

**2021 ANNUAL GROUNDWATER MONITORING  
AND CORRECTIVE ACTION REPORT  
CLASS 3 LANDFILL  
CROSS GENERATING STATION**

**by Santee Cooper  
Moncks Corner, South Carolina**

**January 31, 2022 (Amended March 2, 2022)**

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## **Appendix A – Statistical Analysis**

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## 1. Annual Groundwater Monitoring Report Summary

The South Carolina Public Service Authority (Santee Cooper) has prepared this 2021 Annual Groundwater Monitoring Corrective Action Report for Class 3 Landfill at the Cross Generating Station (CGS). This 2021 Annual Report was prepared to comply with the United States Environmental Protection Agency (EPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities, Title 40 Code of Federal Regulations (CFR) Part 257, Subpart D dated 17 April 2015 (CCR Rule), specifically subsection § 257.90(e)(1) through (6).

The Class 3 Landfill began operations and placement of CCR in December 2015 in accordance with permits and plans approved by South Carolina Department of Health and Environmental Control (SCDHEC). The Class 3 Landfill is an existing CCR landfill that is located immediately adjacent to and abuts the eastern slope of the closed Class 2 Landfill. The Class 2 Landfill top deck and east and west slopes are covered by a high-density polyethylene (HDPE) liner that will serve as the bottom liner of the Class 3 Landfill as it is built out. In addition to the federal CCR rule groundwater monitoring program discussed throughout, a SCDHEC-approved groundwater monitoring program is also being implemented to comply with the SCDHEC Permit #LF3-00007.

In accordance with § 257.90(e)(6), an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit is provided below:

At the start of the current annual reporting period (January 1, 2021), the Class 3 Landfill continued to operate under a detection monitoring program in accordance with § 257.94. A statistically significant increase (SSI) of chloride was identified in monitoring well CLF1B-4 during the January 2021 sampling event and in monitoring wells CLF1B-4 and CLF1B-5 during the June 2021 sampling event. TDS was also identified as an SSI in monitoring well CLF1B-4 during the June 2021 sampling event. The conditions observed following construction of the Class 3 Landfill are consistent with the pre-construction conditions observed at the closed Class 2 Landfill and are not indicative of a release from the Class 3 Landfill. As a result, the alternate source demonstration (ASD) for the Class 3 Landfill continues to address the increasing concentration trends for chloride and TDS. As a result, an assessment monitoring program is not required for the Class 3 Landfill.

At the end of the current annual reporting period (December 31, 2021), the Class 3 Landfill remained in detection monitoring, therefore the remaining groundwater requirements (i.e. to initiate assessment monitoring, identify Appendix IV SSLs and establish groundwater protection standards, initiate and complete an assessment of corrective measures, hold a public meeting, select a corrective action remedy, and implement remedial activities) are not applicable.

To report on the activities conducted during the prior calendar year and document progress complying with the CCR Rule, the specific requirements listed in § 257.90(e)(1) through (5) are provided in the next section in bold/italic type followed by a short narrative stating how that specific requirement was met.

## **2. 40 CFR § 257.90 Applicability**

### **2.1 40 CFR § 257.90(a)**

***All CCR landfills, CCR surface impoundments, and lateral expansions of CCR units are subject to the groundwater monitoring and corrective action requirements under § 257.90 through § 257.98.***

The Class 3 Landfill at the Cross Generating Station (CGS) is subject to the groundwater monitoring and corrective action requirements set forth by the EPA in 40 CFR § 257.90 through § 257.98. This document satisfies the requirement under § 257.90(e) which requires the CCR Landfill Owner/Operator to prepare an Annual Groundwater Monitoring and Corrective Action Report.

### **2.2 40 CFR § 257.90(e) - SUMMARY**

***Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. [...] For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1).***

This Annual Report documents the activities completed in 2021 for the Class 3 Landfill at CGS as required by the Groundwater Monitoring and Corrective Action regulations. Groundwater sampling and analysis was conducted per the requirements of § 257.93, and the status of the groundwater monitoring program, set forth in § 257.94, is provided in this report.

#### **2.2.1 Status of the Groundwater Monitoring and Corrective Action Program**

SSIs of Appendix III constituents were identified downgradient of the Class 3 Landfill, and the notification was provided on January 15, 2018. An evaluation of alternate sources was conducted, and the alternate source demonstration (ASD) was certified in April 2018. The ASD concluded that the closed Class 2 Landfill, located immediately adjacent to and upgradient of the Class 3 Landfill, is responsible for the Appendix III SSIs.

A statistically significant increase (SSI) of chloride was identified in monitoring well CLF1B-4 during the January 2021 sampling event and in monitoring wells CLF1B-4 and CLF1B-5 during the June 2021 sampling event. TDS was also identified as an SSI in monitoring well CLF1B-4 during the June 2021 sampling event. The conditions observed following construction of the Class 3 Landfill are consistent with the pre-construction conditions observed at the closed Class 2 Landfill and are not indicative of a release from the Class 3 Landfill. As a result, the alternate source demonstration (ASD) for the Class 3 Landfill continues to address the increasing concentration trends for chloride and TDS. As a result, an assessment monitoring program is not required for the Class 3 Landfill.

### 2.2.2 Key Actions Completed

The following key actions were completed in 2021:

- Prepared 2020 Annual Report including:
  - The Annual Report was placed in the facility's operating record pursuant to § 257.105(h)(1);
  - Pursuant to § 257.106(h)(1), the notification was sent to the relevant State Director within 30 days of the Annual Report being placed in the facility's operating record [§ 257.106(d)];
  - Pursuant to § 257.107(h)(1), the Annual Report was posted to the CCR Website within 30 days of the Annual Report being placed in the facility's operating record [§ 257.107(d)];
- Collected and analyzed two rounds of groundwater monitoring results (January and June) in accordance with § 257.94 and recorded the concentrations in the facility's operating record as required by § 257.94(f). Groundwater monitoring results are summarized in Table 1 and Laboratory Analytical Results are provided in Appendix B; and
- Completed statistical evaluation to determine statistically significant increases for Appendix III constituents in accordance with § 257.93(h)(2) (Appendix A).
- Slug testing was performed on the two background (PM-1 and CBW-1) groundwater monitoring wells for the Class 3 Landfill in November 2021. This data provided additional information on the hydraulic conductivity of the uppermost aquifer for the unit. The findings are summarized in Appendix C.

### 2.2.3 Problems Encountered

Problems such as damaged wells or issues with sample collection or lack of sampling were not encountered at the Class 3 Landfill in 2021.

### 2.2.4 Actions to Resolve Problems

No problems needed resolution.

### 2.2.5 Project Key Activities for Upcoming Year

Key activities to be completed in 2022 include the following:

- Conduct semi-annual groundwater monitoring and subsequent statistical analysis as required by § 257.94.
- Review the ASD for the Class 3 Landfill to verify on-going validity.
- Prepare the 2022 annual report; place it in the record as required by § 257.105(h)(1), notify the state [§ 257.106(d)]; and post to website [§ 257.107(d)].

### 2.3 40 CFR § 257.90(e) - INFORMATION

***At a minimum, the annual groundwater monitoring and corrective action report must contain the following information, to the extent available:***

### **2.3.1 40 CFR § 257.90(e)(1)**

***A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;***

As required by § 257.90(e)(1), a map showing the locations of the CCR unit and associated upgradient and downgradient monitoring wells for the Class 3 Landfill is presented as Figure 1.

### **2.3.2 40 CFR § 257.90(e)(2)**

***Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;***

Additional monitoring wells were not installed or decommissioned during 2021.

### **2.3.3 40 CFR § 257.90(e)(3)**

***In addition to all the monitoring data obtained under § 257.90 through § 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;***

In accordance with § 257.94(b) and § 257.94(d), at least two independent samples from each background and downgradient monitoring well were collected and analyzed. A summary table including the sample names, dates of sample collection, reason for sample collection (e.g. detection), and monitoring data obtained for the groundwater monitoring program for the Class 3 Landfill is presented in Table 1 of this report. In addition, as required by § 257.95(d)(3), Table 1 includes the groundwater protection standards established under § 257.95(d)(2). Laboratory analytical data reports, along with field sampling forms, are provided in Appendix B to this report.

### **2.3.4 40 CFR § 257.90(e)(4)**

***A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and***

As required by § 257.93(h) a statistical analysis for Appendix III SSIs was completed by January 15, 2018. Baseline analytical data collected from background monitoring wells were combined to develop Upper Tolerance Limits (UTLs). The UTLs for each Appendix III constituent were compared to the analytical results for the downgradient monitoring wells. Constituents with analytical results exceeding the UTLs were identified as SSIs over background for the respective Appendix III constituent. This analysis indicated that statistically significant increases of boron, calcium, chloride, pH, sulfate, and total dissolved solids were present downgradient of the Class 3 Landfill. Statistical analysis was conducted within 90-days of completing the semiannual sampling and analysis events as described in § 257.93 and SSIs of chloride and TDS were observed. As previously stated, due to the successful ASD completed in April 2018 that identified the closed Class 2 Landfill as the source of the SSIs, the Class 3 Landfill remained in Detection Monitoring in 2021.

### 2.3.5 40 CFR § 257.90(e)(5)

***Other information required to be included in the annual report as specified in § 257.90 through § 257.98.***

Slug testing was performed on the two background (PM-1 and CBW-1) groundwater monitoring wells for the Class 3 Landfill in November 2021. This data provided additional information on the hydraulic conductivity of the uppermost aquifer in the immediate vicinity of the selected wells. The range of hydraulic conductivities from the monitoring wells that were tested were 1.387E-04 (cm/sec) to 4.800E-03 (cm/sec). These results are comparable to the Site Hydrogeologic Characterization Report completed in 2011 which reported a range of hydraulic conductivities of 3.357E-04 (cm/sec) to 8.93E-03 (cm/sec) for the shallow aquifer. This range of hydraulic conductivities is typical for the soil types identified and for this depositional setting. This information, combined with the calculated horizontal hydraulic gradients, and an assumed effective porosity of 25 percent will be used to report on groundwater flow direction and rate following each semiannual sampling event as required by § 257.93(c). These findings are provided in Appendix C.

