
EPA 6020B	Nickel	2.3	ug/L	1.0	09/27/21 20:19	
EPA 6020B	Sodium	20500	ug/L	2500	09/28/21 17:09	
EPA 6020B	Hardness, Total(SM 2340B)	106000	ug/L	5410	09/28/21 17:09	
EPA 6020B	Vanadium	0.72J	ug/L	1.0	09/27/21 20:19	
EPA 9012B	Cyanide	0.014	mg/L	0.0080	10/04/21 17:13	
<b>92562243003</b>	<b>092121FBFieldBlank</b>					
EPA 6020B	Nickel	0.49J	ug/L	1.0	09/27/21 21:12	
<b>92562243004</b>	<b>092121FDFieldDuplicate</b>					
EPA 6020B	Iron	81.7	ug/L	50.0	09/27/21 21:16	
EPA 6020B	Manganese	5.4	ug/L	2.0	09/27/21 21:16	
EPA 6020B	Nickel	21.5	ug/L	1.0	09/27/21 21:16	
EPA 6020B	Sodium	9860	ug/L	250	09/27/21 21:16	
EPA 6020B	Hardness, Total(SM 2340B)	190000	ug/L	5410	09/28/21 17:12	
EPA 6020B	Vanadium	1.5	ug/L	1.0	09/27/21 21:16	
EPA 6020B	Zinc	4.9J	ug/L	10.0	09/27/21 21:16	
<b>92562243005</b>	<b>092121NPW4</b>					
EPA 6020B	Iron	105	ug/L	50.0	09/27/21 18:21	
EPA 6020B	Manganese	7.0	ug/L	2.0	09/27/21 18:21	
EPA 6020B	Nickel	21.5	ug/L	1.0	09/27/21 18:21	
EPA 6020B	Sodium	9420	ug/L	250	09/27/21 18:21	
EPA 6020B	Hardness, Total(SM 2340B)	187000	ug/L	5410	09/27/21 23:56	
EPA 6020B	Vanadium	1.5	ug/L	1.0	09/27/21 18:21	
EPA 6020B	Zinc	2.7J	ug/L	10.0	09/27/21 18:21	
<b>92562243006</b>	<b>092121NPW5</b>					
EPA 6020B	Iron	171	ug/L	50.0	09/27/21 18:24	
EPA 6020B	Manganese	4.9	ug/L	2.0	09/27/21 18:24	
EPA 6020B	Nickel	6.2	ug/L	1.0	09/27/21 18:24	
EPA 6020B	Silver	0.079J	ug/L	0.40	09/27/21 18:24	
EPA 6020B	Sodium	14400	ug/L	2500	10/12/21 15:02	
EPA 6020B	Hardness, Total(SM 2340B)	400000	ug/L	541	09/27/21 18:24	
EPA 6020B	Vanadium	8.6	ug/L	1.0	09/27/21 18:24	
<b>92562243007</b>	<b>092121NPW12</b>					
EPA 6020B	Manganese	5.1	ug/L	2.0	09/27/21 18:42	
EPA 6020B	Nickel	1.3	ug/L	1.0	09/27/21 18:42	
EPA 6020B	Sodium	12400	ug/L	2500	09/28/21 00:10	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>92562243007</b>	<b>092121NPW12</b>					
EPA 6020B	Hardness, Total(SM 2340B)	16700	ug/L	541	09/27/21 18:42	
EPA 6020B	Vanadium	0.65J	ug/L	1.0	09/27/21 18:42	
EPA 9060A	Total Organic Carbon	1.2	mg/L	1.0	10/02/21 04:57	
EPA 9060A	Total Organic Carbon	0.52J	mg/L	1.0	10/02/21 04:57	
EPA 9060A	Total Organic Carbon	0.53J	mg/L	1.0	10/02/21 04:57	
EPA 9060A	Mean Total Organic Carbon	0.69J	mg/L	1.0	10/02/21 04:57	
<b>92562243008</b>	<b>092121NPW13</b>					
EPA 6020B	Iron	79.7	ug/L	50.0	09/27/21 18:46	
EPA 6020B	Manganese	296	ug/L	20.0	09/28/21 00:14	
EPA 6020B	Nickel	3.4	ug/L	1.0	09/27/21 18:46	
EPA 6020B	Sodium	15300	ug/L	2500	09/28/21 00:14	
EPA 6020B	Hardness, Total(SM 2340B)	438000	ug/L	5410	09/28/21 00:14	
EPA 6020B	Vanadium	4.9	ug/L	1.0	09/27/21 18:46	
EPA 9012B	Cyanide	0.0063J	mg/L	0.0080	10/04/21 17:31	
EPA 9060A	Total Organic Carbon	0.61J	mg/L	1.0	10/02/21 05:14	
EPA 9060A	Total Organic Carbon	0.61J	mg/L	1.0	10/02/21 05:14	
EPA 9060A	Total Organic Carbon	0.55J	mg/L	1.0	10/02/21 05:14	
EPA 9060A	Total Organic Carbon	0.64J	mg/L	1.0	10/02/21 05:14	
EPA 9060A	Mean Total Organic Carbon	0.60J	mg/L	1.0	10/02/21 05:14	

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

---

**Method:** EPA 6020B  
**Description:** 6020 MET ICPMS  
**Client:** Dominion Energy\_VA  
**Date:** November 04, 2021

### General Information:

8 samples were analyzed for EPA 6020B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 649019

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92562243006,92562554005

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

- MS (Lab ID: 3404177)
  - Sodium
- MSD (Lab ID: 3404178)
  - Sodium

### Additional Comments:

Analyte Comments:

QC Batch: 649019

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

- MS (Lab ID: 3404179)
  - Sodium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

---

**Method:** EPA 6020B

**Description:** 6020 MET ICPMS

**Client:** Dominion Energy\_VA

**Date:** November 04, 2021

Analyte Comments:

QC Batch: 649019

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

- MSD (Lab ID: 3404180)
  - Sodium

QC Batch: 649482

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

- MS (Lab ID: 3406402)
  - Sodium
- MSD (Lab ID: 3406403)
  - Sodium

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

---

**Method:** EPA 9012B

**Description:** 9012B Cyanide, Total

**Client:** Dominion Energy\_VA

**Date:** November 04, 2021

**General Information:**

8 samples were analyzed for EPA 9012B by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 9012B with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

---

**Method:** EPA 9060A

**Description:** Total Organic Carbon, Asheville

**Client:** Dominion Energy\_VA

**Date:** November 04, 2021

**General Information:**

8 samples were analyzed for EPA 9060A by Pace Analytical Services Asheville. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

**Sample: 092021NPW2**      **Lab ID: 92562243001**      Collected: 09/20/21 16:10      Received: 09/21/21 11:30      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	09/27/21 12:36	09/27/21 20:15	7440-50-8	
Iron	<b>58.3</b>	ug/L	50.0	20.9	1	09/27/21 12:36	09/27/21 20:15	7439-89-6	
Manganese	<b>1.6J</b>	ug/L	2.0	1.0	1	09/27/21 12:36	09/27/21 20:15	7439-96-5	
Nickel	<b>4.0</b>	ug/L	1.0	0.42	1	09/27/21 12:36	09/27/21 20:15	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/27/21 12:36	09/27/21 20:15	7440-22-4	
Sodium	<b>3400</b>	ug/L	250	49.1	1	09/27/21 12:36	09/27/21 20:15	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/27/21 12:36	09/27/21 20:15	7440-31-5	
Hardness, Total(SM 2340B)	<b>30900</b>	ug/L	541		1	09/27/21 12:36	09/28/21 17:05		
Vanadium	<b>4.5</b>	ug/L	1.0	0.25	1	09/27/21 12:36	09/27/21 20:15	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	09/27/21 12:36	09/27/21 20:15	7440-66-6	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:12	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 01:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 01:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 01:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 01:57	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 01:57	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

Sample: 092021NPW3		Lab ID: 92562243002		Collected: 09/20/21 16:05		Received: 09/21/21 11:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Copper	ND	ug/L	2.0	1.1	1	09/27/21 12:36	09/27/21 20:19	7440-50-8	
Iron	<b>45.4J</b>	ug/L	50.0	20.9	1	09/27/21 12:36	09/27/21 20:19	7439-89-6	
Manganese	<b>8.4</b>	ug/L	2.0	1.0	1	09/27/21 12:36	09/27/21 20:19	7439-96-5	
Nickel	<b>2.3</b>	ug/L	1.0	0.42	1	09/27/21 12:36	09/27/21 20:19	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/27/21 12:36	09/27/21 20:19	7440-22-4	
Sodium	<b>20500</b>	ug/L	2500	491	10	09/27/21 12:36	09/28/21 17:09	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/27/21 12:36	09/27/21 20:19	7440-31-5	
Hardness, Total(SM 2340B)	<b>106000</b>	ug/L	5410		10	09/27/21 12:36	09/28/21 17:09		
Vanadium	<b>0.72J</b>	ug/L	1.0	0.25	1	09/27/21 12:36	09/27/21 20:19	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	09/27/21 12:36	09/27/21 20:19	7440-66-6	
<b>9012B Cyanide, Total</b>		Analytical Method: EPA 9012B Preparation Method: EPA 9012B Pace Analytical Services - Asheville							
Cyanide	<b>0.014</b>	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:13	57-12-5	
<b>Total Organic Carbon,Asheville</b>		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 02:14	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 02:14	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 02:14	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 02:14	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 02:14	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

**Sample: 092121FBFieldBlank**      **Lab ID: 92562243003**      Collected: 09/21/21 11:35      Received: 09/21/21 15:35      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	09/27/21 12:36	09/27/21 21:12	7440-50-8	
Iron	ND	ug/L	50.0	20.9	1	09/27/21 12:36	09/27/21 21:12	7439-89-6	
Manganese	ND	ug/L	2.0	1.0	1	09/27/21 12:36	09/27/21 21:12	7439-96-5	
Nickel	<b>0.49J</b>	ug/L	1.0	0.42	1	09/27/21 12:36	09/27/21 21:12	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/27/21 12:36	09/27/21 21:12	7440-22-4	
Sodium	ND	ug/L	250	49.1	1	09/27/21 12:36	09/27/21 21:12	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/27/21 12:36	09/27/21 21:12	7440-31-5	
Hardness, Total(SM 2340B)	<b>31.2J</b>	ug/L	541		1	09/27/21 12:36	09/28/21 16:47		
Vanadium	ND	ug/L	1.0	0.25	1	09/27/21 12:36	09/27/21 21:12	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	09/27/21 12:36	09/27/21 21:12	7440-66-6	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:24	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:09	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:09	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:09	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:09	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:09	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

**Sample: 092121FDFieldDuplicate**    **Lab ID: 92562243004**    Collected: 09/21/21 11:10    Received: 09/21/21 15:35    Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	09/27/21 12:36	09/27/21 21:16	7440-50-8	
Iron	<b>81.7</b>	ug/L	50.0	20.9	1	09/27/21 12:36	09/27/21 21:16	7439-89-6	
Manganese	<b>5.4</b>	ug/L	2.0	1.0	1	09/27/21 12:36	09/27/21 21:16	7439-96-5	
Nickel	<b>21.5</b>	ug/L	1.0	0.42	1	09/27/21 12:36	09/27/21 21:16	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/27/21 12:36	09/27/21 21:16	7440-22-4	
Sodium	<b>9860</b>	ug/L	250	49.1	1	09/27/21 12:36	09/27/21 21:16	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/27/21 12:36	09/27/21 21:16	7440-31-5	
Hardness, Total(SM 2340B)	<b>190000</b>	ug/L	5410		10	09/27/21 12:36	09/28/21 17:12		
Vanadium	<b>1.5</b>	ug/L	1.0	0.25	1	09/27/21 12:36	09/27/21 21:16	7440-62-2	
Zinc	<b>4.9J</b>	ug/L	10.0	2.7	1	09/27/21 12:36	09/27/21 21:16	7440-66-6	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:24	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:26	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:26	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:26	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:26	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:26	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

Sample: 092121NPW4      Lab ID: 92562243005      Collected: 09/21/21 10:45      Received: 09/21/21 15:35      Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B      Preparation Method: EPA 3010A Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	09/23/21 14:38	09/27/21 18:21	7440-50-8	
Iron	<b>105</b>	ug/L	50.0	20.9	1	09/23/21 14:38	09/27/21 18:21	7439-89-6	
Manganese	<b>7.0</b>	ug/L	2.0	1.0	1	09/23/21 14:38	09/27/21 18:21	7439-96-5	
Nickel	<b>21.5</b>	ug/L	1.0	0.42	1	09/23/21 14:38	09/27/21 18:21	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/23/21 14:38	09/27/21 18:21	7440-22-4	
Sodium	<b>9420</b>	ug/L	250	49.1	1	09/23/21 14:38	09/27/21 18:21	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/23/21 14:38	09/27/21 18:21	7440-31-5	
Hardness, Total(SM 2340B)	<b>187000</b>	ug/L	5410		10	09/23/21 14:38	09/27/21 23:56		
Vanadium	<b>1.5</b>	ug/L	1.0	0.25	1	09/23/21 14:38	09/27/21 18:21	7440-62-2	
Zinc	<b>2.7J</b>	ug/L	10.0	2.7	1	09/23/21 14:38	09/27/21 18:21	7440-66-6	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B      Preparation Method: EPA 9012B Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:27	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:43	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:43	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:43	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:43	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 03:43	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

**Sample: 092121NPW5**      **Lab ID: 92562243006**      Collected: 09/21/21 09:55      Received: 09/21/21 15:35      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	09/23/21 14:38	09/27/21 18:24	7440-50-8	
Iron	171	ug/L	50.0	20.9	1	09/23/21 14:38	09/27/21 18:24	7439-89-6	
Manganese	4.9	ug/L	2.0	1.0	1	09/23/21 14:38	09/27/21 18:24	7439-96-5	
Nickel	6.2	ug/L	1.0	0.42	1	09/23/21 14:38	09/27/21 18:24	7440-02-0	
Silver	0.079J	ug/L	0.40	0.070	1	09/23/21 14:38	09/27/21 18:24	7440-22-4	
Sodium	14400	ug/L	2500	491	10	10/12/21 03:38	10/12/21 15:02	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/23/21 14:38	09/27/21 18:24	7440-31-5	
Hardness, Total(SM 2340B)	400000	ug/L	541		1	09/23/21 14:38	09/27/21 18:24		
Vanadium	8.6	ug/L	1.0	0.25	1	09/23/21 14:38	09/27/21 18:24	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	09/23/21 14:38	09/27/21 18:24	7440-66-6	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	ND	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:28	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 04:00	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 04:00	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 04:00	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 04:00	7440-44-0	
Mean Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 04:00	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

Sample: 092121NPW12		Lab ID: 92562243007		Collected: 09/21/21 11:10		Received: 09/21/21 15:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020B Preparation Method: EPA 3010A Pace Analytical Services - Asheville							
Copper	ND	ug/L	2.0	1.1	1	09/23/21 14:38	09/27/21 18:42	7440-50-8	
Iron	ND	ug/L	50.0	20.9	1	09/23/21 14:38	09/27/21 18:42	7439-89-6	
Manganese	5.1	ug/L	2.0	1.0	1	09/23/21 14:38	09/27/21 18:42	7439-96-5	
Nickel	1.3	ug/L	1.0	0.42	1	09/23/21 14:38	09/27/21 18:42	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/23/21 14:38	09/27/21 18:42	7440-22-4	
Sodium	12400	ug/L	2500	491	10	09/23/21 14:38	09/28/21 00:10	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/23/21 14:38	09/27/21 18:42	7440-31-5	
Hardness, Total(SM 2340B)	16700	ug/L	541		1	09/23/21 14:38	09/27/21 18:42		
Vanadium	0.65J	ug/L	1.0	0.25	1	09/23/21 14:38	09/27/21 18:42	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	09/23/21 14:38	09/27/21 18:42	7440-66-6	
<b>9012B Cyanide, Total</b>		Analytical Method: EPA 9012B Preparation Method: EPA 9012B Pace Analytical Services - Asheville							
Cyanide	ND	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:30	57-12-5	
<b>Total Organic Carbon,Asheville</b>		Analytical Method: EPA 9060A Pace Analytical Services - Asheville							
Total Organic Carbon	1.2	mg/L	1.0	0.50	1		10/02/21 04:57	7440-44-0	
Total Organic Carbon	0.52J	mg/L	1.0	0.50	1		10/02/21 04:57	7440-44-0	
Total Organic Carbon	0.53J	mg/L	1.0	0.50	1		10/02/21 04:57	7440-44-0	
Total Organic Carbon	ND	mg/L	1.0	0.50	1		10/02/21 04:57	7440-44-0	
Mean Total Organic Carbon	0.69J	mg/L	1.0	0.50	1		10/02/21 04:57	7440-44-0	

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### ANALYTICAL RESULTS

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

**Sample: 092121NPW13**      **Lab ID: 92562243008**      Collected: 09/21/21 09:45      Received: 09/21/21 15:35      Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>6020 MET ICPMS</b>									
Analytical Method: EPA 6020B    Preparation Method: EPA 3010A									
Pace Analytical Services - Asheville									
Copper	ND	ug/L	2.0	1.1	1	09/23/21 14:38	09/27/21 18:46	7440-50-8	
Iron	<b>79.7</b>	ug/L	50.0	20.9	1	09/23/21 14:38	09/27/21 18:46	7439-89-6	
Manganese	<b>296</b>	ug/L	20.0	10.2	10	09/23/21 14:38	09/28/21 00:14	7439-96-5	
Nickel	<b>3.4</b>	ug/L	1.0	0.42	1	09/23/21 14:38	09/27/21 18:46	7440-02-0	
Silver	ND	ug/L	0.40	0.070	1	09/23/21 14:38	09/27/21 18:46	7440-22-4	
Sodium	<b>15300</b>	ug/L	2500	491	10	09/23/21 14:38	09/28/21 00:14	7440-23-5	
Tin	ND	ug/L	1.0	0.43	1	09/23/21 14:38	09/27/21 18:46	7440-31-5	
Hardness, Total(SM 2340B)	<b>438000</b>	ug/L	5410		10	09/23/21 14:38	09/28/21 00:14		
Vanadium	<b>4.9</b>	ug/L	1.0	0.25	1	09/23/21 14:38	09/27/21 18:46	7440-62-2	
Zinc	ND	ug/L	10.0	2.7	1	09/23/21 14:38	09/27/21 18:46	7440-66-6	
<b>9012B Cyanide, Total</b>									
Analytical Method: EPA 9012B    Preparation Method: EPA 9012B									
Pace Analytical Services - Asheville									
Cyanide	<b>0.0063J</b>	mg/L	0.0080	0.0060	1	10/04/21 12:25	10/04/21 17:31	57-12-5	
<b>Total Organic Carbon,Asheville</b>									
Analytical Method: EPA 9060A									
Pace Analytical Services - Asheville									
Total Organic Carbon	<b>0.61J</b>	mg/L	1.0	0.50	1		10/02/21 05:14	7440-44-0	
Total Organic Carbon	<b>0.61J</b>	mg/L	1.0	0.50	1		10/02/21 05:14	7440-44-0	
Total Organic Carbon	<b>0.55J</b>	mg/L	1.0	0.50	1		10/02/21 05:14	7440-44-0	
Total Organic Carbon	<b>0.64J</b>	mg/L	1.0	0.50	1		10/02/21 05:14	7440-44-0	
Mean Total Organic Carbon	<b>0.60J</b>	mg/L	1.0	0.50	1		10/02/21 05:14	7440-44-0	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

QC Batch: 649019 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562243005, 92562243006, 92562243007, 92562243008

METHOD BLANK: 3404175 Matrix: Water  
Associated Lab Samples: 92562243005, 92562243006, 92562243007, 92562243008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Copper	ug/L	ND	2.0	1.1	09/27/21 18:14	
Hardness, Total(SM 2340B)	ug/L	ND	541		09/27/21 18:14	
Iron	ug/L	ND	50.0	20.9	09/27/21 18:14	
Manganese	ug/L	ND	2.0	1.0	09/27/21 18:14	
Nickel	ug/L	ND	1.0	0.42	09/27/21 18:14	
Silver	ug/L	ND	0.40	0.070	09/27/21 18:14	
Sodium	ug/L	ND	250	49.1	09/27/21 18:14	
Tin	ug/L	ND	1.0	0.43	09/27/21 18:14	
Vanadium	ug/L	ND	1.0	0.25	09/27/21 18:14	
Zinc	ug/L	ND	10.0	2.7	09/27/21 18:14	

LABORATORY CONTROL SAMPLE: 3404176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	50	51.5	103	80-120	
Hardness, Total(SM 2340B)	ug/L	16500	17300	105	80-120	
Iron	ug/L	1250	1340	107	80-120	
Manganese	ug/L	50	52.0	104	80-120	
Nickel	ug/L	50	51.2	102	80-120	
Silver	ug/L	25	27.0	108	80-120	
Sodium	ug/L	2500	2640	105	80-120	
Tin	ug/L	50	50.3	101	80-120	
Vanadium	ug/L	50	51.2	102	80-120	
Zinc	ug/L	50	51.7	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404177 3404178

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92562243006 Result	Spike Conc.	Spike Conc.	MS Result						
Copper	ug/L	ND	50	50	51.1	49.4	101	98	75-125	3	20
Hardness, Total(SM 2340B)	ug/L	400000	16500	16500	422000	455000	136	336	75-125	8	20
Iron	ug/L	171	1250	1250	1530	1490	109	105	75-125	3	20
Manganese	ug/L	4.9	50	50	56.7	57.4	104	105	75-125	1	20
Nickel	ug/L	6.2	50	50	55.7	55.4	99	98	75-125	1	20
Silver	ug/L	0.079J	25	25	27.1	27.0	108	108	75-125	0	20
Sodium	ug/L	14400	2500	2500	17600	20000	153	247	75-125	12	20 M1
Tin	ug/L	ND	50	50	51.1	50.7	102	101	75-125	1	20

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404177												3404178	
Parameter	Units	92562243006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Vanadium	ug/L	8.6	50	50	61.5	60.0	106	103	75-125	3	20		
Zinc	ug/L	ND	50	50	50.8	50.9	98	99	75-125	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3404179												3404180	
Parameter	Units	92562554005 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Copper	ug/L	ND	50	50	50.3	49.5	100	98	75-125	2	20		
Hardness, Total(SM 2340B)	ug/L	411000	16500	16500	416000	422000	30	66	75-125	1	20		
Iron	ug/L	166	1250	1250	1510	1480	108	105	75-125	2	20		
Manganese	ug/L	5.6	50	50	56.7	55.7	102	100	75-125	2	20		
Nickel	ug/L	6.3	50	50	56.0	54.8	99	97	75-125	2	20		
Silver	ug/L	ND	25	25	27.0	26.8	108	107	75-125	1	20		
Sodium	ug/L	14500	2500	2500	16600	16800	84	95	75-125	2	20 E		
Tin	ug/L	ND	50	50	50.2	50.8	100	101	75-125	1	20		
Vanadium	ug/L	8.9	50	50	59.6	60.2	101	103	75-125	1	20		
Zinc	ug/L	ND	50	50	50.6	50.4	98	97	75-125	0	20		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