Groundwater flow rate and direction are provided as Figures 2 and 3 for each sampling event as specified in § 257.93(c).

## TABLES



**TABLE 1 - Summary of Analytical Results  
Cross Generating Station Class 3 Landfill Detection Monitoring**

Well ID	Purpose	Date of Sample Event	Laboratory Sample ID Number	Appendix III Constituents							Field Parameters								
				Boron	Calcium	Chloride	Fluoride	Sulfate	Total Dissolved Solids	pH	Depth	Elevation	pH	Specific Conductivity	Temp	Oxidation Reduction Potential	Turbidity	Dissolved Oxygen	
				Unit	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	SU	Feet	Feet	SU	uS	C	mv	NTU	ppm
				Method	EPA 6010D	EPA 6020B	EPA 300.0	EPA 300.0	EPA 300.0	SM 2540C							SM2580		
<b>Site Background Wells</b>																			
PM-1	Background	1/26/2021	AE94872	<15	14.3	11.8	<0.10	9.98	110	5.03	8.27	74.97	5.03	143	19.47	1	4.4	6.12	
PM-1	Background	6/21/2021	AF07281	<15	17	12	<0.10	11.9	155	5.21	7.91	75.33	5.21	169	26.49	45	4.3	3.96	
PM-1	total samples			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
CBW-1	Background	1/26/2021	AE94854	18	29.2	3.22	0.15	80.7	138.8	4.31	10.12	75.68	4.31	192	20.25	338	0	0.71	
CBW-1	Background	6/21/2021	AF07259	<40	29.9	3.05	0.19	86.6	178.8	4.25	10.07	75.73	4.25	194	24.16	75	0.2	0.66	
CBW-1	total samples			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
<b>Class 3 Landfill Wells</b>																			
CLF1B-1	Detection	1/26/2021	AE94865	<15	166	34	<0.10	132	556.2	6.84	6.97	76.79	6.84	792	18.9	83	0.7	0.98	
CLF1B-1	Duplicate	1/26/2021	AE94866	<15	164	33.8	<0.10	133	580										
CLF1B-1	Detection	6/22/2021	AF07274	<15	167	41	<0.10	133	583.8	6.66	8.37	75.39	6.66	774	21.29	51	1.7	0.59	
CLF1B-1	Duplicate	6/22/2021	AF07275	<15	164	39.1	<0.10	128	600										
CLF1B-1	total samples			4	4	4	4	4	4	2	2	2	2	2	2	2	2	2	
CLF1B-2	Detection	1/26/2021	AE94867	17	138	84.1	<0.10	14.6	485	6.97	5.2	76.84	6.97	660	20.2	19	0	0.81	
CLF1B-2	Detection	6/22/2021	AF07276	16	137	90.2	<0.10	14.7	597.5	6.83	6.53	75.51	6.83	670	20.72	18	0	1.79	
CLF1B-2	total samples			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
CLF1B-3	Detection	1/26/2021	AE94868	34	168	23.6	<0.10	177	562.5	6.76	5.83	76.92	6.76	721	20.38	43	2.5	0.88	
CLF1B-3	Detection	6/22/2021	AF07277	80	244	27.6	0.14	349	837.5	6.61	7.64	75.11	6.61	1020	21.74	-48	0	0.55	
CLF1B-3	total samples			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
CLF1B-4	Detection	1/27/2021	AE94869	17	106	82.2	<0.10	12.2	418.8	7.06	5.71	77.03	7.06	534	18.28	420	4.9	4.57	
CLF1B-4	Detection	6/22/2021	AF07278	16	118	99.9	<0.10	16.4	552.5	7.03	7.88	74.86	7.03	607	21.33	-26	0.7	0.53	
CLF1B-4	total samples			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
CLF1B-5	Detection	1/27/2021	AE94870	19	264	152	<0.10	238	1024	6.58	4	77.09	6.58	1310	18.27	40	2.2	0.77	
CLF1B-5	Detection	6/23/2021	AF07279	19	272	174	<0.10	251	1176	5.57	6.59	74.5	5.57	2	21.24	149	74.7	2.18	
CLF1B-5	total samples			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	





All groundwater samples collected from the monitoring wells for Detection Monitoring in 2021 for the constituents listed in Appendix III of the EPA CCR Rule (40 CFR) were analyzed by South Carolina Certified laboratories: Santee Cooper Analytical Services (Certification # 08552), GEL Laboratories, LLC (Certification # 10120), and Rogers & Callcot, Inc. (Certification # 23105001).

- Notes:
1. Some groundwater monitoring wells are sampled for both Federal CCR and State Permit program compliance. Applicable analytical results from the State Permit program have been included in this summary table. All background and downgradient compliance wells have been sampled to meet § 257.94.
  2. The sample results for background well, CBW-1, in June (Lab ID# AF07259) indicated higher reporting limits than usual for boron (40 ug/L vs 15 ug/L). The result for this constituent was non-detect at the reported limit. This particular sample was subject to sample matrix interference resulting in a higher reporting limit; however, boron does not have a GWPS. The analytical reports are being carefully reviewed for this occurrence in the future.

## FIGURES

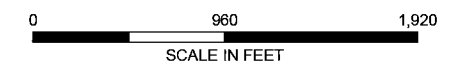


**LEGEND**

-  BACKGROUND WELL
-  CLASS 3 LANDFILL AREA 1B WELL
-  CCR UNIT BOUNDARY
-  SANTEE COOPER PROPERTY BOUNDARY

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. AERIAL IMAGERY SOURCE: ESRI



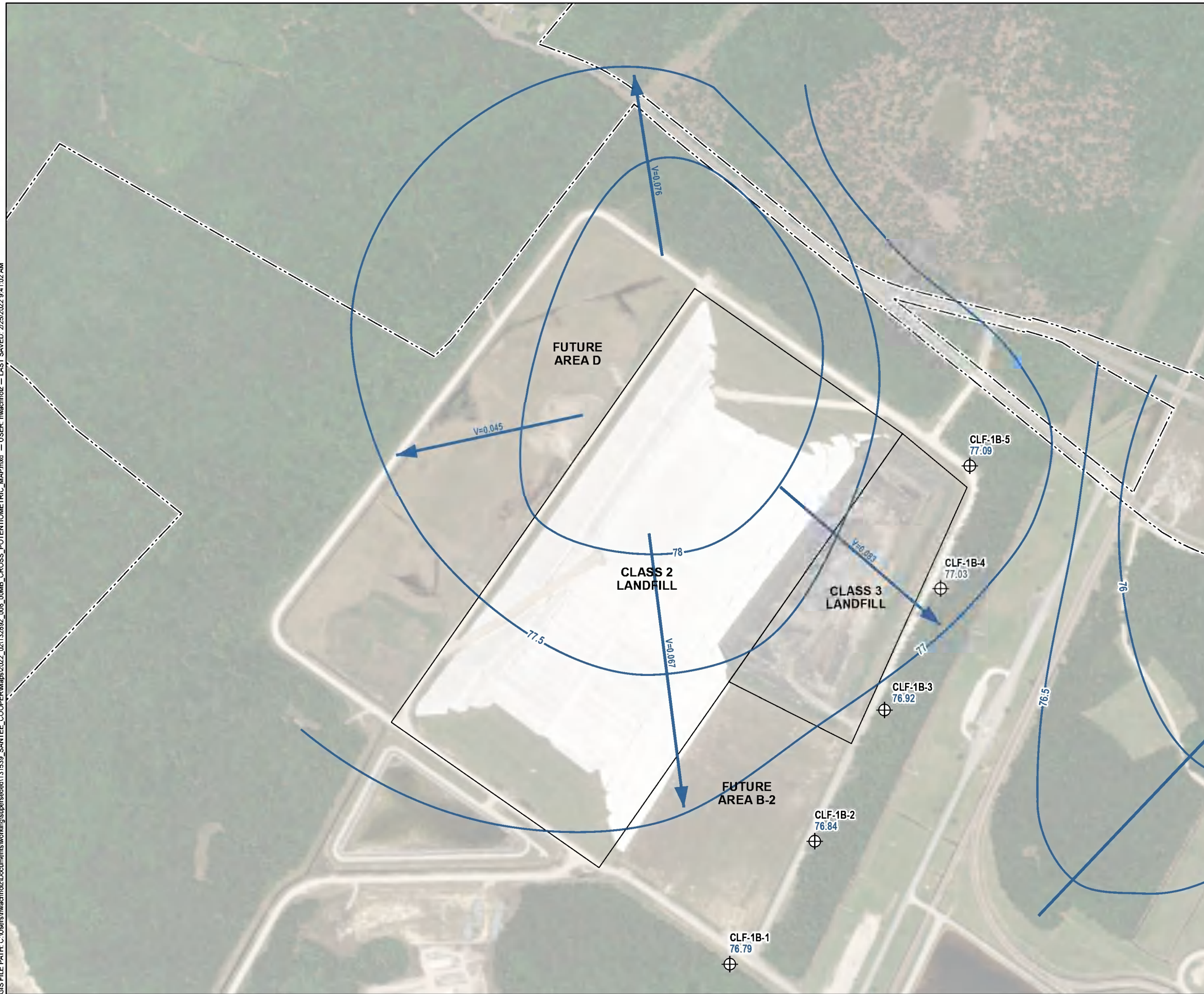
SANTEE COOPER  
 CROSS GENERATING STATION  
 PINEVILLE, SOUTH CAROLINA

JANUARY 2022

**LOCATION OF CLASS 3 LANDFILL  
 GROUNDWATER MONITORING WELLS  
 FOR CCR COMPLIANCE**

FIGURE 1

C:\Users\hwaichob\Documents\working\superseded\131539\_SANTEE\_COOPER\Maps\2022\_02132892\_08\_00MB\_CROSS\_POTENTIOMETRIC\_MAP.mxd — USER: hwaichob — LAST SAVED: 2/25/2022 9:41:02 AM