QC Batch: 649482 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562243001, 92562243002, 92562243003, 92562243004

METHOD BLANK: 3406400 Matrix: Water  
Associated Lab Samples: 92562243001, 92562243002, 92562243003, 92562243004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Copper	ug/L	ND	2.0	1.1	09/27/21 19:46	
Hardness, Total(SM 2340B)	ug/L	2.8J	541		09/28/21 16:44	
Iron	ug/L	ND	50.0	20.9	09/27/21 19:46	
Manganese	ug/L	ND	2.0	1.0	09/27/21 19:46	
Nickel	ug/L	ND	1.0	0.42	09/27/21 19:46	
Silver	ug/L	ND	0.40	0.070	09/27/21 19:46	
Sodium	ug/L	ND	250	49.1	09/27/21 19:46	
Tin	ug/L	ND	1.0	0.43	09/27/21 19:46	
Vanadium	ug/L	ND	1.0	0.25	09/27/21 19:46	
Zinc	ug/L	ND	10.0	2.7	09/27/21 19:46	

LABORATORY CONTROL SAMPLE: 3406401

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	50	50.7	101	80-120	
Hardness, Total(SM 2340B)	ug/L	16500	17200	104	80-120	
Iron	ug/L	1250	1370	110	80-120	
Manganese	ug/L	50	50.8	102	80-120	
Nickel	ug/L	50	51.0	102	80-120	
Silver	ug/L	25	27.8	111	80-120	
Sodium	ug/L	2500	2670	107	80-120	
Tin	ug/L	50	49.8	100	80-120	
Vanadium	ug/L	50	50.1	100	80-120	
Zinc	ug/L	50	50.8	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3406402 3406403

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92562240001 Result	Spike Conc.	Spike Conc.	MS Result								
Copper	ug/L	ND	50	50	52.3	52.4	103	103	75-125	0	20		
Hardness, Total(SM 2340B)	ug/L	43900	16500	16500	59900	60800	97	102	75-125	1	20		
Iron	ug/L	593	1250	1250	2030	2040	115	116	75-125	0	20		
Manganese	ug/L	17.2	50	50	68.7	69.3	103	104	75-125	1	20		
Nickel	ug/L	1.2	50	50	52.6	52.7	103	103	75-125	0	20		
Silver	ug/L	0.88	25	25	28.9	29.0	112	113	75-125	0	20		
Sodium	ug/L	9420	2500	2500	11700	12000	90	104	75-125	3	20 E		
Tin	ug/L	ND	50	50	51.0	50.2	102	100	75-125	1	20		

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

Parameter	Units	92562240001		3406402		3406403		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
Vanadium	ug/L	10.5	50	50	60.5	61.9	100	103	75-125	2	20			
Zinc	ug/L	ND	50	50	53.9	53.4	103	102	75-125	1	20			

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

QC Batch: 652174      Analysis Method: EPA 6020B  
QC Batch Method: EPA 3010A      Analysis Description: 6020 MET  
Laboratory: Pace Analytical Services - Asheville  
Associated Lab Samples: 92562243006

METHOD BLANK: 3420076      Matrix: Water  
Associated Lab Samples: 92562243006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sodium	ug/L	ND	250	49.1	10/12/21 14:54	

LABORATORY CONTROL SAMPLE: 3420077

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sodium	ug/L	2500	2540	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3420078      3420079

Parameter	Units	3420078		3420079		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		92562243006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sodium	ug/L	14400	2500	2500	17300	16400	116	79	75-125	5	20

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### REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

QC Batch:	650593	Analysis Method:	EPA 9012B
QC Batch Method:	EPA 9012B	Analysis Description:	EPA 9012B Cyanide
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92562243001, 92562243002, 92562243003, 92562243004, 92562243005, 92562243006, 92562243007, 92562243008

METHOD BLANK: 3412178 Matrix: Water

Associated Lab Samples: 92562243001, 92562243002, 92562243003, 92562243004, 92562243005, 92562243006, 92562243007, 92562243008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.0080	0.0060	10/04/21 17:06	

LABORATORY CONTROL SAMPLE: 3412179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	0.1	0.10	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3412180 3412181

Parameter	Units	92562240001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	0.1	0.1	0.095	0.093	94	92	75-125	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3412182 3412183

Parameter	Units	92562243006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	ND	0.1	0.1	0.10	0.098	99	93	75-125	6	20	

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### QUALITY CONTROL DATA

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

QC Batch:	650338	Analysis Method:	EPA 9060A
QC Batch Method:	EPA 9060A	Analysis Description:	9060 TOC, AVL
		Laboratory:	Pace Analytical Services - Asheville

Associated Lab Samples: 92562243001, 92562243002, 92562243003, 92562243004, 92562243005, 92562243006, 92562243007, 92562243008

METHOD BLANK: 3410900 Matrix: Water  
Associated Lab Samples: 92562243001, 92562243002, 92562243003, 92562243004, 92562243005, 92562243006, 92562243007, 92562243008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/L	ND	1.0	0.50	10/01/21 19:41	
Total Organic Carbon	mg/L	ND	1.0	0.50	10/01/21 19:41	
Total Organic Carbon	mg/L	ND	1.0	0.50	10/01/21 19:41	
Total Organic Carbon	mg/L	ND	1.0	0.50	10/01/21 19:41	
Total Organic Carbon	mg/L	ND	1.0	0.50	10/01/21 19:41	

LABORATORY CONTROL SAMPLE: 3410901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/L	25	24.8	99	75-125	
Total Organic Carbon	mg/L	25	24.5	98	75-125	
Total Organic Carbon	mg/L	25	25.2	101	75-125	
Total Organic Carbon	mg/L	25	23.8	95	75-125	
Total Organic Carbon	mg/L	25	25.7	103	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3410902 3410903

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result						
Mean Total Organic Carbon	mg/L	0.63J	25	25	26.4	26.8	103	105	75-125	1	25
Total Organic Carbon	mg/L	1.2	25	25	25.2	26.5	96	101	75-125	5	25
Total Organic Carbon	mg/L	0.60J	25	25	26.5	26.6	104	104	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	27.0	27.0	107	107	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	26.9	27.0	106	106	75-125	0	25

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3410904 3410905

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result						
Mean Total Organic Carbon	mg/L	ND	25	25	26.4	26.7	104	105	75-125	1	25
Total Organic Carbon	mg/L	ND	25	25	25.5	26.3	100	103	75-125	3	25
Total Organic Carbon	mg/L	ND	25	25	26.5	26.5	104	104	75-125	0	25
Total Organic Carbon	mg/L	ND	25	25	26.7	26.9	106	106	75-125	1	25
Total Organic Carbon	mg/L	ND	25	25	26.8	27.0	105	106	75-125	1	25

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## QUALIFIERS

Project: Clover PS Sludge Sed Pond (D)

Pace Project No.: 92562243

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### DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

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

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

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

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Clover PS Sludge Sed Pond (D)  
Pace Project No.: 92562243

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92562243001	092021NPW2	EPA 3010A	649482	EPA 6020B	649569
92562243002	092021NPW3	EPA 3010A	649482	EPA 6020B	649569
92562243003	092121FBFieldBlank	EPA 3010A	649482	EPA 6020B	649569
92562243004	092121FDFieldDuplicate	EPA 3010A	649482	EPA 6020B	649569
92562243005	092121NPW4	EPA 3010A	649019	EPA 6020B	649113
92562243006	092121NPW5	EPA 3010A	649019	EPA 6020B	649113
92562243006	092121NPW5	EPA 3010A	652174	EPA 6020B	652188
92562243007	092121NPW12	EPA 3010A	649019	EPA 6020B	649113
92562243008	092121NPW13	EPA 3010A	649019	EPA 6020B	649113
92562243001	092021NPW2	EPA 9012B	650593	EPA 9012B	650689
92562243002	092021NPW3	EPA 9012B	650593	EPA 9012B	650689
92562243003	092121FBFieldBlank	EPA 9012B	650593	EPA 9012B	650689
92562243004	092121FDFieldDuplicate	EPA 9012B	650593	EPA 9012B	650689
92562243005	092121NPW4	EPA 9012B	650593	EPA 9012B	650689
92562243006	092121NPW5	EPA 9012B	650593	EPA 9012B	650689
92562243007	092121NPW12	EPA 9012B	650593	EPA 9012B	650689
92562243008	092121NPW13	EPA 9012B	650593	EPA 9012B	650689
92562243001	092021NPW2	EPA 9060A	650338		
92562243002	092021NPW3	EPA 9060A	650338		
92562243003	092121FBFieldBlank	EPA 9060A	650338		
92562243004	092121FDFieldDuplicate	EPA 9060A	650338		
92562243005	092121NPW4	EPA 9060A	650338		
92562243006	092121NPW5	EPA 9060A	650338		
92562243007	092121NPW12	EPA 9060A	650338		
92562243008	092121NPW13	EPA 9060A	650338		

### REPORT OF LABORATORY ANALYSIS

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

**Laboratory receiving samples:**

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

**Sample Condition Upon Receipt**

Client Name:

Dominion

Project #:

clover

**WO# : 92562243**



Courier:

Commercial

Fed Ex

UPS

USPS

Client

Pace

Other:

Custody Seal Present?

Yes

No

Seals Intact?

Yes

No

Packing Material:

Bubble Wrap

Bubble Bags

None

Other

Thermometer:

IR Gun ID:

T-3

Type of Ice:

Wet

Blue

None

Biological Tissue Frozen?

Yes

No

N/A

9-21-21  
RSB

Date/Initials Person Examining Contents:

Cooler Temp:

2.4

Correction Factor:

Add/Subtract (°C)

0.0

Temp should be above freezing to 6°C

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

Cooler Temp Corrected (°C):

2.4

USDA Regulated Soil (  N/A, water sample)

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

Yes

No

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

Comments/Discrepancy:

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager SRF Review: \_\_\_\_\_ Date: \_\_\_\_\_



Document Name:  
**Sample Condition Upon Receipt(SCUR)**  
 Document No.:  
**F-CAR-CS-033-Rev.07**

Document Revised: October 28, 2020  
 Page 2 of 2  
 Issuing Authority:  
 Pace Carolinas Quality Office

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

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

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

Project #

**WO# : 92562243**

PM: NMG

Due Date: 10/05/21

CLIENT: 92-DomEnergy

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 Na2SO3 (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)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)		
1			1			1		1												3										
2			1			1		1												3										
3																														
4																														
5																														
6																														
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10																														
11																														
12																														

**pH Adjustment Log for Preserved Samples**

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

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



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

### CHAIN-OF-CUSTODY / Analytical Request Document

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

**Section A**  
 Required Client Information:  
 Company: Dominion Energy VA  
 Address: 120 Treadegar Street  
 Richmond, VA 23219  
 Email: kelly.a.hicks@dominionenergy.com  
 Phone: (804)273-4903 Fax  
 Requested Due Date:

**Section B**  
 Required Project Information:  
 Report To: Kelly Hicks  
 Copy To:  
 Purchase Order #:  
 Project Name: Clover PS Sludge Sed Pond (D)  
 Project #:

**Section C**  
 Invoice Information:  
 Attention:  
 Company Name:  
 Address:  
 Pace Quote:  
 Pace Project Manager: nicole.doleo@pacelabs.com,  
 Pace Profile #: 13861

**Regulatory Agency**  
 State / Location  
 VA

ITEM #	MATRIX	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)				
					START DATE	END DATE			Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				Other	6020 Metals/Hardness	7406 Hexavalent Chromium	9012 Cyanide
1	09-24TB-	WT																				
2	09-24TB*	WT																				
3	09-20-21NPW2	WT	9/12/21	1610				6/	/	/	/	/	/	/								001
4	09-20-21NPW3	WT	9/20/21	1405				6/	/	/	/	/	/									002
5	09-24NPW4-	WT																				
6	09-24NPW5	WT																				
7	09-24NPW12	WT																				
8	09-24-	WT																				
9	09-21NPW13-	WT																				
10																						
11																						
12																						

Clover - 25A21-USWNR-D-2-1

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: R. Bradwell / E. Hicks  
 SIGNATURE of SAMPLER: [Signature]  
 DATE Signed: 9/20/21

**RELINQUISHED BY / AFFILIATION**  
 DATE: 9/21/21 0900  
 TIME: 1130  
 ACCEPTED BY / AFFILIATION: [Signature]  
 DATE: 9/21/21 0900  
 TIME: 1130

**SAMPLE CONDITIONS**  
 TEMP in C: 2.4  
 Received on Ice (Y/N): Y  
 Custody Sealed Cooler (Y/N): Y  
 Samples Intact (Y/N): Y



Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.paceclabs.com/hubs/pace-standard-terms.pdf>.

### CHAIN-OF-CUSTODY / Analytical Request Document

<b>Section A</b>	<b>Required Client Information:</b>	<b>Section B</b>	<b>Required Project Information:</b>	<b>Section C</b>	<b>Invoice Information:</b>
Company: Dominion Energy VA	Report To: Kelly Hicks	Attention: Kelly Hicks	Company Name: Dominion Energy VA	Address: 120 Tredegar Street, Richmond, VA 23215	Company Name: Pace Analytical
Address: 120 Tredegar Street, Richmond, VA 23215	Copy To:	Purchase Order #:	Address:	Pace Project Manager: nicole.dobson@paceclabs.com	Company Name: Pace Analytical
Email: Kelly.Hicks@dominionenergy.com	Purchase Order #:	Clover PS Sludge Snd Pund (D)	Address:	nicole.dobson@paceclabs.com	Company Name: Pace Analytical
Phone: (804) 273-4903	Fax:	Project Name:	Address:	138651	Company Name: Pace Analytical
Requested Due Date:	Project #:	Requested Analysis Filtered (Y/N)	State / Location:	VA	Company Name: Pace Analytical

ITEM #	MATRIX	CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=CCMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	Preservatives							Analyses Test				Residual Chlorine (Y/N)												
					START	TIME	DATE	TIME				H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	6020 Metals/Hardness	7195 Hexavalent Chromium	9042 Cyanide	9215 Sulfide		9085 TOC	9102 Alkalinity										
												DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE		DATE	DATE	DATE	DATE	DATE	DATE						
1	D0-21FB	WT																																	
2	D0-21FD	WT																																	
3	D0-20 21NPV2	WT	9/21/21	6:10				3/																											001
4	D0-20 21NPV3	WT	9/20/21	16:05				3/																										002	
5	D0-21NPV4	WT																																	
6	D0-21NPV5	WT																																	
7	D0-21NPV6	WT																																	
8	D0-21	WT																																	
9	D0-21NPV4	WT																																	
10																																			
11																																			
12																																			

PCE-C  
Clover Power Station  
Recd: 09/21/2021 Due: 10/05/2021  
\*130325002

RELIQUISHED BY / AFFILIATION			ACCEPTED BY / AFFILIATION			ADDITIONAL COMMENTS				
[Signature] REES			[Signature] REES			2111004 Clover Power Station Recd: 09/21/2021 Due: 10/05/2021 *130325002				
DATE	TIME		DATE	TIME		DATE	TIME	DATE	TIME	
9/21/21	09:00		9/21/21	09:00		9/21/21	12:08	9/21/21	12:08	09:00
										271

Additional Comments: Clover - ZS AZ1-HEXCHROM-D-2-1

SAMPLER NAME AND SIGNATURE		TEMP IN C
PRINT NAME OF SAMPLER: K. Braswell / B. Hicks		Received on Ice (Y/N)
SIGNATURE OF SAMPLERS: [Signature]		Custody Sealed Cooler (Y/N)
DATE SIGNED: 9/20/21		Samples Intact (Y/N)

Laboratory receiving samples:

Asheville  Eden  Greenwood  Huntersville  Raleigh  Mechanicsville  Atlanta  Kernersville

**Sample Condition Upon Receipt**

Client Name:

Dominion

Project #

Clover

**WO# : 92562243**

PM: NMG

Due Date: 10/05/21

CLIENT: 92-DomEnergy

Courier:  Fed Ex  UPS  USPS  Client  
 Commercial  Pace  Other: \_\_\_\_\_

Custody Seal Present?  Yes  No    Seals Intact?  Yes  No

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

Packing Material:  Bubble Wrap  Bubble Bags  None  Other

Biological Tissue Frozen?  Yes  No  N/A RSB

Thermometer:  IR Gun ID: T-3    Type of Ice:  Wet  Blue  None

Cooler Temp: 1.3    Correction Factor: Add/Subtract (°C) 0.0

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

Cooler Temp Corrected (°C): 1.3

USDA Regulated Soil (  N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?  Yes  No    Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

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

COMMENTS/SAMPLE DISCREPANCY

Field Data Required?  Yes  No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Project Manager SCURF Review: \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager SRF Review: \_\_\_\_\_ Date: \_\_\_\_\_





Document Name:  
**Sample Condition Upon Receipt(SCUR)**  
 Document No.:  
**F-CAR-CS-033-Rev.07**

Document Revised: October 28, 2020  
 Page 2 of 2

Issuing Authority:  
 Pace Carolinas Quality Office

Project #

**WO# : 92562243**

PM: NMG

Due Date: 10/05/21

CLIENT: 92-DomEnergy

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

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

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

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)	V5GU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1	/	/	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	3	/	/	/	/	/	/	/	/
2	/	/	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	3	/	/	/	/	/	/	/	
3	/	/	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	3	/	/	/	/	/	/	/	
4	/	3	/	/	3	3	/	/	/	/	/	/	/	/	/	/	/	/	/	9	/	/	/	/	/	/	/	
5	/	1	/	/	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	3	/	/	/	/	/	/	/	
6	/	1	/	/	1	1	/	/	/	/	/	/	/	/	/	/	/	/	/	3	/	/	/	/	/	/	/	
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.



Rachael Powell

**CHAIN-OF-CUSTODY / Analytical Request Document**

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**Required Client Information:**  
 Company: Dominion Energy VA  
 Address: 120 Tredegar Street  
 Richmond, VA 23219  
 Email: kelly.a.hicks@dominionenergy.com  
 Phone: (804)273-4903 Fax  
 Requested Due Date:

**Required Project Information:**  
 Report To: Kelly Hicks  
 Copy To:  
 Purchase Order #:  
 Project Name: Clover PS Sludge Sed Pond (D)  
 Project #:

**Invoice Information:**  
 Attention:  
 Company Name:  
 Address:  
 Pace Quote:  
 Pace Project Manager: nicole.d'oleo@pacelabs.com  
 Pace Profile #: 13861

**Regulatory Agency:**  
 State / Location: VA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample IDs must be unique	MATRIX	CODE	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
				START	END			Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol			
1	09 21 21FB Field Blank	Drinking Water	DW	9/21/21	1135		1										
2	09 21 21FD Field Duplicate	Drinking Water	DW	9/21/21	1110		1										
3	09 21 21PW3	Drinking Water	DW				1										
4	09 21 21PW4	Drinking Water	DW				1										
5	09 21 21PW5	Drinking Water	DW	9/21/21	1045		1										
6	09 21 21PW6	Drinking Water	DW	9/21/21	0955		1										
7	09 21 21PW12	Drinking Water	DW	9/21/21	1110		1										
8	09 21 21PW13	Drinking Water	DW	9/21/21	0945		1										
9																	
10																	
11																	
12																	

**ADDITIONAL COMMENTS:**

**RELINQUISHED BY / AFFILIATION:** K. B. Caldwell / G. Heber

**DATE:** 9/21/21

**TIME:** 1515

**ACCEPTED BY / AFFILIATION:** Rachael Powell

**DATE:** 9-21-21

**TIME:** 1535

**TEMP in C:** 1.3

**SAMPLE CONDITIONS:**

Received on Ice (Y/N): Y

Custody Sealed Cooler (Y/N): Y

Samples Intact (Y/N): Y

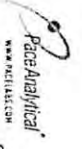
Clover - 25A21 - VSWM2 - D-2-2

**SAMPLER NAME AND SIGNATURE:** K. B. Caldwell

**PRINT Name of SAMPLER:** K. B. Caldwell

**SIGNATURE of SAMPLER:** [Signature]

**DATE Signed:** 9/21/21



# CHAIN-OF-CUSTODY / Analytical Request Document

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

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.paceanalytical.com/terms-conditions>.

**Section A**  
 Requested Client Information:  
 Company: Dominion Energy VA  
 Address: 120 Tiedeman Street  
 Richmond, VA 23219  
 Email: kelly.a.hicks@dominionenergy.com  
 Phone: (804) 773-4903 Fax: \_\_\_\_\_  
 Requested Due Date: \_\_\_\_\_

**Section B**  
 Requested Project Information:  
 Report To: Kelly Hicks  
 Copy To: \_\_\_\_\_  
 Purchase Order #: \_\_\_\_\_  
 Project Name: Clover PS Sudge Sed Pond (K8) (D)  
 Project #: \_\_\_\_\_

**Section C**  
 Invoice Information:  
 Attention: \_\_\_\_\_  
 Company Name: Pace Quate  
 Address: \_\_\_\_\_  
 Pace Project Manager: nicole.dolond@pacequates.com  
 Pace Profile #: 13851

**Regulatory Agency**  
 State / Location: VA

Page : 1 Of 1

ITEM #	SAMPLE ID <small>One Character per box (A-Z, 0-9 /, -, ) Sample ids must be unique</small>	MATRIX <small>Drinking Water DW Waste Water WW Product SL SI SL SL XP AR OT Tissue</small>	CODE <small>DW WT WW SL SI XP AR OT TS</small>	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	SAMPLE CONDITIONS													
						DATE	TIME			DATE	TIME	H2SO4	HNO3	HCl	NaOH	Na2S2O3						Methanol	Other	6010/6020 metals	7470 Mercury	9055 anions	TDS	Radium-226/228	7196 Hexavalent Chrom.	9215 Sulfide				
																															WT	WT	WT	WT
1	09 21 21FB F-41 Drip			WT	G	9/21/21	1135		Unpreserved										X	X	X	X	X	X	X	X	X	X	X	X		603	92502243	005
2	09 21 21FB F-41 Drip			WT	G	9/21/21	1110												X	X	X	X	X	X	X	X	X	X	X	X	X	004	005	
3	09 21 21FB F-41 Drip			WT	G	9/21/21	1045												X	X	X	X	X	X	X	X	X	X	X	X	X	005	MS/MSD taken here	
4	09 21 21FB F-41 Drip			WT	G	9/21/21	1110												X	X	X	X	X	X	X	X	X	X	X	X	007	008		
5	09 21 21FB F-41 Drip			WT	G	9/21/21	1110												X	X	X	X	X	X	X	X	X	X	X	X	X	X		
6	09 21 21FB F-41 Drip			WT	G	9/21/21	1110												X	X	X	X	X	X	X	X	X	X	X	X	X	X		
7	09 21 21FB F-41 Drip			WT	G	9/21/21	1110												X	X	X	X	X	X	X	X	X	X	X	X	X	X		
8	09 21 21FB F-41 Drip			WT	G	9/21/21	1110												X	X	X	X	X	X	X	X	X	X	X	X	X	X		
9	09 21 21FB F-41 Drip			WT	G	9/21/21	0945												X	X	X	X	X	X	X	X	X	X	X	X	X	X		
10																																		
11																																		
12																																		

**ADDITIONAL COMMENTS**  
 Relinquished by / Affiliation: KOBBA / Gole 9/21/21 1430 Jamii Harris  
 Accepted by / Affiliation: \_\_\_\_\_  
 Date: 9/21/21 1430  
 Temp in C: 7.7  
 Received on Ice (Y/N):   
 Custody Sealed Cooler (Y/N):   
 Samples Intact (Y/N):

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: K. Badwell / E. Huter  
 SIGNATURE of SAMPLER: *[Handwritten Signature]*  
 DATE Signed: 9/21/21

**PCE-C**  
**Clover Power Station**  
**2111021**  
**Recd: 09/21/2021 Due: 10/05/2021**  
 v130325002

## Certificate of Analysis 1094736

Nicole D'Oleo  
Pace Analytical Services LLC Charlotte  
9800 Kincey Ave, Suite 100  
Huntersville NC, 28078

Customer ID: 44-102116  
Report Printed: 10/06/2021 10:27

Project Name: Nicole D'Oleo PM

Workorder: 1094736

Dear Nicole D'Oleo

Enclosed are the analytical results for samples received by the laboratory 09/27/2021 10:00.

The results relate 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.

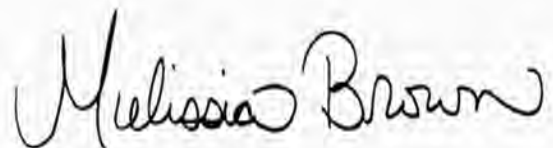
The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services LLC Kentucky - Pikeville

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



#460210 Madisonville, KY  
#460291 Pikeville, KY



Melissia Brown, Project Coordinator

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*



**SAMPLE SUMMARY**

Lab ID	Client Sample ID/Alias	Matrix	Date Collected	Date Received	Sampled By
1094736-01	Environmental (Water / Wastewater)/Lab ID 92562243001	Water	09/20/2021 16:10	09/27/2021 10:00	Client
1094736-02	Environmental (Water / Wastewater)/Lab ID 92562243002	Water	09/20/2021 16:05	09/27/2021 10:00	Client
1094736-03	Environmental (Water / Wastewater)/Lab ID 92562243003	Water	09/21/2021 11:35	09/27/2021 10:00	Client
1094736-04	Environmental (Water / Wastewater)/Lab ID 92562243004	Water	09/21/2021 11:10	09/27/2021 10:00	Client
1094736-05	Environmental (Water / Wastewater)/Lab ID 92562243005	Water	09/21/2021 10:45	09/27/2021 10:00	Client
1094736-06	Environmental (Water / Wastewater)/Lab ID 92562243006	Water	09/21/2021 09:55	09/27/2021 10:00	Client
1094736-07	Environmental (Water / Wastewater)/Lab ID 92562243007	Water	09/21/2021 11:10	09/27/2021 10:00	Client
1094736-08	Environmental (Water / Wastewater)/Lab ID 92562243008	Water	09/21/2021 09:45	09/27/2021 10:00	Client



**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-01**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243001**

Sample Collection Date Time: 09/20/2021 16:10  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	23.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-02**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243002**

Sample Collection Date Time: 09/20/2021 16:05  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	15.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-03**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243003**

Sample Collection Date Time: 09/21/2021 11:35  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	ND	u	mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-04**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243004**

Sample Collection Date Time: 09/21/2021 11:10  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	39.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT



**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-05**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243005**

Sample Collection Date Time: 09/21/2021 10:45  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	42.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-06**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243006**

Sample Collection Date Time: 09/21/2021 09:55  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	49.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-07**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243007**

Sample Collection Date Time: 09/21/2021 11:10  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	18.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**ANALYTICAL RESULTS**

Lab Sample ID: **1094736-08**  
 Description: **Environmental (Water / Wastewater) Lab ID 92562243008**

Sample Collection Date Time: 09/21/2021 09:45  
 Sample Received Date Time: 09/27/2021 10:00

Conventional Chemistry Analyses Pikeville

Analyte	Result	Flag	Units	MRL	MDL	Method	Prepared	Analyzed	Analyst
Total Alkalinity	59.0		mg/L	10.0	4.3	EPA 310.2	10/01/2021 13:14	10/01/2021 13:14	TAT

**Notes for work order 1094736**

- Samples collected by PACE personnel are done so in accordance with procedures set forth in PACE field services SOPs .
- Results contained in this report are only representative of the samples received.
- PACE does not provide interpretation of these results unless otherwise stated .
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identification based on the presumptive evidence of the mass spectra.  
Concentrations reported are estimated values.

**Qualifiers**

- T20 Sample receipt temperature outside 0 - 6°C; sample not collected on same day as receipt; sample not received on ice; client gave permission to proceed as documented on the COC or the project manager notified to contact client before proceeding.
- U Target analyte was analyzed for, but was below detection limit (the value associated with the qualifier is the laboratory method detection limit in our LIMS system).

**Standard Qualifiers/Acronyms**

- MDL Method Detection Limit
- MRL Minimum Reporting Limit
- ND Not Detected
- LCS Laboratory Control Sample
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- DUP Sample Duplicate
- % Rec Percent Recovery
- RPD Relative Percent Difference
- > Greater than
- < Less than





**Conventional Chemistry Analyses Pikeville - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch BAI3597 - Default Prep Wet Chem 2</b>										
<b>Blank (BAI3597-BLK1)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	ND	10.0	mg/L							U
<b>Blank (BAI3597-BLK2)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	ND	10.0	mg/L							U
<b>Blank (BAI3597-BLK3)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	ND	10.0	mg/L							U
<b>Blank (BAI3597-BLK4)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	ND	10.0	mg/L							U
<b>Blank (BAI3597-BLK5)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	ND	10.0	mg/L							U
<b>LCS (BAI3597-BS1)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	80-120			
<b>LCS (BAI3597-BS2)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	103		mg/L	100		103	80-120			
<b>LCS (BAI3597-BS3)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	80-120			
<b>LCS (BAI3597-BS4)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	103		mg/L	100		103	80-120			
<b>LCS (BAI3597-BS5)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	80-120			



**Conventional Chemistry Analyses Pikeville - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch BAI3597 - Default Prep Wet Chem 2</b>										
<b>LCS (BAI3597-BS6)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	104		mg/L	100		104	80-120			
<b>LCS (BAI3597-BS7)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	80-120			
<b>LCS (BAI3597-BS8)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	103		mg/L	100		103	80-120			
<b>LCS (BAI3597-BS9)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	104		mg/L	100		104	80-120			
<b>Duplicate (BAI3597-DUP1) Source: 1094736-08</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	59.0	10.0	mg/L		59.0			0.00	10	
<b>Duplicate (BAI3597-DUP2) Source: 1094727-04</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	148	10.0	mg/L		149			0.673	10	
<b>Duplicate (BAI3597-DUP4) Source: 1094965-02</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	188	10.0	mg/L		189			0.531	10	
<b>Duplicate (BAI3597-DUP5) Source: 1095079-01</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	200	10.0	mg/L		200			0.00	10	
<b>Duplicate (BAI3597-DUP7) Source: 1101707-01</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	46.0	10.0	mg/L		47.0			2.15	10	
<b>Duplicate (BAI3597-DUP8) Source: 1101729-01</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	22.0	10.0	mg/L		22.0			0.00	10	



Conventional Chemistry Analyses Pikeville - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch BAI3597 - Default Prep Wet Chem 2</b>										
<b>Matrix Spike (BAI3597-MS1) Source: 1094736-08</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	113		mg/L	58.3	52.1	104	85-115			
<b>Matrix Spike (BAI3597-MS2) Source: 1094727-04</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	190		mg/L	58.3	132	100	85-115			
<b>Matrix Spike (BAI3597-MS4) Source: 1094965-02</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	219		mg/L	58.3	167	89.2	85-115			
<b>Matrix Spike (BAI3597-MS5) Source: 1095079-01</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	225		mg/L	41.7	183	100	85-115			
<b>Matrix Spike (BAI3597-MS7) Source: 1101707-01</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	92.0		mg/L	58.3	41.5	86.5	85-115			
<b>Matrix Spike (BAI3597-MS8) Source: 1101729-01</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	70.0		mg/L	58.3	19.4	86.7	85-115			
<b>Reference (BAI3597-SRM1)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	0-200			
<b>Reference (BAI3597-SRM2)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	0-200			
<b>Reference (BAI3597-SRM3)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	102		mg/L	100		102	0-200			
<b>Reference (BAI3597-SRM4)</b>										
Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14										
Total Alkalinity	104		mg/L	100		104	0-200			



**Conventional Chemistry Analyses Pikeville - Quality Control**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch BAI3597 - Default Prep Wet Chem 2**

**Reference (BAI3597-SRM5)**

Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14

Total Alkalinity	103		mg/L	100		103	0-200			
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**Reference (BAI3597-SRM6)**

Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14

Total Alkalinity	102		mg/L	100		102	0-200			
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**Reference (BAI3597-SRM7)**

Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14

Total Alkalinity	104		mg/L	100		104	0-200			
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**Reference (BAI3597-SRM8)**

Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14

Total Alkalinity	103		mg/L	100		103	0-200			
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**Reference (BAI3597-SRM9)**

Prepared: 10/1/2021 13:14, Analyzed: 10/1/2021 13:14

Total Alkalinity	104		mg/L	100		104	0-200			
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**Certified Analyses included in this Report**

Analyte	Certifications
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**EPA 310.2 in Water**

Total Alkalinity KY Wastewater Pkv (00050) WV Wastewater Pikeville (102), 173 Island Creek Rd Pikeville, KY 41501 VA NELAC PKV (460291)

**Sample Acceptance Checklist for Work Order 1094736**

Shipped By: Fed Ex

Temperature: 21.80° Celcius

**Condition**

Check if Custody Seals are Present/Intact	<input type="checkbox"/>
Check if Custody Signatures are Present	<input checked="" type="checkbox"/>
Check if Collector Signature Present	<input type="checkbox"/>
Check if bottles are intact	<input checked="" type="checkbox"/>
Check if bottles are correct	<input checked="" type="checkbox"/>
Check if bottles have sufficient volume	<input checked="" type="checkbox"/>
Check if samples received on ice	<input type="checkbox"/>
Check if VOA headspace is acceptable	<input type="checkbox"/>
Check if samples received in holding time.	<input checked="" type="checkbox"/>
Check if samples are preserved properly	<input checked="" type="checkbox"/>

# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: VA  
 Cert. Needed:  Yes  No

Workorder: 92562243      Workorder Name: Clover PS Sludge Sed Pond(D)

Owner Received Date: 9/21/2021      Results Requested By: 10/5/2021

Report To: **Nicole D'Oleo**      Subcontractor: **Pace Analytical Madisonville**

Pace Analytical Charlotte  
 9800 Kinsey Ave, Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092

Pace Analytical Madisonville  
 825 Industrial Rd  
 Madisonville, KY 42431  
 Phone (270)824-2211



Preserved Containers

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved	Requested Analytes	Comments
1	092021NPW2	PS	9/20/2021 16:10	92562243001	Water	1		310.2 Alkalinity	LAB USE ONLY
2	092021NPW3	PS	9/20/2021 16:05	92562243002	Water	1			
3	092121FBFieldblank	PS	9/21/2021 11:35	92562243003	Water	1			
4	092121FBFieldDuplicate	PS	9/21/2021 11:10	92562243004	Water	1			
5	092121NPW4	PS	9/21/2021 10:45	92562243005	Water	1			
6	092121NPW5	RQS	9/21/2021 09:55	92562243006	Water	1			
7	092121NPW12	PS	9/21/2021 11:10	92562243007	Water	1			
8	092121NPW13	PS	9/21/2021 09:45	92562243008	Water	1			

Cooler Temperature on Receipt      °C      Custody Seal      Y or N      Received on Ice      Y or N      Samples Intact      Y or N

Transfers

Released By	Date/Time	Received By	Date/Time
KAROL BULLMAN	9-22-21 17:05	[Signature]	9-27-21

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Thermometer Serial Number  
 181390287  
 181460057  
 Temp 21.8 °C

please report I-flags to MVL



Enthalpy Analytical  
 1941 Reymet Road  
 Richmond, VA 23237  
 (804)-358-8295 - Telephone  
 (804)-358-8297 - Fax

**Analysis Detects Report**

Date Issued: 10/5/2021 4:26:01PM

Client Name: Pace Analytical - Huntersville, NC  
 Client Site ID: Clover Power Station  
 Submitted To: Nicole D'Oleo

**Laboratory Sample ID: 2111004-01 Client Sample ID: 092021NPW2**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Chromium, Hexavalent	01	SW7196A	0.012		0.005	0.005	1	mg/L

**Laboratory Sample ID: 2111004-02 Client Sample ID: 092021NPW3**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Chromium, Hexavalent	02	SW7196A	0.012		0.005	0.005	1	mg/L

**Laboratory Sample ID: 2111021-02 Client Sample ID: 092121FDFieldDuplicate**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Chromium, Hexavalent	02	SW7196A	0.013		0.005	0.005	1	mg/L

**Laboratory Sample ID: 2111021-03 Client Sample ID: 092121NPW4**

Parameter	Samp ID	Reference Method	Sample Results	Qual	DL	LOQ	Dil. Factor	Units
Chromium, Hexavalent	03	SW7196A	0.011		0.005	0.005	1	mg/L

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



1941 Reymet Road • Richmond, Virginia 23237 • Tel: (804)-358-8295 Fax: (804)-358-8297

## Certificate of Analysis

*Final Report*

**Sample Delivery Group ID 92562243**

Client Name: Pace Analytical - Huntersville, NC  
9800 Kincey Ave. Suite 100  
Huntersville, NC 28078

Submitted To: Nicole D'Oleo

Client Site I.D.: Clover Power Station

Purchase Order: NGD 2243

Date Issued: 10/5/2021 4:26:01PM

Enclosed are the results of analyses for samples received by the laboratory in sample delivery group 92562243 . Work orders included in the sample delivery group:

<u>Work Order</u>	<u>Receive Date</u>	<u>Project Number</u>
2111004	9/21/2021 12:08:00PM	92562243
2111021	9/21/2021 2:30:00PM	92562243



Ted Soyars

Technical Director

**End Notes:**

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

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

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

This report shall not be reproduced except in full without the expressed and written approval of an authorized representative of Air Water & Soil Laboratories, Inc.





Enthalpy Analytical  
 1941 Reymet Road  
 Richmond, Virginia 23237  
 (804)-358-8295 - Telephone  
 (804)-358-8297 - Fax

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
092021NPW2	2111004-01	Ground Water	09/20/2021 16:10	09/21/2021 12:08
092021NPW3	2111004-02	Ground Water	09/20/2021 16:05	09/21/2021 12:08
092121FBFieldBlank	2111021-01	Ground Water	09/21/2021 11:35	09/21/2021 14:30
092121FDFieldDuplicate	2111021-02	Ground Water	09/21/2021 11:10	09/21/2021 14:30
092121NPW4	2111021-03	Ground Water	09/21/2021 10:45	09/21/2021 14:30
092121NPW5	2111021-04	Ground Water	09/21/2021 09:55	09/21/2021 14:30
092121NPW12	2111021-05	Ground Water	09/21/2021 11:10	09/21/2021 14:30
092121NPW13	2111021-06	Ground Water	09/21/2021 09:45	09/21/2021 14:30



Enthalpy Analytical  
 1941 Reymet Road  
 Richmond, Virginia 23237  
 (804)-358-8295 - Telephone  
 (804)-358-8297 - Fax

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092021NPW2

Laboratory Sample ID: 2111004-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	01	18540-29-9	SW7196A	09/21/2021 13:35	09/21/2021 13:35	0.012		0.005	0.005	1	mg/L	RCV
Sulfide	01	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



Enthalpy Analytical  
 1941 Reymet Road  
 Richmond, Virginia 23237  
 (804)-358-8295 - Telephone  
 (804)-358-8297 - Fax

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092021NPW3

Laboratory Sample ID: 2111004-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	02	18540-29-9	SW7196A	09/21/2021 13:35	09/21/2021 13:35	0.012		0.005	0.005	1	mg/L	RCV
Sulfide	02	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



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**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092121FBFieldBlank

Laboratory Sample ID: 2111021-01

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	01	18540-29-9	SW7196A	09/21/2021 15:20	09/21/2021 15:20	BLOD	0.005	0.005	0.005	1	mg/L	RCV
Sulfide	01	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD	0.80	0.80	1.00	1	mg/L	MJRL



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**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092121FDFieldDuplicate

Laboratory Sample ID: 2111021-02

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	02	18540-29-9	SW7196A	09/21/2021 15:20	09/21/2021 15:20	0.013		0.005	0.005	1	mg/L	RCV
Sulfide	02	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



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**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092121NPW4

Laboratory Sample ID: 2111021-03

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	03	18540-29-9	SW7196A	09/21/2021 15:20	09/21/2021 15:20	0.011		0.005	0.005	1	mg/L	RCV
Sulfide	03	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



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 (804)-358-8297 - Fax

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092121NPW5

Laboratory Sample ID: 2111021-04

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	04	18540-29-9	SW7196A	09/21/2021 15:20	09/21/2021 15:20	BLOD		0.005	0.005	1	mg/L	RCV
Sulfide	04	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



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 (804)-358-8297 - Fax

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092121NPW12

Laboratory Sample ID: 2111021-05

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	05	18540-29-9	SW7196A	09/21/2021 15:20	09/21/2021 15:20	BLOD		0.005	0.005	1	mg/L	RCV
Sulfide	05	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL



## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Client Sample ID: 092121NPW13

Laboratory Sample ID: 2111021-06

Parameter	Samp ID	CAS	Reference Method	Sample Prep Date/Time	Analyzed Date/Time	Sample Results	Qual	DL	LOQ	DF	Units	Analyst
<b>Wet Chemistry Analysis</b>												
Chromium, Hexavalent	06	18540-29-9	SW7196A	09/21/2021 15:20	09/21/2021 15:20	BLOD		0.005	0.005	1	mg/L	RCV
Sulfide	06	18496-25-8	SW9215	09/22/2021 10:30	09/22/2021 10:30	BLOD		0.80	1.00	1	mg/L	MJRL

## Certificate of Analysis

 Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

 Wet Chemistry Analysis - Quality Control  
 Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Qual
<b>Batch BEI0801 - SW7470A</b>								
<b>Blank (BEI0801-BLK1)</b>	Prepared & Analyzed: 09/21/2021							
Chromium, Hexavalent	ND	0.005	mg/L					
<b>LCS (BEI0801-BS1)</b>	Prepared & Analyzed: 09/21/2021							
Chromium, Hexavalent	0.100	0.005	mg/L	0.100		100	80-120	
<b>Matrix Spike (BEI0801-MS1)</b>	Source: 2111002-02							
Chromium, Hexavalent	0.100	0.005	mg/L	0.100	BLOD	100	80-120	
<b>Matrix Spike (BEI0801-MS2)</b>	Source: 2111021-04							
Chromium, Hexavalent	0.100	0.005	mg/L	0.100	BLOD	100	80-120	
<b>Matrix Spike Dup (BEI0801-MSD1)</b>	Source: 2111002-02							
Chromium, Hexavalent	0.102	0.005	mg/L	0.100	BLOD	102	80-120	20
<b>Matrix Spike Dup (BEI0801-MSD2)</b>	Source: 2111021-04							
Chromium, Hexavalent	0.102	0.005	mg/L	0.100	BLOD	102	80-120	20

### Batch BEI0810 - No Prep Wet Chem

<b>Blank (BEI0810-BLK1)</b>	Prepared & Analyzed: 09/22/2021							
Sulfide	ND	1.00	mg/L					
<b>LCS (BEI0810-BS1)</b>	Prepared & Analyzed: 09/22/2021							
Sulfide	5.18	1	mg/L	5.00		104	80-120	
<b>LCS Dup (BEI0810-BSD1)</b>	Prepared & Analyzed: 09/22/2021							
Sulfide	5.14	1	mg/L	5.00		103	80-120	20

## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

Wet Chemistry Analysis - Quality Control  
 Enthalpy Analytical

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
<b>Batch BEI0810 - No Prep Wet Chem</b>										
<b>Matrix Spike (BEI0810-MS1)</b>	<b>Source: 2111021-04</b> Prepared & Analyzed: 09/22/2021									
Sulfide	5.20	1.00	mg/L	5.00	BLOD	104	75-125			
<b>Matrix Spike (BEI0810-MS2)</b>	<b>Source: 2110994-02</b> Prepared & Analyzed: 09/22/2021									
Sulfide	5.38	1.00	mg/L	5.00	BLOD	108	75-125			
<b>Matrix Spike Dup (BEI0810-MSD1)</b>	<b>Source: 2111021-04</b> Prepared & Analyzed: 09/22/2021									
Sulfide	5.19	1.00	mg/L	5.00	BLOD	104	75-125	0.192	20	
<b>Matrix Spike Dup (BEI0810-MSD2)</b>	<b>Source: 2110994-02</b> Prepared & Analyzed: 09/22/2021									
Sulfide	5.46	1.00	mg/L	5.00	BLOD	109	75-125	1.48	20	



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## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

### Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
<b>Wet Chemistry Analysis</b>					
2111004-01	6.00 mL / 6.00 mL	SW9215	BEI0810	No Prep Wet Chem SEI0774	
2111004-02	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
2111021-01	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
2111021-02	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
2111021-03	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
2111021-04	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
2111021-05	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
2111021-06	6.00 mL / 6.00 mL	SW9215	BEI0810	SEI0774	
<b>Preparation Method:</b> No Prep Wet Chem					
<b>Sample ID</b>					
<b>Preparation Factors</b>					
<b>Initial / Final</b>					
<b>Method</b>					
<b>Batch ID</b>					
<b>Sequence ID</b>					
<b>Calibration ID</b>					
<b>Wet Chemistry Analysis</b>					
2111004-01	100 mL / 100 mL	SW7196A	BEI0801	SW7470A SEI0768	AI10127
2111004-02	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
2111021-01	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
2111021-02	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
2111021-03	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
2111021-04	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
2111021-05	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
2111021-06	100 mL / 100 mL	SW7196A	BEI0801	SEI0768	AI10127
<b>Preparation Method:</b> SW7470A					

## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
 Client Site I.D.: Clover Power Station  
 Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

### Certified Analyses included in this Report

Analyte	Certifications
<b>SW7196A in Non-Potable Water</b>	
Chromium, Hexavalent	VELAP
<b>SW9215 in Non-Potable Water</b>	
Sulfide	VELAP

**SW7196A in Non-Potable Water**

Chromium, Hexavalent

**SW9215 in Non-Potable Water**

Sulfide

Code	Description	Laboratory ID	Expires
MADEP	Massachusetts DEP	M-VA913	06/30/2022
MdDOE	Maryland DE Drinking Water	341	12/31/2021
NC	North Carolina DENR	495	12/31/2021
NCDEQ	North Carolina DEQ	495	12/31/2021
NCDOH	North Carolina Department of Health	51714	07/31/2022
NHDES	NELAP-New Hampshire Certificate #224221	2242	02/25/2022
NJDEP	NELAP-New Jersey DEP	VA015	06/30/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2022
PADEP	NELAP-Pennsylvania Certificate #006	68-03503	10/31/2021
VELAP	NELAP-Virginia Certificate #11539	460021	06/14/2022
WVDEP	West Virginia DEP	350	10/31/2021

## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover Power Station  
Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

### Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifiers
-RE	Denotes sample was re-analyzed
LOD	Limit of Detection, same as Method Detection Limit (MDL) as defined by 40 CFR 136 Appendix B
BLOD	Below Limit of Detection, same as Below Method Detection Limit (MDL) as defined by 40 CFR 136 Appendix B
LOQ	Limit of Quantitation
DF	Dilution Factor
DL	Detection Limit, same as MDL as defined by 40 CFR 136 Appendix B
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

PCBs, Total Total PCBs are defined as the sum of detected Aroclors 1016, 1221, 1232, 1248, 1254, 1260, 1262, and 1268.