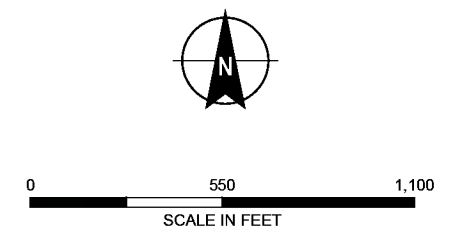
**LEGEND**

- CLASS 3 LANDFILL WELL
- GROUNDWATER ELEVATION CONTOUR, 0.5-FT INTERVAL
- GROUNDWATER FLOW DIRECTION
- CCR UNIT BOUNDARY
- SANTEE COOPER PROPERTY BOUNDARY

**NOTES**

1. ALL LOCATIONS ARE APPROXIMATE.
2. AVERAGE LINEAR VELOCITY WAS CALCULATED USING:  

$$v = \frac{K \Delta h}{n_e \Delta L}$$
3. ABBREVIATIONS:  
 ft/day = FEET PER DAY  
 V = AVERAGE LINEAR VELOCITY (ft/day)  
 K = HORIZONTAL HYDRAULIC CONDUCTIVITY (ft/day)  
 Δh/ΔL = HORIZONTAL GRADIENT (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)  
 ne = EFFECTIVE POROSITY
4. K = 25 FEET PER DAY (ft/day)
5. ne = 0.25
6. WATER LEVELS WERE MEASURED BY SANTEE COOPER FROM JANUARY 26, 2021 THROUGH JANUARY 27, 2021
7. AERIAL IMAGERY SOURCE: ESRI



SANTEE COOPER  
CROSS GENERATING STATION  
PINEVILLE, SOUTH CAROLINA

**POTENTIOMETRIC MAP  
CLASS 3 LANDFILL  
JANUARY 2021**






FEBRUARY 2022

**FIGURE 2**

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**LEGEND**

-  CLASS 3 LANDFILL WELL
-  GROUNDWATER ELEVATION CONTOUR, 0.5-FT INTERVAL
-  GROUNDWATER FLOW DIRECTION
-  CCR UNIT BOUNDARY
-  SANTEE COOPER PROPERTY BOUNDARY

**NOTES**

1. ALL LOCATIONS ARE APPROXIMATE.
2. AVERAGE LINEAR VELOCITY WAS CALCULATED USING:  

$$v = \frac{K \Delta h}{n_e \Delta L}$$
3. ABBREVIATIONS:  
 ft/day = FEET PER DAY  
 V = AVERAGE LINEAR VELOCITY (ft/day)  
 K = HORIZONTAL HYDRAULIC CONDUCTIVITY (ft/day)  
 $\Delta h/\Delta L$  = HORIZONTAL GRADIENT (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)  
 ne = EFFECTIVE POROSITY
4. K = 25 FEET PER DAY (ft/day)
5. ne = 0.25
6. WATER LEVELS WERE MEASURED BY SANTEE COOPER FROM JUNE 21, 2021 THROUGH JUNE 23, 2021
7. AERIAL IMAGERY SOURCE: ESRI



SANTEE COOPER  
CROSS GENERATING STATION  
PINEVILLE, SOUTH CAROLINA

**POTENTIOMETRIC MAP  
CLASS 3 LANDFILL  
JUNE 2021**

FEBRUARY 2022

**FIGURE 3**

## **Appendix A – Statistical Analysis**



HALEY & ALDRICH, INC.  
400 Augusta Street  
Suite 100  
Greenville, SC 29601  
864.214.8750

## TECHNICAL MEMORANDUM

June 11, 2021  
File No. 131539-012

**SUBJECT:** 2021 Semi-annual Groundwater Detection Monitoring Data  
Statistical Evaluation  
Cross Generating Station  
Class 3 Landfill

The South Carolina Public Service Authority (Santee Cooper) is implementing the 17 April 2015 U.S. Environmental Protection Agency (U.S. EPA) Federal Coal Combustion Residuals (CCR) Rule (40 CFR § 257 and 261) for the Cross Generating Station, located in Berkeley County, South Carolina. Santee Cooper provided Haley & Aldrich with groundwater monitoring data collected from a groundwater monitoring system that meets the requirements of 40 CFR §257.91. This memorandum documents the results of statistical tests conducted to determine if Appendix III groundwater monitoring constituents detected in downgradient wells are present at levels that exhibit a statistically significant increase (SSI) above background, or upgradient wells, consistent with the requirements in 40 CFR § 257.94.

Following baseline sampling the initial statistical analysis completed in January 2018 identified SSI's for one or more Appendix III constituent downgradient of the Class 3 Landfill. However, recognizing that the new Class 3 Landfill was constructed along the downgradient flank of the closed Class 2 Landfill, and knowing that the Class 3 Landfill had not received CCR prior to completing detection monitoring, Haley & Aldrich conducted an evaluation to demonstrate that a source other than the Class 3 Landfill caused the statistically significant increase over background, consistent with §257.94(e)(2).

This certified alternate source demonstration (ASD) concluded that the closed Class 2 Landfill is the source for the Appendix III SSIs detected downgradient of the two units, and as a result, the new Class 3 Landfill remained in detection monitoring. As a result of the successful ASD intrawell statistical evaluations have been conducted for the Appendix III constituents since that time. The intrawell evaluation compares the most recent values from each compliance well against a background dataset composed of its own historical data. The Upper Tolerance Limit (UTL) statistical analysis was used to perform the statistical evaluation. The UTL is an accepted method under the CCR Rule and is the upper endpoint of a tolerance interval that is designed to contain a pre-specified proportion (e.g. 95 percent) of the background dataset.

### Statistical Evaluation of Appendix III Constituents

The Rule, 40 CFR §257.93(f) (1-4), provides four specific options to statistically evaluate whether water quality downgradient of the CCR Unit represents an SSI of Appendix III parameters compared to background groundwater quality of the CCR Unit. The UTL was used to evaluate potential SSIs. A 95%

UTL for 99% coverage was calculated to compare to downgradient groundwater analytical results for this evaluation. Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009 (Unified Guidance)*, background concentrations were updated for the February 2020 semi-annual sampling event based on statistical evaluation of analytical results collected through February 2020. The background dataset will be updated again in February 2022 per the Unified Guidance.

### UTL STATISTICAL ANALYSIS

The UTL is an accepted statistical method identified in the CCR Rule to evaluate the groundwater analytical data at CCR Units. A tolerance interval is a concentration range, with a confidence level, designed to contain a pre-specified proportion (e.g., 99 percent) of the underlying population from which the statistical sample is drawn (background). The upper endpoint of a tolerance interval is called the upper tolerance limit or UTL. Depending on the assumed distribution of background, parametric or non-parametric procedures were used to develop the UTL. Parametric tolerance limits utilize assumed distributions of the sample background data to develop the UTL, and non-parametric limits utilize order statistics or bootstrap methods to develop the UTL. The UTL was calculated using the Chemstat software from the background data after testing for outlier sample results that would warrant removal from the data set based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed for the downgradient sample data. No sample data were deemed as outliers that warranted removal from the data set.

### RESULTS OF APPENDIX III DOWNGRADIENT STATISTICAL COMPARISONS

The Appendix III sample concentrations at the downgradient wells from the January 2021 detection monitoring sampling event was compared to their respective UTLs. A sample concentration greater than the UTL is considered to represent an SSI. Based on these comparisons and relying on an intrawell statistical evaluation, an SSI for chloride in well CLF1B-4 was indicated. This finding is consistent with previous evaluations and the increasing concentration trend for chloride described in the ASD. As a result, the ASD for the Class 3 Landfill continues to address this finding.