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately. Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>.

Page: 1 Of 1

**Section A**

**Required Client Information:**  
 Company: Dominion Energy VA  
 Address: 120 Tredegar Street  
 Richmond, VA 23219  
 Email: [kelly.a.hicks@dominionenergy.com](mailto:kelly.a.hicks@dominionenergy.com)  
 Phone: (804)273-4903 Fax: \_\_\_\_\_

**Required Project Information:**  
 Report To: Kelly Hicks  
 Copy To: \_\_\_\_\_  
 Purchase Order #: \_\_\_\_\_  
 Project Name: Clover PS Sludge Sed Pond (D)  
 Project #: \_\_\_\_\_

**Invoice Information:**  
 Attention: \_\_\_\_\_  
 Company Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Pace Quote: \_\_\_\_\_  
 Pace Project Manager: nicole.dolec@pacelabs.com  
 Pace Profile #: 13861

**Regulatory Agency** \_\_\_\_\_  
**State / Location** VA

**Section B**

ITEM #	MATRIX	CODE	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES	ANALYSES TEST Y/N	REQUESTED ANALYSIS FILTERED (Y/N)
				START	END							
1	Drinking Water	DW	WT									
2	Waste Water	WW	WT									
3	Product	P	WT	9/20/21	1610	9/20/21	1610	3/	Unpreserved			
4	Soil/Solid	SL	WT	9/20/21	1445	9/20/21	1445	3/	Unpreserved			
5	Oil	OL	WT						Unpreserved			
6	Wipe	WP	WT						Unpreserved			
7	Air	AR	WT						Unpreserved			
8	Other	OT	WT						Unpreserved			
9	Tissue	TS	WT						Unpreserved			
10												
11												
12												

ITEM #	MATRIX	CODE	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES	ANALYSES TEST Y/N	REQUESTED ANALYSIS FILTERED (Y/N)	RECEIVED ON	TEMP IN C	SAMPLE CONDITIONS
				START	END										
1	Drinking Water	DW	WT												
2	Waste Water	WW	WT												
3	Product	P	WT	9/20/21	1610	9/20/21	1610	3/	Unpreserved						
4	Soil/Solid	SL	WT	9/20/21	1445	9/20/21	1445	3/	Unpreserved						
5	Oil	OL	WT						Unpreserved						
6	Wipe	WP	WT						Unpreserved						
7	Air	AR	WT						Unpreserved						
8	Other	OT	WT						Unpreserved						
9	Tissue	TS	WT						Unpreserved						
10															
11															
12															

**ADDITIONAL COMMENTS**  
 Over-25AZ1-HEXCHROM-D-2-1

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: K. Bradwell / Z. Hector  
 SIGNATURE of SAMPLER: *[Signature]* DATE Signed: 9/20/21

**RECEIVED BY / AFFILIATION**  
 ACCEPTED BY / AFFILIATION: *[Signature]* REES  
 Jami Harris

**DATE** 9/21/21 9:00  
 9/21/21 12:08  
 9/21/21 12:08

**TIME** 0900  
 12:08  
 12:08

**TEMP IN C** 2.9  
 2.9

**SAMPLE CONDITIONS**  
 Received on (Y/N)  
 Sealed (Y/N)  
 Custody (Y/N)  
 Cooler (Y/N)  
 Intact (Y/N)

**PCE-C**  
**Clover Power Station**  
**Recd: 09/21/2021 Due: 10/05/2021**  
 V130325002

# Chain of Custody

PASI Charlotte Laboratory



Workorder: 92562243

Workorder Name: Clover PS Sludge Sed Pond(D)

Results Requested By: 10/5/2021

Nicole D'Oleo  
 Pace Analytical Charlotte  
 9800 Kinsey Ave. Suite 100  
 Huntersville, NC 28078  
 Phone (704)875-9092  
 Email: nicole.d'oleo@pacelabs.com

P.O. NGD 2243

Entralby AUS

Richmond, VA



www.pacelabs.com

Report Invoice To:		Submitted To:		Received By		Date/Time		Received By		Date/Time		Received By		Date/Time	
Item	Sample ID	Collected Date/Time	Matrix	Unpreserved	Other	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time	Received By	Date/Time
1	092021NPW2	9/20/2021 16:10	Water	1	2										
2	092021NPW3	9/20/2021 16:05	Water	1	2										
3															
4															
5															

LAB USE ONLY

Transfers Released By

Cooler Temperature on Receipt °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

PCE-C 21I1004  
 Clover Power Station  
 Recd: 09/21/2021 Due: 10/05/2021  
 v130325002





Sample Preservation Log

Date Performed: 21 Sept 2021

Order ID: 2111004

Analyst Performing Check: T

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508)		SVOC (525.2/8270/625)		CrVI *		Pest/PCB (608) / SVOC(625)		pH as Received		Final pH (adjust)	
		pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other	Res. Class Received	Present Absent	Res. Class Received	Present Absent	pH as Received	Other	pH as Received	Other	pH as Received	Other	pH as Received	Other
01	A																												
01	B																												
02	A																												
02	B																												

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 9.3 - 9.7



# CHAIN-OF-CUSTODY / Analytical Request Document

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**Section A**

**Required Client Information:**  
 Company: Dominion Energy\_VA  
 Address: 120 Treadegar Street  
 Richmond, VA 23219  
 Email: kelly.a.hicks@dominionenergy.com  
 Phone: (804)273-4903 | Fax:  
 Requested Due Date:

**Section B**

**Required Project Information:**  
 Report To: Kelly Hicks  
 Copy To:  
 Purchase Order #: 148  
 Project Name: Clover PS Sludge Sed Pond (D)  
 Project #: 13861

**Section C**

**Invoice Information:**  
 Attention: Regulatory Agency  
 Company Name: State / Location VA  
 Address: Pace Project Manager: nicola.dileo@pacelabs.com  
 Pace Quote: Pace Profile #: 13861

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLER NAME AND SIGNATURE		RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLER CONDITIONS	TEMP in C	Received on	ice (Y/N)	Custody (Y/N)	Sealed	Cooler (Y/N)	Samples In tact (Y/N)		
			START	END			DATE	TIME															DATE	TIME
1	Blank	WT	9/21/21	1135			<i>[Signature]</i>	9/21/21	1135	1430	Jami Harris	9/21/21	1430	✓	7.7									
2	Blank	WT	9/21/21	1110			<i>[Signature]</i>	9/21/21	1110	1430	Jami Harris	9/21/21	1430	✓										
3	Blank	WT																						
4	Blank	WT																						
5	Blank	WT	9/21/21	1045			<i>[Signature]</i>	9/21/21	1045	1430	Jami Harris	9/21/21	1430	✓										
6	Blank	WT	9/21/21	1055			<i>[Signature]</i>	9/21/21	1055	1430	Jami Harris	9/21/21	1430	✓										
7	Blank	WT	9/21/21	1110			<i>[Signature]</i>	9/21/21	1110	1430	Jami Harris	9/21/21	1430	✓										
8	Blank	WT																						
9	Blank	WT	9/21/21	1045			<i>[Signature]</i>	9/21/21	1045	1430	Jami Harris	9/21/21	1430	✓										
10																								
11																								
12																								

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

**Analyses Test Y/N**

**Preservatives**

**# OF CONTAINERS**

**SAMPLE TEMP AT COLLECTION**

**DATE**

**TIME**

**ACCEPTED BY / AFFILIATION**

**DATE**

**TIME**

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: *K. Beadwell / Z. Hicks*

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed: *9/21/21*

Recd: 09/21/2021 Due: 10/05/2021

2111021  
 Clover Power Station  
 MS/MSD taken here





**Sample Preservation Log**

Date Performed: 21 Sept 2024

Order ID: 2111021

Analyst Performing Check: [Signature]

Sample ID	Container ID	Metals		Cyanide		Sulfide		Ammonia		TKN		Phos, Tot		NO3+NO2		DRO		Pesticide (8081/608/508)			SVOC (525.2/8270/625)			CrVI *			Pest/PCB (608) / SVOC(625)			pH as Received / Final pH (i)	
		Received	Other	Received	Other	Received	Other	Received	Other	Received	Other	Received	Other	Received	Other	Received	Other	Received	Other	Present	Absent	Res	Cl	IPA	Received	Other	Received	Other	Received	Other	Received
010	6																														

NaOH ID: \_\_\_\_\_ HNO3 ID: \_\_\_\_\_ Analyst Initials: \_\_\_\_\_  
 H2SO4 ID: \_\_\_\_\_ Buffer Sol'n ID: \_\_\_\_\_  
 HCL ID: \_\_\_\_\_ 1N NaOH ID: \_\_\_\_\_ 5N NaOH: \_\_\_\_\_

CrVI preserved date/time: \_\_\_\_\_  
 \* pH must be adjusted between 9.3 - 9.7

**Certificate of Analysis**

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover Power Station  
Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

**Sample Conditions Checklist**

Samples Received at:	2.90°C
How were samples received?	Sent Provided Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

**Work Order Comments**

## Certificate of Analysis

Client Name: Pace Analytical - Huntersville, NC  
Client Site I.D.: Clover Power Station  
Submitted To: Nicole D'Oleo

Date Issued: 10/5/2021 4:26:01PM

### Sample Conditions Checklist

Samples Received at:	7.70°C
How were samples received?	Sent Provided Courier
Were Custody Seals used? If so, were they received intact?	Yes
Are the custody papers filled out completely and correctly?	Yes
Do all bottle labels agree with custody papers?	Yes
Is the temperature blank or representative sample within acceptable limits or received on ice, and recently taken?	Yes
Are all samples within holding time for requested laboratory tests?	Yes
Is a sufficient amount of sample provided to perform the tests included?	Yes
Are all samples in appropriate containers for the analyses requested?	Yes
Were volatile organic containers received?	No
Are all volatile organic and TOX containers free of headspace?	NA
Is a trip blank provided for each VOC sample set? VOC sample sets include EPA8011, EPA504, EPA8260, EPA624, EPA8015 GRO, EPA8021, EPA524, and RSK-175.	NA
Are all samples received appropriately preserved? Note that metals containers do not require field preservation but lab preservation may delay analysis.	Yes

### Work Order Comments

# **APPENDIX E**

## **HISTORICAL LABORATORY DETECTIONS**

**Appendix E**  
**Historical Laboratory Results**  
**Sludge Sedimentation Basins, Clover Power Station**  
**Solid Waste Permit No. 622**

Sample Date	Method	Location Unit	PW-2	PW-3	PW-4	PW-5	PW-12	PW-13
<b>Alkalinity, Total</b>								
2017-08	SM2320B	mg/L	7.8	13.4	40.0	47.0	17.2	53.0
2017-10	SM2320B	mg/L	35	15	50	47	17	53
2018-02	SM2320B	mg/L	8.7	11.8	34.2	47.4	15.9	46.5
2018-04	SM2320B	mg/L	8.8	9.8	37.8	48.9	17.3	47.1
2018-08	SM2320B	mg/L	9.2	11.8	40.2	46.0	16.1	54.4
2018-10	E310.2	mg/L	ND U	ND U	33	36	ND U	29
2019-03	E310.2	mg/L	14 J	ND U	43	36	17	30
2019-04	E310.2	mg/L	ND U	ND U	21	23	ND U	22
2019-10	E310.2	mg/L	ND U	ND U	34	36	17	30
2020-03	SM2320B	mg/L	7.7	11.0	32.1	49.2	13.8	41.8
2020-09	E310.2	mg/L	ND U	20	34	48	21	42
2021-03	E310.2	mg/L	10.3	11.7	28.0	37.9	13.4	36.7
2021-09	E310.2	mg/L	23.0	15.0	42.0	49.0	18.0	59.0
<b>Antimony</b>								
2015-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	0.64 J	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-04	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
<b>Arsenic</b>								
2015-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	0.82 J	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	0.085 J	0.14	0.074 J	0.12	0.084 J	0.15
2019-04	SW6020B	ug/L	0.067 J	0.060 J	0.061 J	0.12	ND U	0.14
2019-10	SW6020B	ug/L	0.068 J	ND U	ND U	ND U	ND U	ND U
2020-03	SW6020B	ug/L	ND U	0.068 J	ND U	0.090 J	ND U	0.10
2020-09	SW6020B	ug/L	0.11	0.14	0.089 J	0.12	ND U	0.19
2021-03	SW6020B	ug/L	ND U	0.088 J	ND U	0.14 J	ND U	0.096 J
2021-09	SW6020B	ug/L	ND U	ND U	ND U	0.10 J	ND U	ND U
<b>Barium</b>								
2015-11	SW6010C	ug/L	3.2 J	71.6	31.5	16.3	17.1	15.5
2016-02	SW6010C	ug/L	3.9 J	72.1	34.3	12.3	16.8	11.2
2016-05	SW6010C	ug/L	3.2 J	65.0	32.2	13.0	18.5	10.4
2016-08	SW6010C	ug/L	4.6 J	83.0	35.7	14.6	18.1	10.8
2016-11	SW6010C	ug/L	3.5 J	90.9	33.1	14.8	17.8	11.0
2017-02	SW6010C	ug/L	4.1 J	89.3	31.9	14.5	17.2	11.0
2017-05	SW6010C	ug/L	2.3 J	83.7	30.5	13.4	18.1	10.7
2017-08	SW6010C	ug/L	3.4 J	85.5	32.1	15.1	17.8	10.0 J
2017-10	SW6020A	ug/L	2.2 J	74	31	14	17	8.9
2018-04	SW6020A	ug/L	2.1	84.1	33.4	13.8	16.9	9.8
2018-06	SW6010D	ug/L	ND U	82.1	34.3	13.4	18.4	8.9
2018-10	SW6020B	ug/L	1.8	81.0	36.6	11.9	16.5	11.4
2019-04	SW6020B	ug/L	3.4	80.0	31.8	10.7	16.3	8.7
2019-10	SW6020B	ug/L	2.2	92.9	32.2	15.7	18.4	10
2020-03	SW6020B	ug/L	2.3	87.0	32.6	12.4	19.2	10.3
2020-09	SW6020B	ug/L	2.9	84.0	31.5	11.4	19.2	12.4
2021-03	SW6020B	ug/L	3.8	83.9	33.7	12.7	18.2	10.8
2021-09	SW6020B	ug/L	2.4	82.2	35.3	13.9	21.1	7.6
<b>Beryllium</b>								
2015-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	0.39 J	0.81 J	0.37 J	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	0.26	ND U	ND U	ND U	ND U
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	0.052 J	0.26	ND U	0.020 J	0.081 J	0.040 J
2019-04	SW6020B	ug/L	0.057 J	0.22	ND U	ND U	0.086 J	ND U
2019-10	SW6020B	ug/L	0.055 J	0.24	ND U	ND U	0.088 J	ND U
2020-03	SW6020B	ug/L	0.058 J	0.21	ND U	ND U	0.087 J	ND U
2020-09	SW6020B	ug/L	ND U	0.15	ND U	ND U	ND U	ND U
2021-03	SW6020B	ug/L	0.069 J	0.25	ND U	ND U	0.092 J	ND U
2021-09	SW6020B	ug/L	0.059 J	0.22	ND U	ND U	0.10	ND U
<b>Boron</b>								
2015-11	SW6010C	ug/L	ND U	ND U	ND U	961	ND U	442
2016-02	SW6010C	ug/L	ND U	ND U	ND U	862	ND U	636
2016-05	SW6010C	ug/L	ND U	ND U	ND U	835	ND U	668
2016-08	SW6010C	ug/L	ND U	ND U	ND U	929	ND U	692
2016-11	SW6010C	ug/L	ND U	ND U	ND U	926	ND U	581
2017-02	SW6010C	ug/L	ND U	ND U	ND U	882	ND U	639
2017-05	SW6010C	ug/L	ND U	ND U	ND U	842	ND U	671
2017-08	SW6010C	ug/L	ND U	ND U	ND U	899	ND U	573
2017-10	SW6010C	ug/L	ND U	ND U	ND U	970	ND U	570
2018-04	SW6010	ug/L	ND U	ND U	ND U	930	ND U	630
2018-06	SW6010D	ug/L	ND U	ND U	ND U	940	ND U	640
2018-10	SW6010D	ug/L	ND U	ND U	ND U	940	ND U	720
2019-04	SW6010D	ug/L	ND U	ND U	ND U	800	ND U	780
2019-10	SW6010D	ug/L	6.9 J	ND U	7.7 J	930	ND U	610
2020-03	SW6010D	ug/L	ND U	ND U	ND U	910	ND U	840
2020-09	SW6010D	ug/L	ND U	ND U	ND U	960	ND U	780
2021-03	SW6010D	ug/L	ND U	ND U	ND U	793	ND U	825
2021-09	SW6010D	ug/L	ND U	ND U	ND U	863	ND U	574



**Appendix E**  
**Historical Laboratory Results**  
**Sludge Sedimentation Basins, Clover Power Station**  
**Solid Waste Permit No. 622**

Sample Date	Method	Location Unit	PW-2	PW-3	PW-4	PW-5	PW-12	PW-13
<b>Cadmium</b>								
2015-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	0.33 J	0.45 J	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-04	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
<b>Calcium</b>								
2015-11	SW6010C	ug/L	6690	25900	24200	96500	3870	84400
2016-02	SW6010C	ug/L	6440	26100	35800	81100	3570	107000
2016-05	SW6010C	ug/L	6270	23000	32200	90200	3730	111000
2016-08	SW6010C	ug/L	6910	23900	27200	93700	3730	107000
2016-11	SW6010C	ug/L	7100	26700	29400	101000	3890	104000
2017-02	SW6010C	ug/L	6420	25500	28700	90300	3720	111000
2017-05	SW6010C	ug/L	5990	25800	27100	83200	3550	117000
2017-08	SW6010C	ug/L	6140	25400	28300	96400	3590	106000
2017-10	SW6020A	ug/L	6200	27000	26000	92000	3400	91000
2018-04	SW6010	ug/L	5800	26200	26900	85200	3500	105000
2018-06	SW6010D	ug/L	5900	27300	27300	78500	3400	94200
2018-10	SW6020B	ug/L	5400	28500	28300	76600	3300	99400
2019-04	SW6010D	ug/L	6300	27400	28800	73000	3400	94300
2019-10	SW6020B	ug/L	6100	32200	32600	91500	3400	90200
2020-03	SW6020B	ug/L	5410	29600	29400	73600	3220	101000
2020-09	SW6020B	ug/L	6800	31500	29600	75700	3800	105000
2021-03	SW6020B	ug/L	6560	28700	32600	66900	3770	103000
2021-09	SW6020B	ug/L	6850	29400	32400	84900	4380	91000
<b>Chloride</b>								
2015-11	E300	mg/L	11.6	9.1	32.7	129	3.8	81.9
2016-02	E300	mg/L	11.7	9.4	34.5 J	118	3.8	136
2016-05	E300	mg/L	11.1	8.4	34.5	111	3.9	106
2016-08	E300	mg/L	11.0 J-	8.3	37.7	126	4.1	107
2016-11	E300	mg/L	11.3	8.5	41.5	118	4.3	99.8
2017-02	E300	mg/L	11.2	9.0	43.6	117	4.5	108
2017-05	E300	mg/L	11.3	9.5	46.8	118	4.8	106
2017-08	E300	mg/L	12.1	1.1	48.8	124	5.3	107
2017-10	SW9056A	mg/L	11	9.8	51	130	4.9	100
2018-04	E300	mg/L	10.5	9.1	51.2	109	4.4	95.7
2018-06	E300	mg/L	11.2	10.1	53.0	114	4.8	97.4
2018-10	E300	mg/L	11.3	10.6	55.3	112	5.0	104
2019-04	E300	mg/L	10.8	10.4	56.2	104	4.9	108
2019-10	SW9056A	mg/L	11.3	10.2	61.7	106	5.4	97.3
2020-03	SW9056A	mg/L	11.1	10.7	67.1	95.7	5.6	103
2020-09	SW9056A	mg/L	11.6	11.1	66.2	102	5.6	104
2021-03	SW9056A	mg/L	12.4	11.7	66.8 J-	82.8 J-	5.6 J-	91.7 J-
2021-09	SW9056A	mg/L	13	10.7	69.3	112	6.2	99.7
<b>Chromium</b>								
2015-11	SW6010C	ug/L	19.6	17.6	24.0	2.9 J	ND U	4.2 J
2016-02	SW6010C	ug/L	17.8	18.1	24.0	4.1 J	1.3 J	1.9 J
2016-05	SW6010C	ug/L	17.1	18.3	20.0	4.1 J	1.9 J	2.3 J
2016-08	SW6010C	ug/L	20.6	17.0	19.3	4.7 J	ND U	ND U
2016-11	SW6010C	ug/L	19.0	18.5	22.9	4.8 J	ND U	ND U
2017-02	SW6010C	ug/L	17.4	16.8	19.8	4.8 J	ND U	ND U
2017-05	SW6010C	ug/L	14.9	16.8	15.9	4.1 J	ND U	ND U
2017-08	SW6010C	ug/L	16.7	15.4	20.6	ND U	ND U	ND U
2017-10	SW6020A	ug/L	17	16	17	3.4	1.4 J	1.5 J
2018-04	SW6020A	ug/L	15.9	16.6	16.7	3.0	1.5	1.8
2018-06	SW6010D	ug/L	17.2	15.6	20.2	4.1 J	ND U	ND U
2018-10	SW6020B	ug/L	14.0	15.4	16.2	3.5	1.5	2.3
2019-04	SW6020B	ug/L	13.7	14.2	14.5	4.1	1.4	1.9
2019-10	SW6020B	ug/L	14.0	16.0	12.6	4.0	1.6	ND U
2020-03	SW6020B	ug/L	13.9	15.7	17.9	4.8	1.8	2.3
2020-09	SW6020B	ug/L	15.4	14.4	17.3	4.3	2.1	3.1
2021-03	SW6020B	ug/L	13.7	15.2	18.7	5.4	1.7	2.9
2021-09	SW6020B	ug/L	12.2	13.9	12.6	4.0	3.8	1.7
<b>Chromium, Hexavalent</b>								
2017-08	SW7196A	ug/L	14	14	14	ND U	ND U	ND U
2017-10	SW7196A	ug/L	15 J	18 J	12 J	ND U	ND U	ND U
2018-02	E218.6	ug/L	14.1	14.1	13.4	2.5	1.2 J	1.7
2018-04	E218.6	ug/L	16.3	13.8	15.7	3.0	1.4	1.8
2018-08	E218.6	ug/L	14.6	13.4	14.0	2.6	1.1	1.5
2018-10	SW7196A	ug/L	16	ND U	18	ND U	ND U	ND U
2019-03	SW7196A	ug/L	14	36	14	ND U	7.7 J	ND U
2019-04	SW7196A	ug/L	14	18	16	ND U	ND U	6.7 J
2019-10	SW7196A	ug/L	15	18	ND U	ND U	ND U	ND U
2020-03	SW7196A	ug/L	12	14	18	ND U	ND U	ND U
2020-09	SW7196A	ug/L	13	14	16	ND U	ND U	ND U
2021-03	SW7196A	ug/L	13	16	18	ND U	ND U	ND U
2021-09	SW7196A	ug/L	12	12	11	ND U	ND U	ND U
<b>Cobalt</b>								
2015-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	0.19 J	0.31 J	0.46 J	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	0.33 J	ND U	ND U	ND U	ND U
2018-06	SW6020A	ug/L	ND U	0.12 J	0.41 J	ND U	0.20 J	ND U
2018-10	SW6020B	ug/L	0.049 J	0.60	0.42	0.077 J	0.17 J	0.18
2019-04	SW6020B	ug/L	ND U	0.12	0.059 J	0.095 J	0.12	0.15
2019-10	SW6020B	ug/L	ND U	0.16 J	ND U	ND U	0.25	ND U
2020-03	SW6020B	ug/L	0.13	0.26	0.29	0.27	0.23	0.18
2020-09	SW6020B	ug/L	0.31	0.089 J	0.22	0.10	0.26	0.45
2021-03	SW6020B	ug/L	0.28 J	0.39 J	0.34 J	0.26 J	0.11 J	0.15 J
2021-09	SW6020B	ug/L	ND U	0.095 J	0.12 J	0.14 J	0.13 J	0.22 J