Tables:

Table I – Summary of Detection Monitoring Statistical Evaluation – January 2021



## TABLES

Cross Class 3 Landfill  
 Detection Monitoring Statistical Analysis Summary  
 Prepared: June 11, 2021

Location Id	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well*	January 2021 Concentration (mg/L)	Inter-well Analysis		Intra-well Analysis				
																					Detect?	Background Limit (Upper Prediction Limit)	SSI	Background Limit (Upper Prediction Limit)	SSI		
<b>CCR Appendix-III: Boron, Total (mg/L)</b>																											
CBW-1	16/17	6%	0.015-0.015	0.0216	0.0217	0.03056	0.032	0.0002141	0.004627	0.2144	NA	mg/L	N	0	0	No	No	Stable	Non-parametric		0.049						
PM-1	9/17	47%	0.015-0.02	0.0184	0.016	0.0266	0.049	0.0000658	0.008112	0.4397	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric								
CLF1B-1	2/17	88%	0.015-0.015	0.0151	0.015	0.0152	0.016	5.882E-08	0.0002425	0.01611	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	0.015	N		N	0.016	N		
CLF1B-2	14/17	18%	0.015-0.015	0.0178	0.016	0.02396	0.0398	0.00003414	0.005843	0.3284	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.017	Y		N	0.040	N		
CLF1B-3	17/17	0%	-	0.0361	0.037	0.0528	0.064	0.0001549	0.01245	0.3445	NA	mg/L	N	0	0	No	No	Increasing	Normal	0.034	Y		N	0.089	N		
CLF1B-4	17/17	0%	-	0.0202	0.019	0.0276	0.0292	0.00001245	0.003528	0.1748	NA	mg/L	N	0	0	Yes	No	Decreasing	Normal	0.017	Y		N	0.035	N		
CLF1B-5	13/17	24%	0.015-0.015	0.0165	0.0158	0.019	0.019	0.00002902	0.001703	0.1032	NA	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	0.019	Y		N	0.019	N		
<b>CCR Appendix-III: Calcium, Total (mg/L)</b>																											
CBW-1	17/17	0%	-	26.7	26.2	31.96	42.2	22.07	4.698	0.1757	NA	mg/L	N	0	0	Yes	No	Stable	Normal		47.77						
PM-1	18/18	0%	-	18	16.4	28.5	37	43.3	6.58	0.3648	NA	mg/L	N	0	0	No	No	Decreasing	Normal								
CLF1B-1	16/16	0%	-	176	175.5	189.5	191	59.13	7.69	0.04363	NA	mg/L	N	0	0	No	No	Stable	Normal	166.00	Y		Y	207.74	N		
CLF1B-2	16/16	0%	-	137	131	166.5	210	440.3	20.98	0.1529	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	138.00	Y		Y	210.00	N		
CLF1B-3	15/15	0%	-	168	177	217.9	220	1492	38.62	0.2296	NA	mg/L	N	0	0	No	No	Stable	Normal	168.00	Y		Y	329.16	N		
CLF1B-4	16/16	0%	-	102	95.9	132.8	180	564.5	23.76	0.2326	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	106.00	Y		Y	180.00	N		
CLF1B-5	17/17	0%	-	228	224	267.8	279	1396	37.36	0.164	NA	mg/L	N	0	0	No	No	Increasing	Normal	264.00	Y		Y	352.84	N		
<b>CCR Appendix-III: Chloride (mg/L)</b>																											
CBW-1	18/18	0%	-	2.88	2.925	3.279	3.44	0.08875	0.2979	0.1036	NA	mg/L	N	0	0	No	No	Stable	Non-parametric		13.50						
PM-1	18/18	0%	-	12.6	12.7	13.41	13.5	0.329	0.5736	0.04549	NA	mg/L	N	0	0	No	No	Stable	Non-parametric								
CLF1B-1	17/17	0%	-	37.8	38.7	41.1	41.5	6.649	2.579	0.06814	NA	mg/L	N	0	0	No	No	Stable	Normal	34.00	Y		Y	46.62	N		
CLF1B-2	17/17	0%	-	71.8	74.1	82.9	84.1	109.4	10.46	0.1456	NA	mg/L	N	0	0	Yes	No	Increasing	Normal	84.10	Y		Y	91.38	N		
CLF1B-3	17/17	0%	-	27.9	23.6	43.6	81.2	198.9	14.1	0.5059	NA	mg/L	N	0	0	Yes	No	Stable	Normal	23.60	Y		Y	38.18	N		
CLF1B-4	17/17	0%	-	57.6	51.1	83.4	88.2	165.8	12.88	0.2237	NA	mg/L	N	0	0	Yes	No	Stable	Normal	82.20	Y		Y	60.51	Y		
CLF1B-5	18/18	0%	-	119	117	151.1	152	413.3	20.33	0.1713	NA	mg/L	N	0	0	Yes	No	Increasing	Normal	152.00	Y		Y	169.25	N		
<b>CCR Appendix-III: Fluoride (mg/L)</b>																											
CBW-1	16/16	0%	-	0.226	0.22	0.2925	0.3	0.00192	0.04381	0.1942	4	mg/L	N	0	0	No	No	Decreasing	Non-parametric		0.30						
PM-1	0/16	100%	0.1-0.1	0.1	0.1	0.1		1.85E-18	1.36E-09	1.36E-08	4	mg/L	N	0	0	NA	NA	NA	Non-parametric								
CLF1B-1	9/16	44%	0.1-0.1	0.123	0.12	0.175	0.19	0.0007696	0.02774	0.2253	4	mg/L	N	0	0	No	No	Stable	Normal	0.10	N		N	0.24	N		
CLF1B-2	6/16	62%	0.1-0.1	0.111	0.1	0.145	0.16	0.0003263	0.01806	0.1633	4	mg/L	N	0	0	No	No	Stable	Non-parametric	0.10	N		N	0.16	N		
CLF1B-3	9/16	44%	0.1-0.1	0.118	0.115	0.15	0.15	0.00038	0.01949	0.1659	4	mg/L	N	0	0	No	No	Stable	Normal	0.10	N		N	0.20	N		
CLF1B-4	3/16	81%	0.1-0.1	0.104	0.1	0.1225	0.13	0.00007833	0.008851	0.08531	4	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.10	N		N	0.13	N		
CLF1B-5	3/16	81%	0.1-0.1	0.105	0.1	0.1275	0.15	0.0001733	0.01317	0.1254	4	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.10	N		N	0.15	N		
<b>CCR Appendix-III: pH, Field (pH units)</b>																											
CBW-1	18/18	0%	-	4.31	4.32	4.5	4.5	0.01858	0.1363	0.03166	NA	pH units	N	0	0	No	No	Stable	Non-parametric		4.09, 5.58						
PM-1	23/23	0%	-	5.14	5.19	5.47	5.58	0.06216	0.2493	0.04855	NA	pH units	N	0	0	No	No	Stable	Non-parametric								
CLF1B-1	17/17	0%	-	6.6	6.6	6.824	6.84	0.01842	0.1357	0.02056	NA	pH units	N	0	0	No	No	Stable	Normal	6.84	Y		Y	6.1, 7.08	N		
CLF1B-2	17/17	0%	-	6.9	6.91	7.082	7.09	0.01783	0.1335	0.01935	NA	pH units	N	0	0	No	No	Stable	Normal	6.97	Y		Y	6.52, 7.33	N		
CLF1B-3	17/17	0%	-	6.7	6.73	6.844	6.94	0.01637	0.128	0.0191	NA	pH units	N	0	0	No	No	Stable	Normal	6.76	Y		Y	6.29, 7.16	N		
CLF1B-4	17/17	0%	-	7.13	7.17	7.372	7.38	0.0204	0.1428	0.02002	NA	pH units	N	0	0	No	No	Stable	Normal	7.06	Y		Y	6.68, 7.68	N		
CLF1B-5	18/18	0%	-	6.66	6.675	6.771	6.83	0.009531	0.09763	0.01467	NA	pH units	N	0	0	No	No	Stable	Normal	6.58	Y		Y	6.35, 7.03	N		
<b>CCR Appendix-III: Sulfate (mg/L)</b>																											
CBW-1	18/18	0%	-	78.9	77.25	93.83	115	130.2	11.41	0.1446	NA	mg/L	N	0	0	No	No	Stable	Non-parametric		115.00						
PM-1	18/18	0%	-	13	10.24	25.65	26.5	35.86	5.988	0.4606	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric								
CLF1B-1	17/17	0%	-	140	136	154.2	159	96.6	9.828	0.07035	NA	mg/L	N	0	0	No	No	Stable	Normal	132.00	Y		Y	173.86	N		
CLF1B-2	17/17	0%	-	14.5	13.5	20.16	22.4	7.574	2.752	0.1897	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	14.60	Y		N	22.40	N		
CLF1B-3	17/17	0%	-	137	159	207.6	226	3977	63.06	0.46	NA	mg/L	N	0	0	No	No	Stable	Normal	177.00	Y		Y	360.90	N		
CLF1B-4	17/17	0%	-	17.4	14.8	31.74	34.3	38.71	6.222	0.358	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	12.20	Y		N	34.30	N		
CLF1B-5	18/18	0%	-	160	170.5	244	278	5424	73.65	0.4615	NA	mg/L	N	0	0	No	No	Increasing	Normal	238.00	Y		Y	395.45	N		
<b>CCR Appendix-III: Total Dissolved Solids (TDS) (mg/L)</b>																											
CBW-1	17/18	6%	40-40	121	126	156.1	181.2	1172	34.23	0.2827	NA	mg/L	N	0	0	No	No	Stable	Normal		262.54						
PM-1	21/22	5%	40-40	131	130	200	206	1790	42.31	0.3223	NA	mg/L	N	0	0	No	No	Stable	Normal								
CLF1B-1	17/17	0%	-	586	581.7	649.2	651.7	1368	36.99	0.06317	NA	mg/L	N	0	0	No	No	Stable	Normal	556.20	Y		Y	742.95	N		
CLF1B-2	17/17	0%	-	473	476.2	537	545	2664	51.62	0.1092	NA	mg/L	N	0	0	No	No	Stable	Normal	485.00	Y		Y	654.66	N		
CLF1B-3	17/17	0%	-	820	562.5	1675	5355	1384000	1176	1.435	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	562.50	Y		Y	5355.00	N		
CLF1B-4	17/17	0%	-	364	371.2	450	513.8	4274	65.37	0.1794	NA	mg/L	N	0	0	No	No	Stable	Normal	418.80	Y		Y	540.54	N		
CLF1B-5	18/18	0%	-	869	844	1088	1155	26370	162.4	0.1868	NA	mg/L	N	0	0	Yes	No	Increasing	Normal	1024.00	Y		Y	1301.50	N		



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## TECHNICAL MEMORANDUM

October 15, 2021  
File No. 131539-012

**SUBJECT:** Statistical Evaluation of the June 2021 Semi-annual Groundwater Detection Monitoring Data  
Cross Generating Station  
Class 3 Landfill

The South Carolina Public Service Authority (Santee Cooper) is implementing the 17 April 2015 U.S. Environmental Protection Agency (U.S. EPA) Federal Coal Combustion Residuals (CCR) Rule (40 CFR § 257 and 261) for the Cross Generating Station, located in Berkeley County, South Carolina. Santee Cooper provided Haley & Aldrich with groundwater monitoring data collected from a groundwater monitoring system that meets the requirements of 40 CFR §257.91. This memorandum documents the results of statistical tests conducted to determine if Appendix III groundwater monitoring constituents detected in downgradient wells are present at levels that exhibit a statistically significant increase (SSI) above background, or upgradient wells, consistent with the requirements in 40 CFR § 257.94.