**Appendix E**  
**Historical Laboratory Results**  
**Sludge Sedimentation Basins, Clover Power Station**  
**Solid Waste Permit No. 622**

Sample Date	Method	Location Unit	PW-2	PW-3	PW-4	PW-5	PW-12	PW-13
<b>Copper</b>								
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-02	SW6020	ug/L	0.37 J+	0.68 J+	0.37 J+	ND U	0.69 J+	0.43 J+
2018-04	SW6020A	ug/L	0.21 J+	1.0 J+	1.5 J+	ND U	0.48 J+	0.30 J+
2018-08	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	0.33 J+	2.5 J+	1.4 J+	0.50 J+	0.95 J+	0.59 J+
2019-03	SW6020B	ug/L	0.25 J	6.0	0.59	ND U	0.50 J	0.34 J
2019-04	SW6020B	ug/L	0.24 J	0.58	0.37 J	ND U	0.27 J	ND U
2019-10	SW6020B	ug/L	ND U	1.1	0.26 J	ND U	0.35 J	ND U
2020-03	SW6020B	ug/L	0.36 J+	3.1 J+	0.70 J+	0.45 J+	0.55 J+	0.47 J+
2020-09	SW6020B	ug/L	0.78 J+	0.51	0.56	ND U	ND U	1.4 J+
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
<b>Cyanide</b>								
2017-08	SW9012	mg/L	ND U	ND U	ND U	ND U	ND U	0.01
2017-10	SW9012B	mg/L	ND U	ND U	ND U	0.0046 J	ND U	0.0044 J
2018-02	SW9012B	mg/L	ND U	ND U	ND U	0.0091	ND U	0.0042 J
2018-04	SW9012B	mg/L	ND U	ND U	ND U	0.014	ND U	0.0071 J
2018-08	SW9012B	mg/L	ND U	ND U	ND U	0.0087	ND U	ND U
2018-10	SW9012B	mg/L	ND U	ND U	ND U	0.012	ND U	0.012
2019-03	SW9012B	mg/L	ND U	ND U	ND U	0.014	ND U	0.034
2019-04	SW9012B	mg/L	ND U	ND U	ND U	0.014	ND U	0.027
2019-10	SW9012B	mg/L	ND U	ND U	ND U	0.0094	ND U	0.018
2020-03	SW9012B	mg/L	ND U	ND U	ND U	0.0086	0.0071 J+	ND U
2020-09	SW9012B	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-03	SW9012B	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW9012B	mg/L	ND U	0.014	ND U	ND U	ND U	0.0063 J
<b>Fluoride</b>								
2015-11	E300	mg/L	0.129	ND U	ND U	ND U	ND U	ND U
2016-02	E300	mg/L	0.136	ND U	ND U	ND U	ND U	ND U
2016-05	E300	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	E300	mg/L	0.156	ND U	ND U	ND U	ND U	ND U
2016-11	E300	mg/L	0.135	ND U	ND U	ND U	ND U	ND U
2017-02	E300	mg/L	0.148	ND U	ND U	ND U	ND U	ND U
2017-05	E300	mg/L	0.154	ND U	ND U	ND U	ND U	ND U
2017-08	E300	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW9056A	mg/L	0.15	0.024 J	0.030 J	0.090	ND U	0.068
2018-04	E300	mg/L	0.089 J	ND U	ND U	0.062 J	ND U	ND U
2018-06	E300	mg/L	0.075 J	ND U	ND U	ND U	ND U	ND U
2018-10	E300	mg/L	0.13	ND U	ND U	0.067 J	ND U	ND U
2019-04	E300	mg/L	0.12	ND U	ND U	0.072 J	ND U	ND U
2019-10	SW9056A	mg/L	0.10	ND U	ND U	0.065 J	ND U	ND U
2020-03	SW9056A	mg/L	0.073 J	ND U	ND U	0.055 J	ND U	ND U
2020-09	SW9056A	mg/L	0.084 J	ND U	ND U	0.063 J	ND U	ND U
2021-03	SW9056A	mg/L	0.12	ND U	ND U	0.070 J	ND U	ND U
2021-09	SW9056A	mg/L	0.098 J	ND U	ND U	0.069 J	ND U	0.050 J
<b>Hardness, Calcium and Magnesium</b>								
2017-08	SW6010C	ug/L	28500	89000	150000	448000	13200	486000
2017-10	SM2340B	ug/L	ND U	98000	150000	420000	ND U	430000
2018-02	SW6020	ug/L	28800	98800	152000	478000	12800	499000
2018-04	SW6020A	ug/L	28000	96800	148000	394000	13600	473000
2018-08	SW6010D	ug/L	28800	100000	148000	398000	13500	441000
2018-10	E130.1	ug/L	28200 J	110000	157000	375000	11100	457000
2019-03	E130.1	ug/L	26200 J	109000	155000	337000	13600 J	469000
2019-04	E130.1	ug/L	26600 J	102000 J6	142000	308000	11700 J	420000
2019-10	E130.1	ug/L	29200 J+	96200	152000	394000	18300 J+	370000
2020-03	E130.1	ug/L	26800 J	90600	136000	287000	16200 J	433000
2020-09	E130.1	ug/L	28800 J	106000	151000	320000	21400 J	382000
2021-03	E130.1	ug/L	29900	108000	171000	324000	13600	468000
2021-09	E130.1	ug/L	30900	106000	187000	400000	16700	438000
<b>Iron</b>								
2017-08	SW6010C	ug/L	324	9.9 J	647	6.4 J	5.1 J	82.9
2017-10	SW6020A	ug/L	100	99 J	400	ND U	ND U	ND U
2018-02	SW6020	ug/L	167	82.2	152	ND U	169	25.6 J
2018-04	SW6020A	ug/L	59.0	194	94.1	24.6 J	14.3 J	7.1 J
2018-08	SW6010D	ug/L	246	158	561	576	371	277
2018-10	SW6020B	ug/L	69.4	649	188	83.2	55.7	167
2019-03	SW6020B	ug/L	59.1	46.8 J	33.9 J	36.7 J	54.7	87.5
2019-04	SW6020B	ug/L	61.9	20.0 J	13.7 J	12.0 J	27.1 J	39.0 J
2019-10	SW6020B	ug/L	64.7	71.9 J	13.2 J	329	117	74.6 J
2020-03	SW6020B	ug/L	157	193	179	318	269	212
2020-09	SW6020B	ug/L	337	ND U	127	23.9 J	230	273
2021-03	SW6020B	ug/L	360	352 J	253	354	222	254
2021-09	SW6020B	ug/L	58.3	45.4 J	105	171	ND U	79.7
<b>Lead</b>								
2015-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	0.24 J+	0.32 J+	ND U	ND U	ND U
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	0.42	0.093 J	ND U	ND U	0.098 J
2019-04	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	0.069 J	ND U
2020-03	SW6020B	ug/L	0.058 J	0.17	ND U	0.14	0.089 J	0.077 J
2020-09	SW6020B	ug/L	0.12	ND U	ND U	ND U	0.099 J	0.24
2021-03	SW6020B	ug/L	0.16 J	0.30 J	ND U	0.14 J	ND U	0.099 J
2021-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	0.099 J	0.15 J
<b>Lithium</b>								
2015-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	2.3 J	3.2 J	1.8 J	4.5 J	1.9 J	3.2 J
2018-04	SW6020A	ug/L	1.7	3.1	1.5	3.5	1.5	2.7
2018-06	SW6010C	ug/L	5.4 J+	6.9 J+	6.1 J+	8.1 J+	6.0 J+	8.3 J+
2018-10	SW6020B	ug/L	1.5 J	3.0	1.9 J	3.5	1.7 J	2.8
2019-04	SW6020B	ug/L	1.7 J	2.7	1.5 J	3.3	1.6 J	2.4 J
2019-10	SW6020B	ug/L	1.8 J	3.1 J	1.5 J	4.0 J	1.8 J	2.4 J
2020-03	SW6020B	ug/L	1.6 J	2.7	1.7 J	3.4	1.8 J	2.6
2020-09	SW6020B	ug/L	1.7 J	2.7	1.6 J	3.2	1.7 J	2.8
2021-03	SW6020B	ug/L	1.9 J	3.1	2.1 J	4.0	2.0 J	3.0
2021-09	SW6020B	ug/L	1.7 J	3.2	2.0 J	3.8	2.3 J	2.7

**Appendix E**  
**Historical Laboratory Results**  
**Sludge Sedimentation Basins, Clover Power Station**  
**Solid Waste Permit No. 622**

Sample Date	Method	Location Unit	PW-2	PW-3	PW-4	PW-5	PW-12	PW-13
<b>Manganese</b>								
2017-08	SW6020A	ug/L	ND U	5.48	10.6	ND U	9.17	281
2017-10	SW6020A	ug/L	ND U	8.2	7.9	ND U	8.3	200
2018-02	SW6020	ug/L	3.4	18.2	3.3	1.4 J	8.0	91.6
2018-04	SW6020A	ug/L	1.2	11.1	3.1	1.2	7.3	84.2
2018-08	SW6010D	ug/L	12.0	20.6	88.6	12.5	14.2	181
2018-10	SW6020B	ug/L	3.4	51.7	31.3	3.0	7.8	289
2019-03	SW6020B	ug/L	2.4	14.5	3.1	1.7	6.7	276
2019-04	SW6020B	ug/L	2.2	7.9	1.7	0.67	6.3	128
2019-10	SW6020B	ug/L	2.8	11.7 J	1.8	11.0	7.5	367
2020-03	SW6020B	ug/L	9.0	19.1	10.9	10.9	10.7	213
2020-09	SW6020B	ug/L	21.7	6.7	7.1 J	1.0	9.2	189
2021-03	SW6020B	ug/L	13.3 J+	30.5 J+	8.7 J+	10.2 J+	8.9 J+	192 J+
2021-09	SW6020B	ug/L	1.6 J	8.4	7.0	4.9	5.1	296
<b>Molybdenum</b>								
2015-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6010C	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	0.11 J	0.19 J	ND U	0.19 J
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	0.18 J	ND U	0.22 J	ND U	0.25 J
2019-04	SW6020B	ug/L	ND U	ND U	ND U	0.25 J	ND U	0.18 J
2019-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	0.60 J
2020-03	SW6020B	ug/L	ND U	ND U	ND U	0.23 J	ND U	0.25 J
2020-09	SW6020B	ug/L	ND U	ND U	ND U	0.23 J	ND U	0.30 J
2021-03	SW6020B	ug/L	ND U	ND U	ND U	0.23 J	ND U	0.34 J
2021-09	SW6020B	ug/L	ND U	ND U	ND U	0.28 J	ND U	0.42 J
<b>Nickel</b>								
2017-08	SW6020A	ug/L	3.854	1.540	15.47	5.680	ND U	3.808
2017-10	SW6020A	ug/L	3.8	3.7	17	6.4	ND U	3.8
2018-02	SW6020	ug/L	4.0	1.7	16.7	6.6	1.1	3.2
2018-04	SW6020A	ug/L	3.4	1.8	17.4	5.9	1.1	3.2
2018-08	SW6010D	ug/L	4.7 J	2.6 J	23.1	6.8	ND U	3.3 J
2018-10	SW6020B	ug/L	3.5	2.4	17.2	5.4	1.3	3.6
2019-03	SW6020B	ug/L	2.9	1.7	14.2	4.7	1.0	3.4
2019-04	SW6020B	ug/L	3.1	1.6	15.1	5.0	0.99	3.3
2019-10	SW6020B	ug/L	3.6	2.0	14.5	7.2	1.1	5.0
2020-03	SW6020B	ug/L	3.7	1.8	19.5	5.6	1.3	3.3
2020-09	SW6020B	ug/L	4.7	1.6	19.9	5.1	1.2	3.8
2021-03	SW6020B	ug/L	4.6	ND U	20.4	5.6	ND U	3.6
2021-09	SW6020B	ug/L	4.0	ND U	21.5	6.2	ND U	3.4
<b>pH, field measured</b>								
2015-11	FIELD	SU	5.99	5.52	6.23	6.20	5.70	6.43
2016-02	FIELD	SU	6.59	5.96	7.10	6.89	6.16	7.05
2016-05	FIELD	SU	5.48	5.47	5.68	5.94	4.98	5.87
2016-08	FIELD	SU	5.94	5.48	6.00	6.11	5.04	6.19
2016-11	FIELD	SU	6.10	5.49	6.25	6.44	5.74	6.52
2017-02	FIELD	SU	6.09	5.55	6.10	6.39	5.72	6.33
2017-05	FIELD	SU	5.94	5.52	6.00	6.31	5.65	6.22
2017-08	FIELD	SU	5.95	5.81	5.98	6.15	5.63	6.08
2017-10	FIELD	SU	6.25	5.57	6.20	6.23	5.71	6.56
2018-02	FIELD	SU	6.03	5.41	5.83	6.18	5.69	6.13
2018-04	FIELD	SU	5.86	5.09	5.94	6.14	5.54	5.99
2018-06	FIELD	SU	5.56	5.19	5.83	6.05	5.45	5.90
2018-08	FIELD	SU	5.94	5.45	6.08	6.10	5.67	6.00
2018-10	FIELD	SU	5.72	5.33	5.85	6.04	5.62	5.71
2019-03	FIELD	SU	5.89	5.19	5.90	6.05	5.41	5.94
2019-04	FIELD	SU	5.94	5.35	5.87	6.12	5.56	6.04
2019-10	FIELD	SU	4.99	4.42	5.06	6.02	4.72	5.90
2020-03	FIELD	SU	5.83	5.20	5.77	6.13	5.24	5.58
2020-09	FIELD	SU	5.81	5.34	5.79	6.08	5.56	5.67
2021-03	FIELD	SU	5.69	5.24	5.88	6.15	5.49	5.92
2021-09	FIELD	SU	5.17	5.34	5.29	5.86	5.41	5.19
<b>Radium 226 &amp; 228 Combined</b>								
2015-11	CALC	pci/l	0.693 U	0.866 U	0.750 U	0.992	0.706 U	0.930
2016-02	CALC	pci/l	1.10 U	0.809 U	0.704 U	0.669 U	0.767 U	0.749 U
2016-05	CALC	pci/l	0.439 U	0.551	0.342 U	0.350 U	0.536	0.419 U
2016-08	CALC	pci/l	0.651	0.828	0.508	0.567 U	0.569 U	0.531 U
2016-11	CALC	pci/l	0.385 U	0.451 U	0.460	0.672	0.438 U	0.506 U
2017-02	CALC	pci/l	0.404 U	0.807	0.605	0.403 U	0.418 U	0.423 U
2017-05	CALC	pci/l	0.381 U	0.337 U	0.297 U	0.324 U	0.322 U	0.486 J
2017-08	CALC	pci/l	0.385	0.312 U	0.401 U	0.432 U	0.379 U	0.525 J
2017-10	CALC	pci/l	0.505 U	0.677	0.129 U	0.635	0.508 U	0.457 U
2018-04	CALC	pci/l	0.121 U	0.998 U	3.46	0.483 U	0.581 U	0.352 U
2018-06	CALC	pci/l	1.29 U	0.945 U	1.09 U	1.22 U	0.754 U	1.68 U
2018-10	CALC	pci/l	0.407 U	1.27	0.548 U	1.08	0.346 U	1.15
2019-04	CALC	pci/l	1.06 U	0.641 U	0.314 U	0.583 U	0.391 U	0.104 U
2019-10	CALC	pci/l	0.690 U	0.719 U	0.162 U	0.405 U	0.111 U	0.690 U
2020-03	CALC	pci/l	1.45	0.601 U	0.371 U	1.09 U	0.187 U	1.90
2020-09	CALC	pci/l	0.418 U	1.53	0.851 U	2.39	0.411 U	0.104 U
2021-03	CALC	pci/l	0.512 U	1.15 U	1.16 U	0.699 U	0.531 U	0.921 U
2021-09	CALC	pci/l	0.0867 U	0.185 J	0.131 UJ	0.0867 U	1.03 J	0.0222 U
<b>Selenium</b>								
2015-11	SW6020A	ug/L	ND U	1.10	ND U	1.45	ND U	1.23
2016-02	SW6020A	ug/L	ND U	1.25	ND U	1.15	ND U	1.76
2016-05	SW6020A	ug/L	ND U	1.41	ND U	1.51	ND U	1.34
2016-08	SW6020A	ug/L	ND U	1.76	ND U	1.50	ND U	1.69
2016-11	SW6020A	ug/L	ND U	1.68	ND U	1.51	ND U	1.65
2017-02	SW6020A	ug/L	ND U	1.22	ND U	1.62	ND U	1.36
2017-05	SW6020A	ug/L	ND U	1.27	ND U	1.31	ND U	1.58
2017-08	SW6020A	ug/L	ND U	1.47	ND U	1.40	ND U	1.81
2017-10	SW6020A	ug/L	ND U	1.7 J	ND U	1.7 J	ND U	1.4 J
2018-04	SW6020A	ug/L	ND U	1.0	0.32 J	1.3	ND U	1.5
2018-06	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	0.88	ND U	1.2	ND U	1.3
2019-04	SW6020B	ug/L	ND U	0.81	0.28 J	1.1	ND U	1.3
2019-10	SW6020B	ug/L	ND U	0.98 J	0.25 J	1.6 J	ND U	1.4 J
2020-03	SW6020B	ug/L	ND U	0.96	0.35 J	1.3	ND U	1.5
2020-09	SW6020B	ug/L	ND U	0.87	0.35 J	1.4	0.066 J	1.7
2021-03	SW6020B	ug/L	ND U	1.0 J+	0.38 J	1.3 J	ND U	1.7 J
2021-09	SW6020B	ug/L	ND U	0.86 J	0.32 J	1.4 J	0.89 J	1.3 J

**Appendix E**  
**Historical Laboratory Results**  
**Sludge Sedimentation Basins, Clover Power Station**  
**Solid Waste Permit No. 622**

Sample Date	Method	Location Unit	PW-2	PW-3	PW-4	PW-5	PW-12	PW-13
<b>Silver</b>								
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-02	SW6020	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-08	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-04	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-03	SW6020B	ug/L	ND U	ND U	ND U	0.066 J	ND U	ND U
2020-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	ND U	0.079 J	ND U	ND U
<b>Sodium</b>								
2017-08	SW6010C	ug/L	2180	20400	8040	14200	11000	14700
2017-10	SW6020A	ug/L	2300	20000	9000	14000	11000	15000
2018-02	SW6020	ug/L	2260	19300	8460	15500	10900	14000
2018-04	SW6020A	ug/L	2350	19800	10300	14300	11800	13700
2018-08	SW6010D	ug/L	2460 J	19300	8250	13400	10600	13600
2018-10	SW6020B	ug/L	2440	20200	8040	13200	9730	14700
2019-03	SW6020B	ug/L	2370	19600	7240	12300	9720	14800
2019-04	SW6020B	ug/L	2330	18500	7790	12500	9890	14000
2019-10	SW6020B	ug/L	2370	19800	7900	14600	11100	14100
2020-03	SW6020B	ug/L	2610	19300	8810	12600	11200	14400
2020-09	SW6020B	ug/L	3040	19200	9380	11900	10700	14200
2021-03	SW6020B	ug/L	3720	19100	9430	12500	11400	14800
2021-09	SW6020B	ug/L	3400	20500	9420	14400	12400	15300
<b>Sulfate</b>								
2015-11	E300	mg/L	1.4	82.2	2.9	191	1.3	178
2016-02	E300	mg/L	1.4	77.2	3.1	142	ND U	240 J
2016-05	E300	mg/L	ND U	68.2	2.9	166	ND U	241
2016-08	E300	mg/L	1.2	78.6	2.6	223	ND U	250
2016-11	E300	mg/L	1.1	81.6	2.7	192	ND U	251
2017-02	E300	mg/L	ND U	86.9	2.3	175	ND U	269
2017-05	E300	mg/L	0.8 J	82.9	2.0	149	ND U	254
2017-08	E300	mg/L	ND U	9.7	2.4	223	ND U	258
2017-10	SW9056A	mg/L	1.2	97	3.8	230	0.97 J	260
2018-04	E300	mg/L	0.54 J	85.7	1.9	164	ND U	234
2018-06	E300	mg/L	0.91 J	95.2	1.9	164	ND U	230
2018-10	E300	mg/L	0.72 J	94.1	2.2	147	ND U	250
2019-04	E300	mg/L	0.73 J	97.0	2.1	148	ND U	248
2019-10	SW9056A	mg/L	0.85 J	90.2	3.4	172	ND U	212
2020-03	SW9056A	mg/L	0.74 J	99.0	2.2	146	ND U	245
2020-09	SW9056A	mg/L	0.68 J	94.0	1.9	130	ND U	240
2021-03	SW9056A	mg/L	0.76 J	94.3	1.8 J-	108 J-	ND U	195 J-
2021-09	SW9056A	mg/L	0.84 J	98.9	3.8 J-	162 J-	4.9 J-	201 J-
<b>Thallium</b>								
2015-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2016-11	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-02	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-05	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-06	SW6020A	ug/L	ND U	ND U	0.059 J	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	ND U	0.027 J	ND U	ND U	ND U
2019-04	SW6020B	ug/L	ND U	ND U	0.027 J	ND U	ND U	ND U
2019-10	SW6020B	ug/L	ND U	ND U	0.027 J	ND U	ND U	ND U
2020-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	0.050 J	0.055 J
<b>Tin</b>								
2017-08	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-02	SW6020	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-04	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-08	SW6010D	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	0.16 J	0.098 J	ND U	ND U	0.084 J
2019-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2019-04	SW6020B	ug/L	ND U	ND U	0.10 J	ND U	ND U	ND U
2019-10	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
<b>Total Dissolved Solids</b>								
2015-11	SM2540C	mg/L	99	223	236	632	99	578
2016-02	SM2540C	mg/L	62	201	267	550	113	680
2016-05	SM2540C	mg/L	111	229	312	650	112	735
2016-08	SM2540C	mg/L	116	268	296	694	130	776
2016-11	SM2540C	mg/L	91	226	245	596	103	594
2017-02	SM2540C	mg/L	83	227	221	532	114	663
2017-05	SM2540C	mg/L	98	229	316	632	86	749
2017-08	SM2540C	mg/L	116	273	356	682	107	678
2017-10	SM2540C	mg/L	100	250	230	630	98	610
2018-04	SM2540C	mg/L	87.0	236	225	550	95.0	624
2018-06	SM2540C	mg/L	105	243	286	600	106	658
2018-10	SM2540C	mg/L	94.0	242	269	523	106	628
2019-04	SM2540C	mg/L	88.0	259	223	504	102	624
2019-10	SM2540C	mg/L	112	270	261	601	124	598
2020-03	SM2540C	mg/L	102	240	267	510	102	686
2020-09	SM2540C	mg/L	101	260	88.0 J	506	381	625
2021-03	SM2540C	mg/L	88.0	246	243	460	100	632
2021-09	SM2540C	mg/L	95.0	247	244	524	104	550
<b>Total Organic Carbon</b>								
2017-08	SW9060	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2017-10	SW9060	mg/L	ND U	0.36 J	0.48 J	0.44 J	0.14 J	0.49 J
2018-02	SM5310B	mg/L	ND U	ND U	ND U	2.7	ND U	ND U
2018-04	SW9060A	mg/L	3.8	ND U	19.0	13.6	11.3	ND U
2018-08	SM5310B	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-10	SW9060A	mg/L	4.6	13.2	12.6	11.9	10.2	20.5
2019-03	SW9060A	mg/L	3.3	10.5	ND U	9.9	ND U	10.3
2019-04	SW9060A	mg/L	2.7	11.7	14.7	12.0	10.5	16.3
2019-10	SW9060A	mg/L	4.3	ND U	17.2	14.6	12.8	ND U
2020-03	SW9060A	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2020-09	SW9060A	mg/L	ND U	ND U	ND U	ND U	ND U	0.63 J
2021-03	SW9060A	mg/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW9060A	mg/L	ND U	ND U	ND U	ND U	0.69 J	0.60 J