Following baseline sampling the initial statistical analysis completed in January 2018 identified SSI's for one or more Appendix III constituent downgradient of the Class 3 Landfill. However, recognizing that the new Class 3 Landfill was constructed along the downgradient flank of the closed Class 2 Landfill with a geocomposite drainage net/leachate collection system and knowing that groundwater passing beneath the Class 3 Landfill had not reached the downgradient monitoring well network when sampling was initiated in October 2015, Haley & Aldrich conducted an evaluation to demonstrate that a source other than the Class 3 Landfill caused the statistically significant increase over background, consistent with §257.94(e)(2).

This certified alternate source demonstration (ASD) concluded that the closed Class 2 Landfill is the source for the Appendix III SSIs detected downgradient of the two units, and as a result, the new Class 3 Landfill remained in detection monitoring. As a result of the successful ASD intrawell statistical evaluations have been conducted for the Appendix III constituents since that time. The intrawell evaluation compares the most recent values from each compliance well against a background dataset composed of its own historical data. The Upper Tolerance Limit (UTL) statistical analysis was used to perform the statistical evaluation. The UTL is an accepted method under the CCR Rule and is the upper endpoint of a tolerance interval that is designed to contain a pre-specified proportion (e.g. 95 percent) of the background dataset.

### Statistical Evaluation of Appendix III Constituents

The Rule, 40 CFR §257.93(f) (1-4), provides four specific options to statistically evaluate whether water quality downgradient of the CCR Unit represents an SSI of Appendix III parameters compared to background groundwater quality of the CCR Unit. The UTL was used to evaluate potential SSIs. A 95% UTL for 99% coverage was calculated to compare to downgradient groundwater analytical results for this evaluation. Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009 (Unified Guidance)*, background concentrations were updated for the February 2020 semi-annual sampling event based on statistical evaluation of analytical results collected through February 2020. The background dataset will be updated again in February 2022 per the Unified Guidance.

### UTL STATISTICAL ANALYSIS

The UTL is an accepted statistical method identified in the CCR Rule to evaluate the groundwater analytical data at CCR Units. A tolerance interval is a concentration range, with a confidence level, designed to contain a pre-specified proportion (e.g., 99 percent) of the underlying population from which the statistical sample is drawn (background). The upper endpoint of a tolerance interval is called the upper tolerance limit or UTL. Depending on the assumed distribution of background, parametric or non-parametric procedures were used to develop the UTL. Parametric tolerance limits utilize assumed distributions of the sample background data to develop the UTL, and non-parametric limits utilize order statistics or bootstrap methods to develop the UTL. The UTL was calculated using the Chemstat software from the background data after testing for outlier sample results that would warrant removal from the data set based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed for the downgradient sample data. No sample data were deemed as outliers that warranted removal from the data set.

### RESULTS OF APPENDIX III DOWNGRADIENT STATISTICAL COMPARISONS

The Appendix III sample concentrations at the downgradient wells from the June 2021 detection monitoring sampling event was compared to their respective UTLs. A sample concentration greater than the UTL is considered to represent an SSI. Based on these comparisons and relying on an intrawell statistical evaluation, an SSI for chloride in well CLF1B-4 and CLF1B-5 was indicated. This finding is consistent with previous evaluations and the increasing concentration trend for chloride described in the ASD. TDS was also identified as an SSI in monitoring well CLF1B-4. Consistent with the observed chloride SSI, historical concentrations of TDS recorded downgradient of the Class 2 Landfill have been detected at concentrations up to 3,100 ug/L. The concentration observed in CLF1B-4 during the June 2021 was 540 ug/L which is significantly lower than the concentrations recorded downgradient of the Class 2 Landfill. The conditions observed following construction of the Class 3 Landfill are consistent with the pre-construction conditions and are not indicative of a release from the Class 3 Landfill. As a result, the ASD for the Class 3 Landfill continues to address these findings.

Groundwater flow velocity in the uppermost aquifer in the vicinity of the Class 2 and Class 3 Landfills is calculated to be approximately 30-feet per year. The distance between the eastern edge of the Class 2 Landfill and the groundwater wells monitoring the Class 3 Landfill varies from 500- to 800-feet. This

represents between 17 and 27 years for a release from the Class 2 Landfill to reach the Class 3 Landfill monitoring wells. If it is assumed that Appendix III constituents stopped leaching when the closure of the Class 2 Landfill was completed in June 2016 impacts could continue to flow through the Class 3 Landfill monitoring wells until 2043. Historical trends in concentrations will be evaluated in subsequent sampling events.

Tables:

Table I – Summary of Detection Monitoring Statistical Evaluation – June 2021

## TABLES

Location Id	Frequency of Detection	Percent Non-Detects	Range of Non-Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well*	June 2021 Concentration (mg/L)	Detect?	Inter-well Analysis		Intra-well Analysis	
																						Background Limit (Upper Prediction Limit)	SSI	Background Limit (Upper Prediction Limit)	SSI
<b>CCR Appendix-III: Boron, Total (mg/L)</b>																									
CBW-1	16/18	11%	0.015-0.04	0.0226	0.02175	0.0332	0.032	0.00003899	0.006244	0.2762	NA	mg/L	N	0	0	No	No	Stable	Non-parametric			0.049			
PM-1	9/18	50%	0.015-0.02	0.0183	0.0155	0.0252	0.049	0.00006259	0.007911	0.4334	NA	mg/L	N	0	0	Yes	No	Stable							
CLF1B-1	2/18	89%	0.015-0.015	0.0151	0.015	0.01515	0.016	5.556E-08	0.0002357	0.01566	NA	mg/L	N	0	0	No	No	Stable	Non-parametric	0.015	N		N	0.016	N
CLF1B-2	15/18	17%	0.015-0.015	0.0177	0.016	0.02297	0.0398	0.00003231	0.005684	0.3212	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.016	Y		N	0.040	N
CLF1B-3	18/18	0%	-	0.0386	0.038	0.0664	0.08	0.0002527	0.0159	0.4122	NA	mg/L	N	0	0	Yes	No	Increasing	Normal	0.080	Y		Y	0.089	N
CLF1B-4	18/18	0%	-	0.02	0.019	0.0275	0.0292	0.00001269	0.003562	0.1785	NA	mg/L	N	0	0	Yes	No	Decreasing	Normal	0.016	Y		N	0.035	N
CLF1B-5	14/18	22%	0.015-0.015	0.0166	0.0159	0.019	0.019	0.000003077	0.001754	0.1054	NA	mg/L	N	0	0	No	No	Increasing	Non-parametric	0.019	Y		N	0.019	N
<b>CCR Appendix-III: Calcium, Total (mg/L)</b>																									
CBW-1	18/18	0%	-	26.9	26.6	31.75	42.2	21.33	4.618	0.1716	NA	mg/L	N	0	0	Yes	No	Stable	Normal			47.77			
PM-1	19/19	0%	-	18	16.4	28	37	40.95	6.399	0.3558	NA	mg/L	N	0	0	No	No	Stable							
CLF1B-1	17/17	0%	-	176	175	189.4	191	60.47	7.776	0.04426	NA	mg/L	N	0	0	No	No	Stable	Normal	167.00	Y		Y	207.74	N
CLF1B-2	17/17	0%	-	137	131	163.6	210	412.8	20.32	0.1481	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	137.00	Y		Y	210.00	N
CLF1B-3	16/16	0%	-	173	178.5	226	244	1751	41.85	0.242	NA	mg/L	N	0	0	No	No	Stable	Normal	244.00	Y		Y	329.16	N
CLF1B-4	17/17	0%	-	103	97.3	130.4	180	544	23.32	0.2263	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	118.00	Y		Y	180.00	N
CLF1B-5	18/18	0%	-	230	237	273	279	1422	37.71	0.1638	NA	mg/L	N	0	0	No	No	Increasing	Normal	272.00	Y		Y	352.84	N
<b>CCR Appendix-III: Chloride (mg/L)</b>																									
CBW-1	19/19	0%	-	2.89	2.95	3.269	3.44	0.0854	0.2922	0.1013	NA	mg/L	N	0	0	No	No	Stable	Non-parametric			13.50			
PM-1	19/19	0%	-	12.6	12.7	13.41	13.5	0.3303	0.5747	0.04569	NA	mg/L	N	0	0	No	No	Stable							
CLF1B-1	18/18	0%	-	38	38.8	41.08	41.5	6.812	2.61	0.06865	NA	mg/L	N	0	0	No	No	Decreasing	Normal	41.00	Y		Y	46.62	N
CLF1B-2	18/18	0%	-	72.9	74.4	85.01	90.2	121.7	11.03	0.1514	NA	mg/L	N	0	0	Yes	No	Increasing	Normal	90.20	Y		Y	91.38	N
CLF1B-3	18/18	0%	-	27.9	23.65	41.25	81.2	187.2	13.68	0.491	NA	mg/L	N	0	0	Yes	No	Stable	Normal	27.60	Y		Y	38.18	N
CLF1B-4	18/18	0%	-	59.9	51.9	89.96	99.9	255.6	15.99	0.2668	NA	mg/L	N	0	0	Yes	No	Stable	Normal	99.90	Y		Y	60.51	Y
CLF1B-5	19/19	0%	-	122	117	154.2	174	551.4	23.48	0.1931	NA	mg/L	N	0	0	No	No	Increasing	Normal	174.00	Y		Y	169.25	Y
<b>CCR Appendix-III: Fluoride (mg/L)</b>																									
CBW-1	17/17	0%	-	0.224	0.22	0.292	0.3	0.001874	0.04329	0.1937	4	mg/L	N	0	0	No	No	Decreasing	Non-parametric			0.30			
PM-1	0/17	100%	0.1-0.1	0.1	0.1	0.1	0	0	0	0	4	mg/L	N	0	0	NA	NA	NA							
CLF1B-1	9/17	47%	0.1-0.1	0.122	0.12	0.174	0.19	0.0007529	0.02744	0.2254	4	mg/L	N	0	0	No	No	Stable	Normal	0.10	N		N	0.24	N
CLF1B-2	6/17	65%	0.1-0.1	0.11	0.1	0.144	0.16	0.0003125	0.01768	0.1607	4	mg/L	N	0	0	No	No	Stable	Non-parametric	0.10	N		N	0.16	N
CLF1B-3	10/17	41%	0.1-0.1	0.119	0.12	0.15	0.15	0.000386	0.01965	0.1654	4	mg/L	N	0	0	No	No	Stable	Normal	0.14	Y		N	0.20	N
CLF1B-4	3/17	82%	0.1-0.1	0.104	0.1	0.122	0.13	0.00007426	0.008618	0.08324	4	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.10	N		N	0.13	N
CLF1B-5	3/17	82%	0.1-0.1	0.105	0.1	0.126	0.15	0.000164	0.01281	0.1223	4	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.10	N		N	0.15	N
<b>CCR Appendix-III: pH, Field (pH units)</b>																									
CBW-1	19/19	0%	-	4.3	4.32	4.5	4.5	0.01771	0.1331	0.03093	NA	pH units	N	0	0	No	No	Stable	Non-parametric			4.09, 5.58			
PM-1	24/24	0%	-	5.14	5.195	5.47	5.58	0.05969	0.2443	0.04755	NA	pH units	N	0	0	No	No	Stable							
CLF1B-1	18/18	0%	-	6.6	6.605	6.823	6.84	0.01753	0.1324	0.02005	NA	pH units	N	0	0	No	No	Stable	Normal	6.66	Y		Y	6.29, 7.16	N
CLF1B-2	18/18	0%	-	6.9	6.9	7.082	7.09	0.01706	0.1306	0.01894	NA	pH units	N	0	0	No	No	Stable	Normal	6.83	Y		Y	6.52, 7.33	N
CLF1B-3	18/18	0%	-	6.7	6.72	6.838	6.94	0.01587	0.126	0.01881	NA	pH units	N	0	0	No	No	Stable	Normal	6.61	Y		Y	6.29, 7.16	N
CLF1B-4	18/18	0%	-	7.13	7.165	7.372	7.38	0.01981	0.1407	0.01974	NA	pH units	N	0	0	No	No	Stable	Normal	7.03	Y		Y	6.68, 7.68	N
CLF1B-5	19/19	0%	-	6.6	6.67	6.767	6.83	0.07109	0.2666	0.0404	NA	pH units	N	0	0	No	No	Decreasing	Normal	5.57	Y		Y	6.35, 7.03	N
<b>CCR Appendix-III: Sulfate (mg/L)</b>																									
CBW-1	19/19	0%	-	79.3	77.7	92.59	115	126.1	11.23	0.1416	NA	mg/L	N	0	0	No	No	Stable	Non-parametric			115.00			
PM-1	19/19	0%	-	12.9	10.5	25.6	26.5	33.93	5.825	0.45	NA	mg/L	N	0	0	No	No	Decreasing							
CLF1B-1	18/18	0%	-	139	136	153.9	159	93.41	9.665	0.06937	NA	mg/L	N	0	0	No	No	Stable	Normal	133.00	Y		Y	173.86	N
CLF1B-2	18/18	0%	-	14.5	13.5	20.02	22.4	7.131	2.67	0.184	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	14.70	Y		N	22.40	N
CLF1B-3	18/18	0%	-	149	162.5	244.4	349	6238	78.98	0.5306	NA	mg/L	N	0	0	No	No	Stable	Normal	349.00	Y		Y	360.90	N
CLF1B-4	18/18	0%	-	17.3	15.05	31.58	34.3	36.48	6.04	0.3487	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	16.40	Y		N	34.30	N
CLF1B-5	19/19	0%	-	164	176	253.7	278	5563	74.58	0.4537	NA	mg/L	N	0	0	No	No	Increasing	Normal	251.00	Y		Y	395.45	N
<b>CCR Appendix-III: Total Dissolved Solids (TDS) (mg/L)</b>																									
CBW-1	18/19	5%	40-40	124	132	179	181.2	1282	35.8	0.2885	NA	mg/L	N	0	0	No	No	Stable	Normal			262.54			
PM-1	22/23	4%	40-40	132	130	200	206	1733	41.64	0.3147	NA	mg/L	N	0	0	No	No	Stable							
CLF1B-1	18/18	0%	-	586	582.8	649.1	651.7	1288	35.89	0.0613	NA	mg/L	N	0	0	No	No	Stable	Normal	583.80	Y		Y	742.95	N
CLF1B-2	18/18	0%	-	479	480.6	552.9	597.5	3375	58.1	0.1212	NA	mg/L	N	0	0	No	No	Stable	Normal	597.50	Y		Y	654.66	N
CLF1B-3	18/18	0%	-	821	573.2	1515	5355	1302000	1141	1.39	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	837.50	Y		Y	5355.00	N
CLF1B-4	18/18	0%	-	375	373.1	519.6	552.5	5986	77.37	0.2064	NA	mg/L	N	0	0	No	No	Stable	Normal	552.50	Y		Y	540.54	Y
CLF1B-5	19/19	0%	-	885	848	1157	1176	29860	172.8	0.1952	NA	mg/L	N	0	0	Yes	No	Increasing	Normal	1176.00	Y		Y	1301.50	N

## **Appendix B – Laboratory Analytical Reports**





One Riverwood Drive  
P.O. Box 2946101  
Moncks Corner, SC 29461-2901  
(843) 761-8000

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AE94854    **Location:** GW Well CBW-1    **Date:** 01/26/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** CBW-1    **Time:** 10:39

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/12/2021	SJHATCHE	EPA 6020B
Barium	46.6	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Boron	18	ug/L	02/10/2021	ROGERSNCALLC	EPA 6010D
Calcium	29.2	mg/L	02/19/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Cobalt	0.66	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Iron	64.6	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	02/09/2021	ROGERSNCALLC	EPA 7470
Lithium	<10	ug/L	02/05/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	<10	ug/L	02/05/2021	ROGERSNCALLC	EPA 6010D
Lead	2.5	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	02/19/2021	SJHATCHE	EPA 6020B
Radium 226	0.436	pCi/L	02/25/2021	GEL	EPA 903.1 Mod
Radium 228	1.29	pCi/L	02/23/2021	GEL	EPA 904.0
Radium 226/228 Combined	1.73	pCi/L	02/25/2021	GEL	EPA 903.1 Mod
Calculation					
Chloride	3.22	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	0.15	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	80.7	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	138.8	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	4.31	SU	01/26/2021	DEW/ATH	
Spec. Cond.	192	uS	01/26/2021	DEW/ATH	
Dissolved Oxygen	0.710	ppm	01/26/2021	DEW/ATH	
Oxidation Reduction Potential	338	mv	01/26/2021	DEW/ATH	SM2580
Temp	20.25	C	01/26/2021	DEW/ATH	
Turbidity	0	NTU	01/26/2021	DEW/ATH	
Depth	10.12	Feet	01/26/2021	DEW/ATH	
Elevation	75.68	Feet	02/12/2021	DEWEST	
Aluminum	0.90	mg/L	02/19/2021	SJHATCHE	EPA 6020B
Potassium	0.67	mg/L	02/19/2021	SJHATCHE	EPA 6020B
Magnesium	2.2	mg/L	02/19/2021	SJHATCHE	EPA 6020B
Sodium	2.1	mg/L	02/19/2021	SJHATCHE	EPA 6020B
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.43	mg/L	02/04/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/19/2021	SJHATCHE	EPA 6020B

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



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Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF03823      **Location:** GW Well CBW-1      **Date:** 05/13/2021      **Sample Collector:** MDG/BWM  
**Loc. Code** CBW-1      **Time:** 14:39

Analysis	Result	Units	Test Date	Analyst	Method
Depth	9.87	Feet	05/14/2021	MDG/BWM	
Elevation	75.93	Feet	05/17/2021	MDGOINGS	

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07259      **Location:** GW Well CBW-1      **Date:** 06/21/2021      **Sample Collector:** MDG/BRT  
**Loc. Code** CBW-1      **Time:** 14:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	42.3	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Boron	<40	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	29.9	mg/L	07/29/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Cobalt	0.70	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Iron	135	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	07/05/2021	R&C	EPA 7470
Lithium	<20	ug/L	07/05/2021	R&C	EPA 6010D
Molybdenum	<20	ug/L	07/05/2021	R&C	EPA 6010D
Lead	2.6	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	07/29/2021	SJHATCHE	EPA 6020B
Radium 226	0.433	pCi/L	07/13/2021	GEL	EPA 903.1 Mod
Radium 228	0.120	pCi/L	07/06/2021	GEL	EPA 904.0
Radium 226/228 Combined	0.552	pCi/L	07/20/2021	GEL	EPA 903.1 Mod
Calculation					
Chloride	3.05	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	0.19	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	86.6	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	178.8	mg/L	06/29/2021	SJBROWN	SM 2540C
pH	4.25	SU	06/21/2021	MDG/BRT	
Spec. Cond.	194	uS	06/21/2021	MDG/BRT	
Dissolved Oxygen	0.660	ppm	06/21/2021	MDG/BRT	
Oxidation Reduction Potential	75.0	mv	06/21/2021	MDG/BRT	SM2580
Temp	24.16	C	06/21/2021	MDG/BRT	
Turbidity	0.200	NTU	06/21/2021	MDG/BRT	
Depth	10.07	Feet	06/21/2021	MDG/BRT	
Elevation	75.73	Feet	07/14/2021	BRTAYLOR	
Aluminum	1.0	mg/L	07/29/2021	SJHATCHE	EPA 6020B
Potassium	0.63	mg/L	07/29/2021	SJHATCHE	EPA 6020B
Magnesium	2.2	mg/L	07/29/2021	SJHATCHE	EPA 6020B
Sodium	2.2	mg/L	07/29/2021	SJHATCHE	EPA 6020B
Nitrate	0.35	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.11	mg/L	06/28/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	07/29/2021	SJHATCHE	EPA 6020B

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



---

Linda Williams - Supervisor Analytical Services



One Riverwood Drive  
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Moncks Corner, SC 29461-2901  
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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AE94865    **Location:** GW Well CLF1B-1    **Date:** 01/26/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** CLF1B-1    **Time:** 12:01

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	134	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	166	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	2.5	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	105	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chloride	34.0	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	132	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	556.2	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	6.84	SU	01/26/2021	DEW/ATH	
Spec. Cond.	792	uS	01/26/2021	DEW/ATH	
Dissolved Oxygen	0.980	ppm	01/26/2021	DEW/ATH	
Oxidation Reduction Potential	83.0	mv	01/26/2021	DEW/ATH	SM2580
Temp	18.90	C	01/26/2021	DEW/ATH	
Turbidity	0.700	NTU	01/26/2021	DEW/ATH	
Depth	6.97	Feet	01/26/2021	DEW/ATH	
Elevation	76.79	Feet	02/12/2021	DEWEST	
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.45	mg/L	02/04/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:

Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

<b>Sample #</b> AE94866	<b>Location:</b> GW Well CLF1B-1	<b>Date:</b> 01/26/2021	<b>Sample Collector:</b> ATH/DEW
<b>Loc. Code</b> CLF1B-1	DUP	<b>Time:</b> 12:06	

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	136	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	164	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	2.5	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	<50.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chloride	33.8	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	133	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	580.0	mg/L	01/28/2021	KCWELLS	SM 2540C
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.56	mg/L	02/04/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis &amp; Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers &amp; Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07274      **Location:** GW Well CLF1B-1      **Date:** 06/22/2021      **Sample Collector:** BRT/ML  
**Loc. Code** CLF1B-1      **Time:** 10:07

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	144	ug/L	08/04/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	167	mg/L	08/03/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Cobalt	1.9	ug/L	08/04/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Iron	<50.0	ug/L	08/04/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Chloride	41.0	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	133	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	583.8	mg/L	06/29/2021	SJBROWN	SM 2540C
pH	6.66	SU	06/22/2021	BRT/ML	
Spec. Cond.	774	uS	06/22/2021	BRT/ML	
Dissolved Oxygen	0.590	ppm	06/22/2021	BRT/ML	
Oxidation Reduction Potential	51.0	mv	06/22/2021	BRT/ML	SM2580
Temp	21.29	C	06/22/2021	BRT/ML	
Turbidity	1.70	NTU	06/22/2021	BRT/ML	
Depth	8.37	Feet	06/22/2021	BRT/ML	
Elevation	75.39	Feet	07/14/2021	BRTAYLOR	
Nitrate	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.30	mg/L	06/28/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services



## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07275      **Location:** GW Well CLF1B-1      **Date:** 06/22/2021      **Sample Collector:** BRT/ML  
**Loc. Code** CLF1B-1      **DUP**      **Time:** 10:12

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	141	ug/L	08/04/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	164	mg/L	08/03/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Cobalt	2.0	ug/L	08/04/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Iron	62.3	ug/L	08/04/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Chloride	39.1	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	128	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	600.0	mg/L	06/29/2021	SJBROWN	SM 2540C
Nitrate	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.07	mg/L	06/28/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS


LAB CERTIFICATION #08552

**Sample #** AE94867    **Location:** GW Well CLF1B-2    **Date:** 01/26/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** CLF1B-2    **Time:** 13:06

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	174	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	17	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	138	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	1.4	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	207	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chloride	84.1	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	14.6	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	485.0	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	6.97	SU	01/26/2021	DEW/ATH	
Spec. Cond.	660	uS	01/26/2021	DEW/ATH	
Dissolved Oxygen	0.810	ppm	01/26/2021	DEW/ATH	
Oxidation Reduction Potential	19.0	mv	01/26/2021	DEW/ATH	SM2580
Temp	20.20	C	01/26/2021	DEW/ATH	
Turbidity	0	NTU	01/26/2021	DEW/ATH	
Depth	5.20	Feet	01/26/2021	DEW/ATH	
Elevation	76.84	Feet	02/12/2021	DEWEST	
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	1.33	mg/L	02/04/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:   
Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07276      **Location:** GW Well CLF1B-2      **Date:** 06/22/2021      **Sample Collector:** BRT/ML  
**Loc. Code** CLF1B-2      **Time:** 12:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	178	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Boron	16.0	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	137	mg/L	08/03/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Cobalt	2.6	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Iron	238	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B
Chloride	90.2	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	14.7	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	597.5	mg/L	06/29/2021	SJBROWN	SM 2540C
pH	6.83	SU	06/22/2021	BRT/ML	
Spec. Cond.	670	uS	06/22/2021	BRT/ML	
Dissolved Oxygen	1.79	ppm	06/22/2021	BRT/ML	
Oxidation Reduction Potential	18.0	mv	06/22/2021	BRT/ML	SM2580
Temp	20.72	C	06/22/2021	BRT/ML	
Turbidity	0	NTU	06/22/2021	BRT/ML	
Depth	6.53	Feet	06/22/2021	BRT/ML	
Elevation	75.51	Feet	07/14/2021	BRTAYLOR	
Nitrate	0.19	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	1.01	mg/L	06/28/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	08/03/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AE94868    **Location:** GW Well CLF1B-3    **Date:** 01/26/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** CLF1B-3    **Time:** 13:58

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	97.8	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	34	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	168	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	6.8	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	322	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chloride	23.6	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	177	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	562.5	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	6.76	SU	01/26/2021	DEW/ATH	
Spec. Cond.	721	uS	01/26/2021	DEW/ATH	
Dissolved Oxygen	0.880	ppm	01/26/2021	DEW/ATH	
Oxidation Reduction Potential	43.0	mv	01/26/2021	DEW/ATH	SM2580
Temp	20.38	C	01/26/2021	DEW/ATH	
Turbidity	2.50	NTU	01/26/2021	DEW/ATH	
Depth	5.83	Feet	01/26/2021	DEW/ATH	
Elevation	76.92	Feet	02/12/2021	DEWEST	
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	2.42	mg/L	02/04/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:

Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07277    **Location:** GW Well CLF1B-3    **Date:** 06/22/2021    **Sample Collector:** BRT/ML  
**Loc. Code** CLF1B-3    **Time:** 13:58

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	107	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Boron	80.0	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	244	mg/L	08/05/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Cobalt	11.1	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Iron	7030	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Chloride	27.6	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	0.14	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	349	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	837.5	mg/L	06/29/2021	SJBROWN	SM 2540C
pH	6.61	SU	06/22/2021	BRT/ML	
Spec. Cond.	1020	uS	06/22/2021	BRT/ML	
Dissolved Oxygen	0.550	ppm	06/22/2021	BRT/ML	
Oxidation Reduction Potential	-48.0	mv	06/22/2021	BRT/ML	SM2580
Temp	21.74	C	06/22/2021	BRT/ML	
Turbidity	0	NTU	06/22/2021	BRT/ML	
Depth	7.64	Feet	06/22/2021	BRT/ML	
Elevation	75.11	Feet	07/14/2021	BRTAYLOR	
Nitrate	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	3.57	mg/L	06/28/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AE94872    **Location:** GW Well PM-1    **Date:** 01/26/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** PM-1    **Time:** 09:27

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.00	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	85.7	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	14.3	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	13300	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	02/09/2021	ROGERSNCALLC	EPA 7470
Lithium	<10	ug/L	02/05/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	<10	ug/L	02/05/2021	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B
Radium 226	0.559	pCi/L	02/25/2021	GEL	EPA 903.1 Mod
Radium 228	2.88	pCi/L	02/23/2021	GEL	EPA 904.0
Radium 226/228 Combined	3.44	pCi/L	02/25/2021	GEL	EPA 903.1 Mod
Calculation					
Chloride	11.8	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	9.98	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	110.0	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	5.03	SU	01/26/2021	DEW/ATH	
Spec. Cond.	143	uS	01/26/2021	DEW/ATH	
Dissolved Oxygen	6.12	ppm	01/26/2021	DEW/ATH	
Oxidation Reduction Potential	1.00	mv	01/26/2021	DEW/ATH	SM2580
Temp	19.47	C	01/26/2021	DEW/ATH	
Turbidity	4.40	NTU	01/26/2021	DEW/ATH	
Depth	8.27	Feet	01/26/2021	DEW/ATH	
Elevation	74.97	Feet	02/12/2021	DEWEST	
Aluminum	<0.10	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Potassium	0.57	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Magnesium	0.77	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Sodium	5.4	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	6.25	mg/L	02/04/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