**Appendix E**  
**Historical Laboratory Results**  
**Sludge Sedimentation Basins, Clover Power Station**  
**Solid Waste Permit No. 622**

Location			PW-2	PW-3	PW-4	PW-5	PW-12	PW-13
Sample Date	Method	Unit						
<b>Vanadium</b>								
2017-08	SW6020A	ug/L	7.03	ND U	ND U	8.54	ND U	6.03
2017-10	SW6020A	ug/L	4.6 J	ND U	1.5 J	7.7	ND U	5.3
2018-02	SW6020	ug/L	4.2	ND U	ND U	7.9 J	0.64 J	4.9
2018-04	SW6020A	ug/L	4.7	ND U	1.0	8.5	0.69 J	4.8
2018-08	SW6010D	ug/L	4.7 J	ND U	ND U	9.1	ND U	5.0
2018-10	SW6020B	ug/L	5.3	2.5 J+	1.8 J+	8.5	1.1 J+	5.9
2019-03	SW6020B	ug/L	5.2	0.83	1.6	7.7	0.66	5.2
2019-04	SW6020B	ug/L	4.9	0.46	1.4	8.2	0.67	5.2
2019-10	SW6020B	ug/L	5.0	1.1 J+	1.4	10.5	0.98 J+	6.5
2020-03	SW6020B	ug/L	5.4	1.2	1.9	9.3	1.2	5.8
2020-09	SW6020B	ug/L	5.6	0.77	1.8	8.2	1.0	5.6
2021-03	SW6020B	ug/L	6.6	ND U	ND U	10.0	ND U	5.6
2021-09	SW6020B	ug/L	4.5	0.72 J	1.5	8.6	0.65 J	4.9
<b>Zinc</b>								
2017-08	SW6020A	ug/L	ND U	ND U	5.35	ND U	ND U	ND U
2017-10	SW6020A	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2018-02	SW6020	ug/L	0.86 J	1.8 J	1.6 J	ND U	9.0	2.8 J
2018-04	SW6020A	ug/L	ND U	3.1 J+	4.5 J	2.4 J+	1.3 J	0.86 J
2018-08	SW6010D	ug/L	ND U	ND U	7.5 J	ND U	ND U	ND U
2018-10	SW6020B	ug/L	ND U	7.0 J+	7.0 J+	2.7 J+	ND U	3.5 J+
2019-03	SW6020B	ug/L	ND U	4.2 J	3.4 J	ND U	1.4 J	ND U
2019-04	SW6020B	ug/L	ND U	1.7 J	1.5 J	ND U	ND U	ND U
2019-10	SW6020B	ug/L	2.3 J	2.5 J	1.3 J	ND U	ND U	ND U
2020-03	SW6020B	ug/L	1.6 J	3.5 J	3.9 J	2.5 J+	2.2 J	2.2 J
2020-09	SW6020B	ug/L	ND U	3.0 J	ND U	ND U	ND U	3.8 J
2021-03	SW6020B	ug/L	ND U	ND U	ND U	ND U	ND U	ND U
2021-09	SW6020B	ug/L	ND U	ND U	2.7 J	ND U	ND U	ND U

**Notes:**

ft AMSL = Feet above mean sea level  
 C = Degrees Celsius  
 ft btoc = Feet below top of casing  
 ug/L = Microgram per Liter  
 mg/L = Milligram per liter  
 µS/cm = MicroSiemen per centimeter  
 NTU = Nephelometric turbidity unit  
 pCi/L = Picocurie per Liter  
 SU = Standard Unit

**Qualifiers (Qual):**

J = Estimated Result  
 J+ = Potential bias high  
 J- = Potential bias low  
 U = Result below minimum detectable concentration  
 UJ = Result estimated, below minimum detectable concentration  
 ND U = Not detected

# **APPENDIX F**

## **COMPLETED ARSC-01 FORM**

### Annual Report QA/QC Submission Checklist

INCLUDED WITHIN ANNUAL REPORT?	YES	NO
Signature of a qualified groundwater professional	X	
Solid waste facility permit number & facility name	X	
Name of current owner/operator & type of facility	X	
Dates LF began operations and was deemed closed (if applicable)	X	
Date of last waste receipt (if applicable) [2.b]	Not Applicable	
Identified if site is lined or unlined [2.b]	X	
Identified if waste disposal method (trench fill/area fill/etc.) [2.b]	X	
Total site acreage, and acreage used for waste disposal [2.b]	X	
Adjoining land use described including any aquifer users	X	
Topographic map included as <i>Figure 1</i> [2.a]	X	
<i>Figure 1</i> shows facility location, includes a bar scale, and north arrow	X	
Discuss the type, name & age of the geologic unit(s) on site [2.d]	X	
Description of general site topography [2.d]	X	
Name of nearest permanent water body, perennial stream, etc. [2.d]	X	
Description of uppermost aquifer [2.d]	X	
Description of aquifer type (confined vs unconfined) [2.d]	X	
Date facility entered detection or phase I monitoring [2.b]	X	
Date facility entered assessment or phase II monitoring [2.b]	X	
Identified if the facility monitors groundwater under a variance	X	
Identified the dates of any groundwater variance approvals	X	
Approval date for wetlands demonstration (if applicable)	Not Applicable	
Identified all upgradient and downgradient monitoring wells [2.e]	X	
Identified if all monitoring wells were sampled during the year [2.e]	X	
Identified reasons for failure to sample (if applicable) [2.e]	X	
Identified if any monitoring wells have been abandoned [2.e]	X	
Identified if any wells require replacement [2.e]	X	
Included network performance certification statement [2.e]	X	
Identified groundwater sampling dates during past year [2.f]	X	
Included site plan drawing as <i>Figure 2</i> [2.h]	X	
<i>Figure 2</i> contains current topographic contours	X	
<i>Figure 2</i> contains facility and waste mgmt unit boundaries	X	
<i>Figure 2</i> includes all monitoring wells	X	
<i>Figure 2</i> includes potentiometric surface contours	X	
<i>Figure 2</i> includes groundwater flow direction arrows	X	
<i>Figure 2</i> includes all surface water bodies	X	
<i>Figure 2</i> includes all structures on site, a bar scale, and north arrow	X	
Listing of groundwater elevation readings in past year [2.h]	X	
Table of historical groundwater elevation data as <i>Appendix A</i>	X	
Calculated rate of groundwater flow (distance/year) [2.h]	X	
Flow rate calculations included as <i>Appendix B</i>	X	
Identified the name of the analytical laboratory [2.h]	X	
Identified whether the lab is DCLS Certified	X	
Identified type of analytical methods used [2.h]	X	
Identified those constituents found above the LOD and LOQ	X	
Identified if verification sampling was used during any event	X	
Identified statistical methods used to analyze groundwater data	X	
Identified any SSIs noted during prior year of monitoring	X	
Table of prior detected constituent concentrations in each well [2.g]	X	
Field data sheet copies included as <i>Appendix C</i>	X	
Laboratory results & certificates of analysis as CDROM in <i>Appendix D</i>	X	
Included historical summary of laboratory results in <i>Appendix E</i>	X	
Full list of References	X	
Copy of this QA/QC checklist	X	

# **APPENDIX G**

## **DATA VALIDATION FORMS**



# **APPENDIX G.1**

## **DATA VALIDATION FORMS**

**FIRST SEMI-ANNUAL 2021 MODIFIED ASSESSMENT  
MONITORING PROGRAM (MARCH 2021)**

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Clover Power Station Groundwater Sampling  
Samples Collected between: 3/16/2021 and 3/17/2021**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

**92528350**

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
031721NPW-2	PW-2	N	SW-846 6020B	Manganese	T	13.3	J+	M	1.0	2.0		ug/L
031721NPW-2	PW-2	N	SW-846 9012B	Cyanide	N		UJ	M	0.0060	0.0080		mg/L
031721NPW-3	PW-3	N	SW-846 6020B	Iron	T	352	J	FD	20.9	50.0		ug/L
031721NPW-3	PW-3	N	SW-846 6020B	Manganese	T	30.5	J+	M	1.0	2.0		ug/L
031721NPW-3	PW-3	N	SW-846 6020B	Nickel	T		U	BF	1.9	1.9		ug/L
031721NPW-3	PW-3	N	SW-846 6020B	Vanadium	T		U	BF	2.0	2.0		ug/L
031721NPW-3	PW-3	N	SW-846 9012B	Cyanide	N		UJ	M	0.0060	0.0080		mg/L
031721NPW-4	PW-4	N	SW-846 6020B	Manganese	T	8.7	J+	M	1.0	2.0		ug/L
031721NPW-4	PW-4	N	SW-846 6020B	Vanadium	T		U	BF	2.2	2.2		ug/L
031721NPW-4	PW-4	N	SW-846 9012B	Cyanide	N		UJ	M	0.0060	0.0080		mg/L
031721NPW-5	PW-5	N	SW-846 6020B	Manganese	T	10.2	J+	M	1.0	2.0		ug/L
031721NPW-5	PW-5	N	SW-846 9012B	Cyanide	N		UJ	M	0.0060	0.0080		mg/L
031721NPW-12	PW-12	N	SW-846 6020B	Manganese	T	8.9	J+	M	1.0	2.0		ug/L
031721NPW-12	PW-12	N	SW-846 6020B	Nickel	T		U	BF	1.4	1.4		ug/L
031721NPW-12	PW-12	N	SW-846 6020B	Vanadium	T		U	BF	1.9	1.9		ug/L
031721NPW-13	PW-13	N	SW-846 6020B	Manganese	T	192	J+	M	1.0	2.0		ug/L
031721NPW-13	PW-13	N	SW-846 9012B	Cyanide	N		U	BF,M,MP	0.0087	0.0087		mg/L
031721FBField Blank		FB	SM 2340B	Hardness, Total(SM 2340B)	N	37.7	J	RL	541	541		ug/L
031721FBField Blank		FB	SW-846 6020B	Nickel	T	0.48	J	RL	0.42	1.0		ug/L
031721FBField Blank		FB	SW-846 6020B	Vanadium	T	0.62	J	RL	0.25	1.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Iron	T	284	J	FD	20.9	50.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Manganese	T	25.7	J+	M	1.0	2.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Nickel	T		U	BF	1.8	1.8		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Vanadium	T		U	BF	2.1	2.1		ug/L
031721FDDuplicate	PW-3	FD	SW-846 9012B	Cyanide	N		UJ	M	0.0060	0.0080		mg/L

**Data Qualifiers**

U	The analyte was analyzed was not detected above the level of the reported sample quantitation limit.
J	Quantitation is approximate due to limitations identified during data validation.

J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
R	Unreliable positive result; analyte may or may not be present in sample.
<b>Reason Codes and Explanations</b>	
BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and RL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 50%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

<b>Lab Sample ID</b>	1034350-01
<b>Sys Sample Code</b>	031721NPW-2
<b>Sample Name</b>	031721NPW-2
<b>Sample Date</b>	3/17/2021 11:33:00 AM
<b>Location</b>	PW-2 / PW-2
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	10.3				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1034350-02
<b>Sys Sample Code</b>	031721NPW-3
<b>Sample Name</b>	031721NPW-3
<b>Sample Date</b>	3/17/2021 12:48:00 PM
<b>Location</b>	PW-3 / PW-3
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	11.7				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1034350-03
<b>Sys Sample Code</b>	031721NPW-4
<b>Sample Name</b>	031721NPW-4
<b>Sample Date</b>	3/17/2021 1:45:00 PM
<b>Location</b>	PW-4 / PW-4
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	28.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1034350-04
<b>Sys Sample Code</b>	031721NPW-5
<b>Sample Name</b>	031721NPW-5
<b>Sample Date</b>	3/17/2021 11:30:00 AM
<b>Location</b>	PW-5 / PW-5
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	37.9				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1034350-05
<b>Sys Sample Code</b>	031721NPW-12
<b>Sample Name</b>	031721NPW-12
<b>Sample Date</b>	3/17/2021 2:26:00 PM
<b>Location</b>	PW-12 / PW-12
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	13.4				4.3	4.3	10.0	Y	Yes	1	NA



<b>Lab Sample ID</b>	1034350-06
<b>Sys Sample Code</b>	031721NPW-13
<b>Sample Name</b>	031721NPW-13
<b>Sample Date</b>	3/17/2021 12:20:00 PM
<b>Location</b>	PW-13 / PW-13
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	36.7				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1034350-07
<b>Sys Sample Code</b>	031721FBField Blank
<b>Sample Name</b>	031721FBField Blank
<b>Sample Date</b>	3/17/2021 1:15:00 PM
<b>Location</b>	/
<b>Sample Type</b>	FB
<b>Matrix</b>	AQ
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L		U			4.3	4.3	10.0	N	Yes	1	NA

<b>Lab Sample ID</b>	1034350-08
<b>Sys Sample Code</b>	031721FDDuplicate
<b>Sample Name</b>	031721FDDuplicate
<b>Sample Date</b>	3/17/2021 12:55:00 PM
<b>Location</b>	PW-3 / PW-3
<b>Sample Type</b>	FD
<b>Matrix</b>	GW
<b>Parent Sample</b>	031721NPW-3

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Alkalinity, Total as CaCO3	ALK	N	mg/L	12.5				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-01
<b>Sys Sample Code</b>	031721NPW-2
<b>Sample Name</b>	031721NPW-2
<b>Sample Date</b>	3/17/2021 11:33:00 AM
<b>Location</b>	PW-2 / PW-2
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-02
<b>Sys Sample Code</b>	031721NPW-3
<b>Sample Name</b>	031721NPW-3
<b>Sample Date</b>	3/17/2021 12:48:00 PM
<b>Location</b>	PW-3 / PW-3
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-03
<b>Sys Sample Code</b>	031721NPW-4
<b>Sample Name</b>	031721NPW-4
<b>Sample Date</b>	3/17/2021 1:45:00 PM
<b>Location</b>	PW-4 / PW-4
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-04
<b>Sys Sample Code</b>	031721NPW-5
<b>Sample Name</b>	031721NPW-5
<b>Sample Date</b>	3/17/2021 11:30:00 AM
<b>Location</b>	PW-5 / PW-5
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-05
<b>Sys Sample Code</b>	031721NPW-12
<b>Sample Name</b>	031721NPW-12
<b>Sample Date</b>	3/17/2021 2:26:00 PM
<b>Location</b>	PW-12 / PW-12
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA



<b>Lab Sample ID</b>	21C1005-06
<b>Sys Sample Code</b>	031721NPW-13
<b>Sample Name</b>	031721NPW-13
<b>Sample Date</b>	3/17/2021 12:20:00 PM
<b>Location</b>	PW-13 / PW-13
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-07
<b>Sys Sample Code</b>	031721FBField Blank
<b>Sample Name</b>	031721FBField Blank
<b>Sample Date</b>	3/17/2021 1:15:00 PM
<b>Location</b>	/
<b>Sample Type</b>	FB
<b>Matrix</b>	AQ
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	21C1005-08
<b>Sys Sample Code</b>	031721FDDuplicate
<b>Sample Name</b>	031721FDDuplicate
<b>Sample Date</b>	3/17/2021 12:55:00 PM
<b>Location</b>	PW-3 / PW-3
<b>Sample Type</b>	FD
<b>Matrix</b>	GW
<b>Parent Sample</b>	031721NPW-3

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

Lab Sample ID	92528350001
Sys Sample Code	031721NPW-2
Sample Name	031721NPW-2
Sample Date	3/17/2021 11:33:00 AM
Location	PW-2 / PW-2
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	29900				541	541	541	Y	Yes	1	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	360				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	13.3	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	4.6				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	3720				49.1	49.1	250	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	6.6				0.25	0.25	1.0	Y	Yes	1	NA
Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA	
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.013				0.0060	0.0060	0.010	Y	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		UJ	M		0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92528350002
Sys Sample Code	031721NPW-3
Sample Name	031721NPW-3
Sample Date	3/17/2021 12:48:00 PM
Location	PW-3 / PW-3
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	108000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	19100				491	491	2500	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	352	J	FD		20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	30.5	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U	BF		1.9	1.9	1.9	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U	BF		2.0	2.0	2.0	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.016				0.0060	0.0060	0.010	Y	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		UJ	M		0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92528350003
Sys Sample Code	031721NPW-4
Sample Name	031721NPW-4
Sample Date	3/17/2021 1:45:00 PM
Location	PW-4 / PW-4
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	171000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	253				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	8.7	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	20.4				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	9430				49.1	49.1	250	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U	BF		2.2	2.2	2.2	N	Yes	1	NA
Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA	
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.018				0.0060	0.0060	0.010	Y	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		UJ	M		0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92528350004
Sys Sample Code	031721NPW-5
Sample Name	031721NPW-5
Sample Date	3/17/2021 11:30:00 AM
Location	PW-5 / PW-5
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	324000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	12500				491	491	2500	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	354				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	10.2	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	5.6				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	10.0				0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.0060	0.0060	0.010	N	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		UJ	M		0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92528350005
Sys Sample Code	031721NPW-12
Sample Name	031721NPW-12
Sample Date	3/17/2021 2:26:00 PM
Location	PW-12 / PW-12
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	13600				541	541	541	Y	Yes	1	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	11400				491	491	2500	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	222				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	8.9	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U	BF		1.4	1.4	1.4	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U	BF		1.9	1.9	1.9	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.0060	0.0060	0.010	N	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA



Lab Sample ID	92528350006
Sys Sample Code	031721NPW-13
Sample Name	031721NPW-13
Sample Date	3/17/2021 12:20:00 PM
Location	PW-13 / PW-13
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	468000				10800	10800	10800	Y	Yes	20	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	14800				491	491	2500	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	254				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	192	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	3.6				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	5.6				0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.0060	0.0060	0.010	N	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U	BF,M,MP		0.0087	0.0087	0.0087	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92528350007
Sys Sample Code	031721FBField Blank
Sample Name	031721FBField Blank
Sample Date	3/17/2021 1:15:00 PM
Location	/
Sample Type	FB
Matrix	AQ
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	37.7	J	RL		541	541	541	Y	Yes	1	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L		U			20.9	20.9	50.0	N	Yes	1	NA
	Manganese	7439-96-5	T	ug/L		U			1.0	1.0	2.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	0.48	J	RL		0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L		U			49.1	49.1	250	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	0.62	J	RL		0.25	0.25	1.0	Y	Yes	1	NA
Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA	
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.0060	0.0060	0.010	N	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L	0.0094				0.0060	0.0060	0.0080	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92528350008
Sys Sample Code	031721FDDuplicate
Sample Name	031721FDDuplicate
Sample Date	3/17/2021 12:55:00 PM
Location	PW-3 / PW-3
Sample Type	FD
Matrix	GW
Parent Sample	031721NPW-3

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	103000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	18800				491	491	2500	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	284	J	FD		20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	25.7	J+	M		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U	BF		1.8	1.8	1.8	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.50	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U	BF		2.1	2.1	2.1	N	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.016				0.0060	0.0060	0.010	Y	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		UJ	M		0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Clover Power Station Groundwater Sampling  
Samples Collected between: 3/16/2021 and 3/17/2021**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

**92528431**

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
031721NPW-2	PW-2	N	SW-846 6020B	Beryllium	T	0.069	J	RL	0.050	0.10		ug/L
031721NPW-2	PW-2	N	SW-846 6020B	Cobalt	T	0.28	J	RL	0.050	1.0		ug/L
031721NPW-2	PW-2	N	SW-846 6020B	Lead	T	0.16	J	RL	0.077	1.0		ug/L
031721NPW-2	PW-2	N	SW-846 6020B	Lithium	T	1.9	J	RL	0.50	2.5		ug/L
031721NPW-2	PW-2	N	SW-846 9056A	Sulfate	N	0.76	J	RL	0.50	1.0		mg/L
031721NPW-3	PW-3	N	CALC	Total Radium	T	1.15	U	BF,BL,S			0.665	pCi/L
031721NPW-3	PW-3	N	SW-846 6020B	Arsenic	T	0.088	J	RL	0.087	1.0		ug/L
031721NPW-3	PW-3	N	SW-846 6020B	Cobalt	T	0.39	J	RL	0.050	1.0		ug/L
031721NPW-3	PW-3	N	SW-846 6020B	Lead	T	0.30	J	RL	0.077	1.0		ug/L
031721NPW-3	PW-3	N	SW-846 6020B	Selenium	T	1.0	J	RL	0.072	2.0		ug/L
031721NPW-3	PW-3	N	SW-846 9320	Radium-228	T	0.902	U	BF,BL	0.902	0.902	0.453	pCi/L
031721NPW-4	PW-4	N	CALC	Total Radium	T	1.16	U	BF,BL,S			0.672	pCi/L
031721NPW-4	PW-4	N	SW-846 6020B	Cobalt	T	0.34	J	RL	0.050	1.0		ug/L
031721NPW-4	PW-4	N	SW-846 6020B	Lithium	T	2.1	J	RL	0.50	2.5		ug/L
031721NPW-4	PW-4	N	SW-846 6020B	Selenium	T	0.38	J	RL	0.072	2.0		ug/L
031721NPW-4	PW-4	N	SW-846 9056A	Chloride	N	66.8	J-	M	0.60	1.0		mg/L
031721NPW-4	PW-4	N	SW-846 9056A	Sulfate	N	1.8	J-	M	0.50	1.0		mg/L
031721NPW-4	PW-4	N	SW-846 9320	Radium-228	T	0.974	U	BF,BL	0.974	0.974	0.464	pCi/L
031721NPW-5	PW-5	N	SW-846 6020B	Arsenic	T	0.14	J	RL	0.087	1.0		ug/L
031721NPW-5	PW-5	N	SW-846 6020B	Cobalt	T	0.26	J	RL	0.050	1.0		ug/L
031721NPW-5	PW-5	N	SW-846 6020B	Lead	T	0.14	J	RL	0.077	1.0		ug/L
031721NPW-5	PW-5	N	SW-846 6020B	Molybdenum	T	0.23	J	RL	0.13	1.0		ug/L
031721NPW-5	PW-5	N	SW-846 6020B	Selenium	T	1.3	J	RL	0.072	2.0		ug/L
031721NPW-5	PW-5	N	SW-846 9056A	Chloride	N	82.8	J-	M	1.8	3.0		mg/L
031721NPW-5	PW-5	N	SW-846 9056A	Fluoride	N	0.070	J	RL	0.050	0.10		mg/L
031721NPW-5	PW-5	N	SW-846 9056A	Sulfate	N	108	J-	M	1.5	3.0		mg/L
031721NPW-12	PW-12	N	CALC	Total Radium	T	0.531	U	S			0.504	pCi/L
031721NPW-12	PW-12	N	SW-846 6020B	Beryllium	T	0.092	J	RL	0.050	0.10		ug/L
031721NPW-12	PW-12	N	SW-846 6020B	Cobalt	T	0.11	J	RL	0.050	1.0		ug/L
031721NPW-12	PW-12	N	SW-846 6020B	Lithium	T	2.0	J	RL	0.50	2.5		ug/L

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
031721NPW-12	PW-12	N	SW-846 9056A	Chloride	N	5.6	J-	M	0.60	1.0		mg/L
031721NPW-12	PW-12	N	SW-846 9056A	Sulfate	N		UJ	M	0.50	1.0		mg/L
031721NPW-13	PW-13	N	CALC	Total Radium	T	0.921	U	BF,BL,S			0.570	pCi/L
031721NPW-13	PW-13	N	SW-846 6020B	Arsenic	T	0.096	J	RL	0.087	1.0		ug/L
031721NPW-13	PW-13	N	SW-846 6020B	Cobalt	T	0.15	J	RL	0.050	1.0		ug/L
031721NPW-13	PW-13	N	SW-846 6020B	Lead	T	0.099	J	RL	0.077	1.0		ug/L
031721NPW-13	PW-13	N	SW-846 6020B	Molybdenum	T	0.34	J	RL	0.13	1.0		ug/L
031721NPW-13	PW-13	N	SW-846 6020B	Selenium	T	1.7	J	RL	0.072	2.0		ug/L
031721NPW-13	PW-13	N	SW-846 9056A	Chloride	N	91.7	J-	M	3.0	5.0		mg/L
031721NPW-13	PW-13	N	SW-846 9056A	Sulfate	N	195	J-	M	2.5	5.0		mg/L
031721NPW-13	PW-13	N	SW-846 9320	Radium-228	T	0.734	U	BF,BL	0.734	0.734	0.384	pCi/L
031721FBFIELDBLANK		FB	CALC	Total Radium	T	0.893	J	S			0.563	pCi/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Arsenic	T	0.12	J	RL	0.087	1.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Cobalt	T	0.32	J	RL	0.050	1.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Lead	T	0.22	J	RL	0.077	1.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Molybdenum	T	0.13	J	RL	0.13	1.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 6020B	Selenium	T	0.88	J	RL	0.072	2.0		ug/L
031721FDDuplicate	PW-3	FD	SW-846 9056A	Chloride	N	10.8	J-	M	0.60	1.0		mg/L
031721FDDuplicate	PW-3	FD	SW-846 9056A	Sulfate	N	98.9	J-	M	0.50	1.0		mg/L

#### Data Qualifiers

U	The analyte was analyzed was not detected above the level of the reported sample quantitation limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
R	Unreliable positive result; analyte may or may not be present in sample.

#### Reason Codes and Explanations

BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and RL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 50%.
Y	Chemical yield outside of acceptance limits

ZZ	Other
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Lab Sample ID	92528431001
Sys Sample Code	031721NPW-2
Sample Name	031721NPW-2
Sample Date	3/17/2021 11:33:00 AM
Location	PW-2 / PW-2
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	0.512	U		0.546				N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	88.0				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	3.8				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.069	J	RL		0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	6560				35.0	35.0	200	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	13.7				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.28	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L	0.16	J	RL		0.077	0.077	1.0	Y	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	1.9	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			0.072	0.072	2.0	N	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	12.4				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.12				0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	0.76	J	RL		0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.218	U		0.217	0.426	0.426	0.426	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.294	U		0.329	0.689	0.689	0.689	N	Yes	1	NA

Lab Sample ID	92528431002
Sys Sample Code	031721NPW-3
Sample Name	031721NPW-3
Sample Date	3/17/2021 12:48:00 PM
Location	PW-3 / PW-3
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	1.15	U	BF,BL,S	0.665				N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	246				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L	0.088	J	RL		0.087	0.087	1.0	Y	Yes	1	NA
	Barium	7440-39-3	T	ug/L	83.9				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.25				0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	15.2				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.39	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L	0.30	J	RL		0.077	0.077	1.0	Y	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	3.1				0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	1.0	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 6020B	Calcium	7440-70-2	T	ug/L	28700				700	700	4000	Y	Yes	20	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	11.7				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	94.3				0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.248	U		0.212	0.395	0.395	0.395	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.902	U	BF,BL	0.453	0.902	0.902	0.902	N	Yes	1	NA



Lab Sample ID	92528431003
Sys Sample Code	031721NPW-4
Sample Name	031721NPW-4
Sample Date	3/17/2021 1:45:00 PM
Location	PW-4 / PW-4
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	1.16	U	BF,BL,S	0.672				N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	243				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	33.7				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	18.7				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.34	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	2.1	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	0.38	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 6020B	Calcium	7440-70-2	T	ug/L	32600				700	700	4000	Y	Yes	20	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	66.8	J-	M		0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	1.8	J-	M		0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.187	U		0.208	0.434	0.434	0.434	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.974	U	BF,BL	0.464	0.974	0.974	0.974	N	Yes	1	NA

Lab Sample ID	92528431004
Sys Sample Code	031721NPW-5
Sample Name	031721NPW-5
Sample Date	3/17/2021 11:30:00 AM
Location	PW-5 / PW-5
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	0.699	U		0.616				N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	460				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L	793				32.4	32.4	50.0	Y	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L	0.14	J	RL		0.087	0.087	1.0	Y	Yes	1	NA
	Barium	7440-39-3	T	ug/L	12.7				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	5.4				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.26	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L	0.14	J	RL		0.077	0.077	1.0	Y	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	4.0				0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L	0.23	J	RL		0.13	0.13	1.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	1.3	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 6020B	Calcium	7440-70-2	T	ug/L	66900				700	700	4000	Y	Yes	20	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Fluoride	16984-48-8	N	mg/L	0.070	J	RL		0.050	0.050	0.10	Y	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	82.8	J-	M		1.8	1.8	3.0	Y	Yes	3	NA
	Sulfate	14808-79-8	N	mg/L	108	J-	M		1.5	1.5	3.0	Y	Yes	3	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.0264	U		0.168	0.429	0.429	0.429	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.673	U		0.448	0.848	0.848	0.848	N	Yes	1	NA

Lab Sample ID	92528431005
Sys Sample Code	031721NPW-12
Sample Name	031721NPW-12
Sample Date	3/17/2021 2:26:00 PM
Location	PW-12 / PW-12
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	0.531	U	S	0.504				N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	100				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	18.2				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.092	J	RL		0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	3770				35.0	35.0	200	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	1.7				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.11	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	2.0	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			0.072	0.072	2.0	N	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	5.6	J-	M		0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		UJ	M		0.50	0.50	1.0	N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	-0.00117	U		0.138	0.367	0.367	0.367	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.531	U		0.366	0.706	0.706	0.706	N	Yes	1	NA

Lab Sample ID	92528431006
Sys Sample Code	031721NPW-13
Sample Name	031721NPW-13
Sample Date	3/17/2021 12:20:00 PM
Location	PW-13 / PW-13
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis	
CALC	Total Radium	RA226/228	T	pCi/L	0.921	U	BF,BL,S	0.570				N	Yes	1	NA	
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	632				25.0	25.0	25.0	Y	Yes	1	NA	
SW-846 6010D	Boron	7440-42-8	T	ug/L	825				32.4	32.4	50.0	Y	Yes	1	NA	
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA	
	Arsenic	7440-38-2	T	ug/L	0.096	J	RL		0.087	0.087	1.0	Y	Yes	1	NA	
	Barium	7440-39-3	T	ug/L	10.8				0.21	0.21	1.0	Y	Yes	1	NA	
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA	
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA	
	Chromium	7440-47-3	T	ug/L	2.9				0.50	0.50	1.0	Y	Yes	1	NA	
	Cobalt	7440-48-4	T	ug/L	0.15	J	RL		0.050	0.050	1.0	Y	Yes	1	NA	
	Lead	7439-92-1	T	ug/L	0.099	J	RL		0.077	0.077	1.0	Y	Yes	1	NA	
	Lithium	7439-93-2	T	ug/L	3.0				0.50	0.50	2.5	Y	Yes	1	NA	
	Molybdenum	7439-98-7	T	ug/L	0.34	J	RL		0.13	0.13	1.0	Y	Yes	1	NA	
SW-846 6020B	Selenium	7782-49-2	T	ug/L	1.7	J	RL		0.072	0.072	2.0	Y	Yes	1	NA	
	Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
	Calcium	7440-70-2	T	ug/L	103000				700	700	4000	Y	Yes	20	NA	
	SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
	SW-846 9056A	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	SW-846 9056A	Chloride	16887-00-6	N	mg/L	91.7	J-	M		3.0	3.0	5.0	Y	Yes	5	NA
		Sulfate	14808-79-8	N	mg/L	195	J-	M		2.5	2.5	5.0	Y	Yes	5	NA
	SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.187	U		0.186	0.370	0.370	0.370	N	Yes	1	NA
	SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.734	U	BF,BL	0.384	0.734	0.734	0.734	N	Yes	1	NA

Lab Sample ID	92528431007
Sys Sample Code	031721FBFIELDBLANK
Sample Name	031721FBFieldBlank
Sample Date	3/17/2021 1:15:00 PM
Location	/
Sample Type	FB
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	0.893	J	S	0.563				Y	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L		U			25.0	25.0	25.0	N	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L		U			0.21	0.21	1.0	N	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L		U			35.0	35.0	200	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.50	0.50	1.0	N	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L		U			0.50	0.50	2.5	N	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			0.072	0.072	2.0	N	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L		U			0.60	0.60	1.0	N	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.180	U		0.181	0.351	0.351	0.351	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.713			0.382	0.691	0.691	0.691	Y	Yes	1	NA

Lab Sample ID	92528431008
Sys Sample Code	031721FDDuplicate
Sample Name	031721FDDuplicate
Sample Date	3/17/2021 12:55:00 PM
Location	PW-3 / PW-3
Sample Type	FD
Matrix	GW
Parent Sample	031721NPW-3

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Total Radium	RA226/228	T	pCi/L	0.815	U		0.581				N	Yes	1	NA
SM 2540C	Total Dissolved Solids	TDS	D	mg/L	245				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L	0.12	J	RL		0.087	0.087	1.0	Y	Yes	1	NA
	Barium	7440-39-3	T	ug/L	85.3				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.26				0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	14.8				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.32	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L	0.22	J	RL		0.077	0.077	1.0	Y	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	3.0				0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L	0.13	J	RL		0.13	0.13	1.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	0.88	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA	
SW-846 6020B	Calcium	7440-70-2	T	ug/L	29000				700	700	4000	Y	Yes	20	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	10.8	J-	M		0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	98.9	J-	M		0.50	0.50	1.0	Y	Yes	1	NA
SW-846 9315	Radium-226	13982-63-3	T	pCi/L	0.276	U		0.230	0.437	0.437	0.437	N	Yes	1	NA
SW-846 9320	Radium-228	15262-20-1	T	pCi/L	0.539	U		0.351	0.660	0.660	0.660	N	Yes	1	NA

# **APPENDIX G.2**

## **DATA VALIDATION FORMS**

**SECOND SEMI-ANNUAL 2021 MODIFIED  
ASSESSMENT MONITORING PROGRAM  
(SEPTEMBER 2021)**

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Clover Power Station Groundwater Sampling  
Samples Collected between: 9/20/2021 and 9/21/2021**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

**92562243**

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Analyte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
092021NPW2	PW-2	N	SW-846 6020B	Manganese	T	1.6	J	RL	1.0	2.0		ug/L
092021NPW3	PW-3	N	SW-846 6020B	Iron	T	45.4	J	RL	20.9	50.0		ug/L
092021NPW3	PW-3	N	SW-846 6020B	Nickel	T		U	BF	2.3	2.3		ug/L
092021NPW3	PW-3	N	SW-846 6020B	Vanadium	T	0.72	J	RL	0.25	1.0		ug/L
092121FBFIELDBLANK		FB	SM 2340B	Hardness, Total(SM 2340B)	N	31.2	J	RL	541	541		ug/L
092121FBFIELDBLANK		FB	SW-846 6020B	Nickel	T	0.49	J	RL	0.42	1.0		ug/L
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 6020B	Zinc	T	4.9	J	RL	2.7	10.0		ug/L
092121NPW4	PW-4	N	SW-846 6020B	Zinc	T	2.7	J	RL	2.7	10.0		ug/L
092121NPW5	PW-5	N	SW-846 6020B	Silver	T	0.079	J	RL	0.070	0.40		ug/L
092121NPW12	PW-12	N	SW-846 6020B	Nickel	T		U	BF	1.3	1.3		ug/L
092121NPW12	PW-12	N	SW-846 6020B	Vanadium	T	0.65	J	RL	0.25	1.0		ug/L
092121NPW12	PW-12	N	SW-846 9060A	Mean Total Organic Carbon	N	0.69	J	RL	0.50	1.0		mg/L
092121NPW13	PW-13	N	SW-846 9012B	Cyanide	N	0.0063	J	RL	0.0060	0.0080		mg/L
092121NPW13	PW-13	N	SW-846 9060A	Mean Total Organic Carbon	N	0.60	J	RL	0.50	1.0		mg/L

**Data Qualifiers**

U	The analyte was not detected above the level of the reported sample quantitation limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
R	Unreliable positive result; analyte may or may not be present in sample.

**Reason Codes and Explanations**

BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.



FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and RL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 50%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

<b>Lab Sample ID</b>	1094736-01
<b>Sys Sample Code</b>	092021NPW2
<b>Sample Name</b>	092021NPW2
<b>Sample Date</b>	9/20/2021 4:10:00 PM
<b>Location</b>	PW-2 / PW-2
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	23.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1094736-02
<b>Sys Sample Code</b>	092021NPW3
<b>Sample Name</b>	092021NPW3
<b>Sample Date</b>	9/20/2021 4:05:00 PM
<b>Location</b>	PW-3 / PW-3
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	15.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1094736-03
<b>Sys Sample Code</b>	092121FBBFIELDBLANK
<b>Sample Name</b>	092121FBFieldBlank
<b>Sample Date</b>	9/21/2021 11:35:00 AM
<b>Location</b>	/
<b>Sample Type</b>	FB
<b>Matrix</b>	AQ
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L		U			4.3	4.3	10.0	N	Yes	1	NA

<b>Lab Sample ID</b>	1094736-04
<b>Sys Sample Code</b>	092121FDFIELD DUPLICATE
<b>Sample Name</b>	092121FDFieldDuplicate
<b>Sample Date</b>	9/21/2021 11:10:00 AM
<b>Location</b>	PW-4 / PW-4
<b>Sample Type</b>	FD
<b>Matrix</b>	GW
<b>Parent Sample</b>	092121NPW4

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	39.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1094736-05
<b>Sys Sample Code</b>	092121NPW4
<b>Sample Name</b>	092121NPW4
<b>Sample Date</b>	9/21/2021 10:45:00 AM
<b>Location</b>	PW-4 / PW-4
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	42.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1094736-06
<b>Sys Sample Code</b>	092121NPW5
<b>Sample Name</b>	092121NPW5
<b>Sample Date</b>	9/21/2021 9:55:00 AM
<b>Location</b>	PW-5 / PW-5
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	49.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	1094736-07
<b>Sys Sample Code</b>	092121NPW12
<b>Sample Name</b>	092121NPW12
<b>Sample Date</b>	9/21/2021 11:10:00 AM
<b>Location</b>	PW-12 / PW-12
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	18.0				4.3	4.3	10.0	Y	Yes	1	NA



<b>Lab Sample ID</b>	1094736-08
<b>Sys Sample Code</b>	092121NPW13
<b>Sample Name</b>	092121NPW13
<b>Sample Date</b>	9/21/2021 9:45:00 AM
<b>Location</b>	PW-13 / PW-13
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
EPA 310.2	Total Alkalinity	ALK	N	mg/L	59.0				4.3	4.3	10.0	Y	Yes	1	NA

<b>Lab Sample ID</b>	2111004-01
<b>Sys Sample Code</b>	092021NPW2
<b>Sample Name</b>	092021NPW2
<b>Sample Date</b>	9/20/2021 4:10:00 PM
<b>Location</b>	PW-2 / PW-2
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.012				0.005	0.005	0.005	Y	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	2111004-02
<b>Sys Sample Code</b>	092021NPW3
<b>Sample Name</b>	092021NPW3
<b>Sample Date</b>	9/20/2021 4:05:00 PM
<b>Location</b>	PW-3 / PW-3
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.012				0.005	0.005	0.005	Y	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	2111021-01
<b>Sys Sample Code</b>	092121FBFIELDBLANK
<b>Sample Name</b>	092121FBFieldBlank
<b>Sample Date</b>	9/21/2021 11:35:00 AM
<b>Location</b>	/
<b>Sample Type</b>	FB
<b>Matrix</b>	AQ
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.005	0.005	0.005	N	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	2111021-02
<b>Sys Sample Code</b>	092121FDFIELD DUPLICATE
<b>Sample Name</b>	092121FDFieldDuplicate
<b>Sample Date</b>	9/21/2021 11:10:00 AM
<b>Location</b>	PW-4 / PW-4
<b>Sample Type</b>	FD
<b>Matrix</b>	GW
<b>Parent Sample</b>	092121NPW4

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.013				0.005	0.005	0.005	Y	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	2111021-03
<b>Sys Sample Code</b>	092121NPW4
<b>Sample Name</b>	092121NPW4
<b>Sample Date</b>	9/21/2021 10:45:00 AM
<b>Location</b>	PW-4 / PW-4
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L	0.011				0.005	0.005	0.005	Y	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	2111021-04
<b>Sys Sample Code</b>	092121NPW5
<b>Sample Name</b>	092121NPW5
<b>Sample Date</b>	9/21/2021 9:55:00 AM
<b>Location</b>	PW-5 / PW-5
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.005	0.005	0.005	N	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

<b>Lab Sample ID</b>	2111021-05
<b>Sys Sample Code</b>	092121NPW12
<b>Sample Name</b>	092121NPW12
<b>Sample Date</b>	9/21/2021 11:10:00 AM
<b>Location</b>	PW-12 / PW-12
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.005	0.005	0.005	N	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA



<b>Lab Sample ID</b>	2111021-06
<b>Sys Sample Code</b>	092121NPW13
<b>Sample Name</b>	092121NPW13
<b>Sample Date</b>	9/21/2021 9:45:00 AM
<b>Location</b>	PW-13 / PW-13
<b>Sample Type</b>	N
<b>Matrix</b>	GW
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SW-846 7196A	Chromium, Hexavalent	18540-29-9	D	mg/L		U			0.005	0.005	0.005	N	Yes	1	NA
SW-846 9215	Sulfide	18496-25-8	N	mg/L		U			0.80	0.80	1.00	N	Yes	1	NA

Lab Sample ID	92562243001
Sys Sample Code	092021NPW2
Sample Name	092021NPW2
Sample Date	9/20/2021 4:10:00 PM
Location	PW-2 / PW-2
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	30900				541	541	541	Y	Yes	1	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	58.3				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	1.6	J	RL		1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	4.0				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	3400				49.1	49.1	250	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	4.5				0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562243002
Sys Sample Code	092021NPW3
Sample Name	092021NPW3
Sample Date	9/20/2021 4:05:00 PM
Location	PW-3 / PW-3
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	106000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	45.4	J	RL		20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	8.4				1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U	BF		2.3	2.3	2.3	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	0.72	J	RL		0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	20500				491	491	2500	Y	Yes	10	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L	0.014				0.0060	0.0060	0.0080	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562243003
Sys Sample Code	092121FBIFieldBLANK
Sample Name	092121FBIFieldBlank
Sample Date	9/21/2021 11:35:00 AM
Location	/
Sample Type	FB
Matrix	AQ
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	31.2	J	RL		541	541	541	Y	Yes	1	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L		U			20.9	20.9	50.0	N	Yes	1	NA
	Manganese	7439-96-5	T	ug/L		U			1.0	1.0	2.0	N	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	0.49	J	RL		0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L		U			49.1	49.1	250	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L		U			0.25	0.25	1.0	N	Yes	1	NA
Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA	
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562243004
Sys Sample Code	092121FDFIELD DUPLICATE
Sample Name	092121FDFieldDuplicate
Sample Date	9/21/2021 11:10:00 AM
Location	PW-4 / PW-4
Sample Type	FD
Matrix	GW
Parent Sample	092121NPW4

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	190000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	81.7				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	5.4				1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	21.5				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	9860				49.1	49.1	250	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	1.5				0.25	0.25	1.0	Y	Yes	1	NA
Zinc	7440-66-6	T	ug/L	4.9	J	RL		2.7	2.7	10.0	Y	Yes	1	NA	
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562243005
Sys Sample Code	092121NPW4
Sample Name	092121NPW4
Sample Date	9/21/2021 10:45:00 AM
Location	PW-4 / PW-4
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	187000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	105				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	7.0				1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	21.5				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Sodium	7440-23-5	T	ug/L	9420				49.1	49.1	250	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	1.5				0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L	2.7	J	RL		2.7	2.7	10.0	Y	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562243006
Sys Sample Code	092121NPW5
Sample Name	092121NPW5
Sample Date	9/21/2021 9:55:00 AM
Location	PW-5 / PW-5
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	400000				541	541	541	Y	Yes	1	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	14400				491	491	2500	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	171				20.9	20.9	50.0	Y	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	4.9				1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	6.2				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L	0.079	J	RL		0.070	0.070	0.40	Y	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	8.6				0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562243007
Sys Sample Code	092121NPW12
Sample Name	092121NPW12
Sample Date	9/21/2021 11:10:00 AM
Location	PW-12 / PW-12
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	16700				541	541	541	Y	Yes	1	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L		U			20.9	20.9	50.0	N	Yes	1	NA
	Manganese	7439-96-5	T	ug/L	5.1				1.0	1.0	2.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L		U	BF		1.3	1.3	1.3	N	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	0.65	J	RL		0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 6020B	Sodium	7440-23-5	T	ug/L	12400				491	491	2500	Y	Yes	10	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L		U			0.0060	0.0060	0.0080	N	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L	0.69	J	RL		0.50	0.50	1.0	Y	Yes	1	NA



Lab Sample ID	92562243008
Sys Sample Code	092121NPW13
Sample Name	092121NPW13
Sample Date	9/21/2021 9:45:00 AM
Location	PW-13 / PW-13
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2340B	Hardness, Total(SM 2340B)	HARD	N	ug/L	438000				5410	5410	5410	Y	Yes	10	NA
SW-846 6020B	Copper	7440-50-8	T	ug/L		U			1.1	1.1	2.0	N	Yes	1	NA
	Iron	7439-89-6	T	ug/L	79.7				20.9	20.9	50.0	Y	Yes	1	NA
	Nickel	7440-02-0	T	ug/L	3.4				0.42	0.42	1.0	Y	Yes	1	NA
	Silver	7440-22-4	T	ug/L		U			0.070	0.070	0.40	N	Yes	1	NA
	Tin	7440-31-5	T	ug/L		U			0.43	0.43	1.0	N	Yes	1	NA
	Vanadium	7440-62-2	T	ug/L	4.9				0.25	0.25	1.0	Y	Yes	1	NA
	Zinc	7440-66-6	T	ug/L		U			2.7	2.7	10.0	N	Yes	1	NA
SW-846 6020B	Manganese	7439-96-5	T	ug/L	296				10.2	10.2	20.0	Y	Yes	10	NA
	Sodium	7440-23-5	T	ug/L	15300				491	491	2500	Y	Yes	10	NA
SW-846 9012B	Cyanide	57-12-5	N	mg/L	0.0063	J	RL		0.0060	0.0060	0.0080	Y	Yes	1	NA
SW-846 9060A	Mean Total Organic Carbon	TOC	N	mg/L	0.60	J	RL		0.50	0.50	1.0	Y	Yes	1	NA

This quality assurance (QA) review is based upon an examination of the data generated from the analyses of the samples collected as part of:

**Clover Power Station Groundwater Sampling  
Samples Collected between: 9/20/2021 and 9/21/2021**

This review was performed with guidance from the associated US EPA data validation guidelines and in accordance with the Quality Assurance Program Plan. These validation guidance documents specifically address analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA, SW-846, and Standard Methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA, SW-846, and Standard Methods utilized by the laboratory. This QA review was performed on the data associated with Job Number:

**92562554**

The findings offered in this report are based on a review of holding times and preservation, method blank results, field blank results, filter blank results, equipment blank results, tubing blank results, matrix spike/matrix spike duplicate recoveries and precision, laboratory control sample/laboratory control sample duplicate recoveries and precision, laboratory and field duplicate precision, total and dissolved results comparisons, and/or positive results between the method detection limit and quantitation limit.

The following results were qualified based on the data verification effort:

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
092021NPW2	PW-2	N	SW-846 6020B	Beryllium	T	0.059	J	RL	0.050	0.10		ug/L
092021NPW2	PW-2	N	SW-846 6020B	Lithium	T	1.7	J	RL	0.50	2.5		ug/L
092021NPW2	PW-2	N	SW-846 9056A	Fluoride	N	0.098	J	RL	0.050	0.10		mg/L
092021NPW2	PW-2	N	SW-846 9056A	Sulfate	N	0.84	J	RL	0.50	1.0		mg/L
092021NPW3	PW-3	N	SW-846 6020B	Cobalt	T	0.095	J	RL	0.050	1.0		ug/L
092021NPW3	PW-3	N	SW-846 6020B	Selenium	T	0.86	J	RL	0.072	2.0		ug/L
092121NPW4	PW-4	N	SW-846 6020B	Cobalt	T	0.12	J	RL	0.050	1.0		ug/L
092121NPW4	PW-4	N	SW-846 6020B	Lithium	T	2.0	J	RL	0.50	2.5		ug/L
092121NPW4	PW-4	N	SW-846 6020B	Selenium	T	0.32	J	RL	0.072	2.0		ug/L
092121NPW4	PW-4	N	SW-846 9056A	Sulfate	N	3.8	J-	M	0.50	1.0		mg/L
092121NPW5	PW-5	N	SW-846 6020B	Arsenic	T	0.10	J	RL	0.087	1.0		ug/L
092121NPW5	PW-5	N	SW-846 6020B	Cobalt	T	0.14	J	RL	0.050	1.0		ug/L
092121NPW5	PW-5	N	SW-846 6020B	Molybdenum	T	0.28	J	RL	0.13	1.0		ug/L
092121NPW5	PW-5	N	SW-846 6020B	Selenium	T	1.4	J	RL	0.072	2.0		ug/L
092121NPW5	PW-5	N	SW-846 9056A	Fluoride	N	0.069	J	RL	0.050	0.10		mg/L
092121NPW5	PW-5	N	SW-846 9056A	Sulfate	N	162	J-	M	2.0	4.0		mg/L
092121NPW12	PW-12	N	SW-846 6020B	Cobalt	T	0.13	J	RL	0.050	1.0		ug/L
092121NPW12	PW-12	N	SW-846 6020B	Lead	T	0.099	J	RL	0.077	1.0		ug/L
092121NPW12	PW-12	N	SW-846 6020B	Lithium	T	2.3	J	RL	0.50	2.5		ug/L
092121NPW12	PW-12	N	SW-846 6020B	Selenium	T	0.89	J	RL	0.072	2.0		ug/L
092121NPW12	PW-12	N	SW-846 6020B	Thallium	T	0.050	J	RL	0.050	0.47		ug/L
092121NPW12	PW-12	N	SW-846 9056A	Sulfate	N	4.9	J-	M	0.50	1.0		mg/L
092121NPW13	PW-13	N	SW-846 6020B	Cobalt	T	0.22	J	RL	0.050	1.0		ug/L
092121NPW13	PW-13	N	SW-846 6020B	Lead	T	0.15	J	RL	0.077	1.0		ug/L
092121NPW13	PW-13	N	SW-846 6020B	Molybdenum	T	0.42	J	RL	0.13	1.0		ug/L
092121NPW13	PW-13	N	SW-846 6020B	Selenium	T	1.3	J	RL	0.072	2.0		ug/L
092121NPW13	PW-13	N	SW-846 6020B	Thallium	T	0.055	J	RL	0.050	0.47		ug/L
092121NPW13	PW-13	N	SW-846 9056A	Fluoride	N	0.050	J	RL	0.050	0.10		mg/L
092121NPW13	PW-13	N	SW-846 9056A	Sulfate	N	201	J-	M	2.0	4.0		mg/L
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 6020B	Arsenic	T	0.087	J	RL	0.087	1.0		ug/L

Sample	Location	Sample Type	Method	Anayte	T/D	Result	Qual	Reason Code(s)	MDL	QL	Uncertainty	Unit
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 6020B	Cobalt	T	0.077	J	RL	0.050	1.0		ug/L
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 6020B	Lithium	T	2.0	J	RL	0.50	2.5		ug/L
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 6020B	Molybdenum	T	0.38	J	RL	0.13	1.0		ug/L
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 6020B	Selenium	T	0.31	J	RL	0.072	2.0		ug/L
092021NPW2	PW-2	N	CALC	Combined Radium	N	0.0867	U	S			0.313	pCi/L
092021NPW3	PW-3	N	CALC	Combined Radium	N	0.185	J	S			0.306	pCi/L
092121FBFIELDBLANK		FB	CALC	Combined Radium	N	0.850	J	S			0.329	pCi/L
092121NPW4	PW-4	N	CALC	Combined Radium	N	0.131	UJ	FD,S			0.349	pCi/L
092121NPW4	PW-4	N	SW-846 9320	RADIUM-228	N	-0.0281	UJ	FD	0.634	0.634	0.327	pCi/L
092121NPW5	PW-5	N	CALC	Combined Radium	N	0.0867	U	S			0.353	pCi/L
092121NPW12	PW-12	N	CALC	Combined Radium	N	1.03	J	S			0.497	pCi/L
092121NPW13	PW-13	N	CALC	Combined Radium	N	0.0222	U	S			0.414	pCi/L
092121FDFIELDDUPLICATE	PW-4	FD	CALC	Combined Radium	N	0.858	J	BF,FD,M			0.369	pCi/L
092121FDFIELDDUPLICATE	PW-4	FD	SW-846 9320	RADIUM-228	N	0.705	U	BF,FD,M	0.705	0.705	0.346	pCi/L

### Data Qualifiers

U	The analyte was not detected above the level of the reported sample quantitation limit.
J	Quantitation is approximate due to limitations identified during data validation.
J+	The result is an estimated quantity; the result may be biased high.
J-	The result is an estimated quantity; the result may be biased low.
UJ	This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
R	Unreliable positive result; analyte may or may not be present in sample.

### Reason Codes and Explanations

BE	Equipment blank contamination. The result should be considered "not-detected."
BF	Field blank contamination. The result should be considered "not-detected."
BL	Laboratory blank contamination. The result should be considered "not-detected."
FD	Field duplicate imprecision.
FG	Total versus Dissolved Imprecision.
H	Holding time exceeded.
L	LCS and LCSD recoveries outside of acceptance limits
LD	Laboratory duplicate imprecision.
LP	LCS/LCSD imprecision.
M	MS and MSD recoveries outside of acceptance limits
MP	MS/MSD imprecision.
Q	Chemical Preservation issue.
RL	Reported Results between the MDL and RL.
S	Radium-226+228 flagged due to reporting protocol for combined results
T	Temperature preservation issue.
X	Percent solids < 50%.
Y	Chemical yield outside of acceptance limits
ZZ	Other

Lab Sample ID	92562554001
Sys Sample Code	092021NPW2
Sample Name	092021NPW2
Sample Date	9/20/2021 4:10:00 PM
Location	CLV-SSB-PW-02 / PW-2
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	95.0				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	2.4				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.059	J	RL		0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	6850				35.0	35.0	200	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	12.2				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	1.7	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L		U			0.072	0.072	2.0	N	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	0.47	N	Yes	1	NA	
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	13.0				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L	0.098	J	RL		0.050	0.050	0.10	Y	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	0.84	J	RL		0.50	0.50	1.0	Y	Yes	1	NA

Lab Sample ID	92562554002
Sys Sample Code	092021NPW3
Sample Name	092021NPW3
Sample Date	9/20/2021 4:05:00 PM
Location	CLV-SSB-PW-03 / PW-3
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	247				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	82.2				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.22				0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	29400				350	350	2000	Y	Yes	10	NA
	Chromium	7440-47-3	T	ug/L	13.9				0.50	0.50	1.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	0.86	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	0.095	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	3.2				0.50	0.50	2.5	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.050	0.050	0.47	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	10.7				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	98.9				0.50	0.50	1.0	Y	Yes	1	NA

Lab Sample ID	92562554003
Sys Sample Code	092121FBFIELDBLANK
Sample Name	092121FBFieldBlank
Sample Date	9/21/2021 11:35:00 AM
Location	/
Sample Type	FB
Matrix	AQ
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L		U			25.0	25.0	25.0	N	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L		U			0.21	0.21	1.0	N	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L		U			35.0	35.0	200	N	Yes	1	NA
	Chromium	7440-47-3	T	ug/L		U			0.50	0.50	1.0	N	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
SW-846 6020B	Selenium	7782-49-2	T	ug/L		U			0.072	0.072	2.0	N	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L		U			0.050	0.050	1.0	N	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L		U			0.50	0.50	2.5	N	Yes	1	NA
SW-846 7470A	Thallium	7440-28-0	T	ug/L		U			0.050	0.050	0.47	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L		U			0.60	0.60	1.0	N	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L		U			0.50	0.50	1.0	N	Yes	1	NA

Lab Sample ID	92562554004
Sys Sample Code	092121NPW4
Sample Name	092121NPW4
Sample Date	9/21/2021 10:45:00 AM
Location	CLV-SSB-PW-04 / PW-4
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	244				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	35.3				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	32400				350	350	2000	Y	Yes	10	NA
	Chromium	7440-47-3	T	ug/L	12.6				0.50	0.50	1.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	0.32	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
SW-846 6020B	Cobalt	7440-48-4	T	ug/L	0.12	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	2.0	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
	Thallium	7440-28-0	T	ug/L		U			0.050	0.050	0.47	N	Yes	1	NA
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	69.3				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	3.8	J-	M		0.50	0.50	1.0	Y	Yes	1	NA

Lab Sample ID	92562554005
Sys Sample Code	092121NPW5
Sample Name	092121NPW5
Sample Date	9/21/2021 9:55:00 AM
Location	CLV-SSB-PW-05 / PW-5
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	524				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L	863				32.4	32.4	50.0	Y	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L	0.10	J	RL		0.087	0.087	1.0	Y	Yes	1	NA
	Barium	7440-39-3	T	ug/L	13.9				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	84900				350	350	2000	Y	Yes	10	NA
	Chromium	7440-47-3	T	ug/L	4.0				0.50	0.50	1.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.14	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	3.8				0.50	0.50	2.5	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L	0.28	J	RL		0.13	0.13	1.0	Y	Yes	1	NA
	Selenium	7782-49-2	T	ug/L	1.4	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
Thallium	7440-28-0	T	ug/L		U			0.050	0.050	0.47	N	Yes	1	NA	
SW-846 7470A	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	112				2.4	2.4	4.0	Y	Yes	4	NA
	Sulfate	14808-79-8	N	mg/L	162	J-	M		2.0	2.0	4.0	Y	Yes	4	NA
SW-846 9056A	Fluoride	16984-48-8	N	mg/L	0.069	J	RL		0.050	0.050	0.10	Y	Yes	1	NA



Lab Sample ID	92562554006
Sys Sample Code	092121NPW12
Sample Name	092121NPW12
Sample Date	9/21/2021 11:10:00 AM
Location	CLV-SSB-PW-12 / PW-12
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	104				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	21.1				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L	0.10				0.050	0.050	0.10	Y	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	4380				35.0	35.0	200	Y	Yes	1	NA
	Chromium	7440-47-3	T	ug/L	3.8				0.50	0.50	1.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L		U			0.13	0.13	1.0	N	Yes	1	NA
SW-846 6020B	Selenium	7782-49-2	T	ug/L	0.89	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.13	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L	0.099	J	RL		0.077	0.077	1.0	Y	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	2.3	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
SW-846 6020B	Thallium	7440-28-0	T	ug/L	0.050	J	RL		0.050	0.050	0.47	Y	Yes	1	NA
	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	6.2				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	4.9	J-	M		0.50	0.50	1.0	Y	Yes	1	NA

Lab Sample ID	92562554007
Sys Sample Code	092121NPW13
Sample Name	092121NPW13
Sample Date	9/21/2021 9:45:00 AM
Location	CLV-SSB-PW-13 / PW-13
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	550				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L	574				32.4	32.4	50.0	Y	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L		U			0.087	0.087	1.0	N	Yes	1	NA
	Barium	7440-39-3	T	ug/L	7.6				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	91000				350	350	2000	Y	Yes	10	NA
	Chromium	7440-47-3	T	ug/L	1.7				0.50	0.50	1.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L	0.42	J	RL		0.13	0.13	1.0	Y	Yes	1	NA
SW-846 6020B	Selenium	7782-49-2	T	ug/L	1.3	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.22	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L	0.15	J	RL		0.077	0.077	1.0	Y	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	2.7				0.50	0.50	2.5	Y	Yes	1	NA
SW-846 6020B	Thallium	7440-28-0	T	ug/L	0.055	J	RL		0.050	0.050	0.47	Y	Yes	1	NA
	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	201	J-	M		2.0	2.0	4.0	Y	Yes	4	NA
	SW-846 9056A	Chloride	16887-00-6	N	mg/L	99.7				0.60	0.60	1.0	Y	Yes	1
Fluoride		16984-48-8	N	mg/L	0.050	J	RL		0.050	0.050	0.10	Y	Yes	1	NA

Lab Sample ID	92562554008
Sys Sample Code	092121FDFIELDDUPLICATE
Sample Name	092121FDFieldDuplicate
Sample Date	9/21/2021 11:10:00 AM
Location	CLV-SSB-PW-04 / PW-4
Sample Type	FD
Matrix	GW
Parent Sample	092121NPW4

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
SM 2540C	Total Dissolved Solids	TDS	N	mg/L	285				25.0	25.0	25.0	Y	Yes	1	NA
SW-846 6010D	Boron	7440-42-8	T	ug/L		U			32.4	32.4	50.0	N	Yes	1	NA
SW-846 6020B	Antimony	7440-36-0	T	ug/L		U			0.20	0.20	1.0	N	Yes	1	NA
	Arsenic	7440-38-2	T	ug/L	0.087	J	RL		0.087	0.087	1.0	Y	Yes	1	NA
	Barium	7440-39-3	T	ug/L	34.5				0.21	0.21	1.0	Y	Yes	1	NA
	Beryllium	7440-41-7	T	ug/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Cadmium	7440-43-9	T	ug/L		U			0.060	0.060	0.20	N	Yes	1	NA
	Calcium	7440-70-2	T	ug/L	32300				350	350	2000	Y	Yes	10	NA
	Chromium	7440-47-3	T	ug/L	15.0				0.50	0.50	1.0	Y	Yes	1	NA
	Molybdenum	7439-98-7	T	ug/L	0.38	J	RL		0.13	0.13	1.0	Y	Yes	1	NA
SW-846 6020B	Selenium	7782-49-2	T	ug/L	0.31	J	RL		0.072	0.072	2.0	Y	Yes	1	NA
	Cobalt	7440-48-4	T	ug/L	0.077	J	RL		0.050	0.050	1.0	Y	Yes	1	NA
	Lead	7439-92-1	T	ug/L		U			0.077	0.077	1.0	N	Yes	1	NA
	Lithium	7439-93-2	T	ug/L	2.0	J	RL		0.50	0.50	2.5	Y	Yes	1	NA
SW-846 6020B	Thallium	7440-28-0	T	ug/L		U			0.050	0.050	0.47	N	Yes	1	NA
	Mercury	7439-97-6	T	ug/L		U			0.12	0.12	0.20	N	Yes	1	NA
SW-846 9056A	Chloride	16887-00-6	N	mg/L	78.0				0.60	0.60	1.0	Y	Yes	1	NA
	Fluoride	16984-48-8	N	mg/L		U			0.050	0.050	0.10	N	Yes	1	NA
	Sulfate	14808-79-8	N	mg/L	3.2				0.50	0.50	1.0	Y	Yes	1	NA

Lab Sample ID	L1408698-01
Sys Sample Code	092021NPW2
Sample Name	092021NPW2
Sample Date	9/20/2021 4:10:00 PM
Location	CLV-SSB-PW-02 / PW-2
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.0867	U	S	0.313				N	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.0867	U		0.104	0.148	0.148	0.148	N	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	-0.0431	U		0.295	0.576	0.576	0.576	N	Y	1	NA

Lab Sample ID	L1408698-02
Sys Sample Code	092021NPW3
Sample Name	092021NPW3
Sample Date	9/20/2021 4:05:00 PM
Location	CLV-SSB-PW-03 / PW-3
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.185	J	S	0.306				Y	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.185			0.143	0.157	0.157	0.157	Y	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	-0.134	U		0.270	0.53	0.53	0.53	N	Y	1	NA

<b>Lab Sample ID</b>	L1408698-03
<b>Sys Sample Code</b>	092121FBFIELDBLANK
<b>Sample Name</b>	092121FBFieldBlank
<b>Sample Date</b>	9/21/2021 11:35:00 AM
<b>Location</b>	/
<b>Sample Type</b>	FB
<b>Matrix</b>	AQ
<b>Parent Sample</b>	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.850	J	S	0.329				Y	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.0222	U		0.115	0.222	0.222	0.222	N	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.828			0.308	0.57	0.57	0.57	Y	Y	1	NA

Lab Sample ID	L1408698-04
Sys Sample Code	092121NPW4
Sample Name	092121NPW4
Sample Date	9/21/2021 10:45:00 AM
Location	CLV-SSB-PW-04 / PW-4
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.131	UJ	FD,S	0.349				N	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.131	U		0.121	0.148	0.148	0.148	N	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	-0.0281	UJ	FD	0.327	0.634	0.634	0.634	N	Y	1	NA

Lab Sample ID	L1408698-05
Sys Sample Code	092121NPW5
Sample Name	092121NPW5
Sample Date	9/21/2021 9:55:00 AM
Location	CLV-SSB-PW-05 / PW-5
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.0867	U	S	0.353				N	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.0867	U		0.104	0.146	0.146	0.146	N	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	-0.177	U		0.337	0.666	0.666	0.666	N	Y	1	NA



Lab Sample ID	L1408698-06
Sys Sample Code	092121NPW12
Sample Name	092121NPW12
Sample Date	9/21/2021 11:10:00 AM
Location	CLV-SSB-PW-12 / PW-12
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	1.03	J	S	0.497				Y	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.311			0.174	0.152	0.152	0.152	Y	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.715	U		0.466	0.884	0.884	0.884	N	Y	1	NA

Lab Sample ID	L1408698-07
Sys Sample Code	092121NPW13
Sample Name	092121NPW13
Sample Date	9/21/2021 9:45:00 AM
Location	CLV-SSB-PW-13 / PW-13
Sample Type	N
Matrix	GW
Parent Sample	

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.0222	U	S	0.414				N	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.0222	U		0.115	0.222	0.222	0.222	N	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	-1.46	U		0.398	0.818	0.818	0.818	N	Y	1	NA

Lab Sample ID	L1408698-08
Sys Sample Code	092121FDFIELDDUPLICATE
Sample Name	092121FDFieldDuplicate
Sample Date	9/21/2021 11:10:00 AM
Location	CLV-SSB-PW-04 / PW-4
Sample Type	FD
Matrix	GW
Parent Sample	092121NPW4

Analytic Method	Chemical Name	CAS Rn	Fraction	Result Unit	Final Result	Final Qual	Reason code	Uncertainty	Final MDL	Final RL	Final QL	Final Detect	Final Report	DF	Basis
CALC	Combined Radium	RA226/228	N	pCi/L	0.858	J	BF,FD,M	0.369				Y	Y	1	NA
SW-846 9315	Radium-226	13982-63-3	N	pCi/L	0.153			0.129	0.149	0.149	0.149	Y	Y	1	NA
SW-846 9320	RADIUM-228	15262-20-1	N	pCi/L	0.705	U	BF,FD,M	0.346	0.705	0.705	0.705	N	Y	1	NA



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