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Linda Williams - Supervisor Analytical Services


SANTEE COOPER ANALYTICAL SERVICES  
CERTIFICATE OF ANALYSIS  
LAB CERTIFICATION #08552

**Sample #** AF03824      **Location:** GW Well PM-1      **Date:** 05/13/2021      **Sample Collector:** MDG/BWM  
**Loc. Code** PM-1      **Time:** 14:39

Analysis	Result	Units	Test Date	Analyst	Method
Depth	7.77	Feet	05/14/2021	MDG/BWM	
Elevation	75.47	Feet	05/17/2021	MDGOINGS	

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:   


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Linda Williams - Supervisor Analytical Services



## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

<b>Sample #</b> AF07281	<b>Location:</b> GW Well PM-1	<b>Date:</b> 06/21/2021	<b>Sample Collector:</b> MDG/BRT
<b>Loc. Code</b> PM-1		<b>Time:</b> 13:08	

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/06/2021	SJHATCHE	EPA 6020B
Barium	87.3	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	17.0	mg/L	07/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Cobalt	0.94	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Iron	14800	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	07/05/2021	R&C	EPA 7470
Lithium	<10	ug/L	07/05/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	07/05/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	07/09/2021	SJHATCHE	EPA 6020B
Radium 226	0.369	pCi/L	07/13/2021	GEL	EPA 903.1 Mod
Radium 228	1.73	pCi/L	07/06/2021	GEL	EPA 904.0
Radium 226/228 Combined	2.10	pCi/L	07/20/2021	GEL	EPA 903.1 Mod
Calculation					
Chloride	12.0	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	11.9	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	155.0	mg/L	06/29/2021	SJBROWN	SM 2540C
pH	5.21	SU	06/21/2021	MDG/BRT	
Spec. Cond.	169	uS	06/21/2021	MDG/BRT	
Dissolved Oxygen	3.96	ppm	06/21/2021	MDG/BRT	
Oxidation Reduction Potential	45.0	mv	06/21/2021	MDG/BRT	SM2580
Temp	26.49	C	06/21/2021	MDG/BRT	
Turbidity	4.30	NTU	06/21/2021	MDG/BRT	
Depth	7.91	Feet	06/21/2021	MDG/BRT	
Elevation	75.33	Feet	07/14/2021	BRTAYLOR	
Aluminum	<0.10	mg/L	07/09/2021	SJHATCHE	EPA 6020B
Potassium	0.60	mg/L	07/09/2021	SJHATCHE	EPA 6020B
Magnesium	0.79	mg/L	07/09/2021	SJHATCHE	EPA 6020B
Sodium	5.1	mg/L	07/09/2021	SJHATCHE	EPA 6020B
Nitrate	0.18	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	6.57	mg/L	06/28/2021	GEL	SM 5310B
Zinc	10.8	ug/L	07/09/2021	SJHATCHE	EPA 6020B

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



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Linda Williams - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AE94869    **Location:** GW Well CLF1B-4    **Date:** 01/27/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** CLF1B-4    **Time:** 09:18

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	52.2	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	17	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	106	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	<50.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chloride	82.2	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	12.2	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	418.8	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	7.06	SU	01/27/2021	DEW/ATH	
Spec. Cond.	534	uS	01/27/2021	DEW/ATH	
Dissolved Oxygen	4.57	ppm	01/27/2021	DEW/ATH	
Oxidation Reduction Potential	420	mv	01/27/2021	DEW/ATH	SM2580
Temp	18.28	C	01/27/2021	DEW/ATH	
Turbidity	4.90	NTU	01/27/2021	DEW/ATH	
Depth	5.71	Feet	01/27/2021	DEW/ATH	
Elevation	77.03	Feet	02/12/2021	DEWEST	
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	1.15	mg/L	02/03/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated: 

Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07278      **Location:** GW Well CLF1B-4      **Date:** 06/22/2021      **Sample Collector:** BRT/ML  
**Loc. Code** CLF1B-4      **Time:** 14:54

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	56.1	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Boron	16.0	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	118	mg/L	08/05/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Iron	51.4	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Chloride	99.9	mg/L	06/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	06/28/2021	KCWELLS	EPA 300.0
Sulfate	16.4	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	552.5	mg/L	06/29/2021	SJBROWN	SM 2540C
pH	7.03	SU	06/22/2021	BRT/ML	
Spec. Cond.	607	uS	06/22/2021	BRT/ML	
Dissolved Oxygen	0.530	ppm	06/22/2021	BRT/ML	
Oxidation Reduction Potential	-26.0	mv	06/22/2021	BRT/ML	SM2580
Temp	21.33	C	06/22/2021	BRT/ML	
Turbidity	0.700	NTU	06/22/2021	BRT/ML	
Depth	7.88	Feet	06/22/2021	BRT/ML	
Elevation	74.86	Feet	07/14/2021	BRTAYLOR	
Nitrate	0.16	mg/L	06/28/2021	KCWELLS	EPA 300.0
Total Organic Carbon	<1.00	mg/L	06/28/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services



One Riverwood Drive  
P.O. Box 2946101  
Moncks Corner, SC 29461-2901  
(843) 761-8000

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS


LAB CERTIFICATION #08552

**Sample #** AE94870    **Location:** GW Well CLF1B-5    **Date:** 01/27/2021    **Sample Collector:** ATH/DEW  
**Loc. Code** CLF1B-5    **Time:** 10:21

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/04/2021	SJHATCHE	EPA 6020B
Barium	114	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Boron	19	ug/L	02/09/2021	ROGERSNCALLC	EPA 6010D
Calcium	264	mg/L	02/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Cobalt	2.6	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Iron	1360	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	02/09/2021	SJHATCHE	EPA 6020B
Chloride	152	mg/L	01/27/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Sulfate	238	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1024	mg/L	01/28/2021	KCWELLS	SM 2540C
pH	6.58	SU	01/27/2021	DEW/ATH	
Spec. Cond.	1310	uS	01/27/2021	DEW/ATH	
Dissolved Oxygen	0.770	ppm	01/27/2021	DEW/ATH	
Oxidation Reduction Potential	40.0	mv	01/27/2021	DEW/ATH	SM2580
Temp	18.27	C	01/27/2021	DEW/ATH	
Turbidity	2.20	NTU	01/27/2021	DEW/ATH	
Depth	4.00	Feet	01/27/2021	DEW/ATH	
Elevation	77.09	Feet	02/12/2021	DEWEST	
Nitrate	<0.10	mg/L	01/27/2021	KCWELLS	EPA 300.0
Total Organic Carbon	1.89	mg/L	02/03/2021	GEL	SM 5310B
Zinc	<10.0	ug/L	02/10/2021	SJHATCHE	EPA 6020B

Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:   
Linda Williams - Supervisor Analytical Services

## SANTEE COOPER ANALYTICAL SERVICES

## CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

**Sample #** AF07279      **Location:** GW Well CLF1B-5      **Date:** 06/23/2021      **Sample Collector:** BRT/ML  
**Loc. Code** CLF1B-5      **Time:** 09:15

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2021	SJHATCHE	EPA 6020B
Barium	119	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Boron	19.0	ug/L	07/05/2021	R&C	EPA 6010D
Calcium	272	mg/L	08/05/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Cobalt	3.7	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Iron	2130	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Lead	<1.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/05/2021	SJHATCHE	EPA 6020B
Chloride	174	mg/L	06/30/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	06/30/2021	KCWELLS	EPA 300.0
Sulfate	251	mg/L	06/30/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1176	mg/L	07/02/2021	SJBROWN	SM 2540C
pH	5.57	SU	06/23/2021	BRT/ML	
Spec. Cond.	2.00	uS	06/23/2021	BRT/ML	
Dissolved Oxygen	2.18	ppm	06/23/2021	BRT/ML	
Oxidation Reduction Potential	149	mv	06/23/2021	BRT/ML	SM2580
Temp	21.24	C	06/23/2021	BRT/ML	
Turbidity	74.7	NTU	06/23/2021	BRT/ML	
Depth	6.59	Feet	06/23/2021	BRT/ML	
Elevation	74.50	Feet	07/14/2021	BRTAYLOR	
Nitrate	<0.10	mg/L	06/30/2021	KCWELLS	EPA 300.0
Total Organic Carbon	1.97	mg/L	06/28/2021	GEL	SM 5310B
Zinc	10.8	ug/L	08/05/2021	SJHATCHE	EPA 6020B

## Comments:

Independent Laboratory Results: "GEL" - GEL Laboratories LLC - Lab ID # 10120; "Test America" - TestAmerica Laboratories, Inc. - Lab ID# 98001; "DavisBrown"- Davis & Brown Lab ID # 21117; "Shealy"- Shealy Environmental Services, Inc.- Lab ID# 32010 "ROGERSCALLCO"- Rogers & Callcot, Inc.- Lab ID # 23105001

Analysis Validated:



Linda Williams - Supervisor Analytical Services



## Laboratory Report

<b>Client</b>	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	<b>Project:</b>	Ground Water
		<b>Work Order:</b>	1020352
		<b>Received:</b>	02/04/2021 10:45

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on February 04, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at [lhollister@rcenviro.com](mailto:lhollister@rcenviro.com), (864)-232-1556 if you have any questions about this report.

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Report Approved By:

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Lauren Hollister  
Project Manager

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PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140

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# Certificate of Analysis

South Carolina Greenville Laboratory Identification 23105  
 South Carolina Columbia Laboratory Identification 40572  
 North Carolina Laboratory Certification Number 27  
 North Carolina Drinking Water Lab Number 45710  
 NELAP Utah Certificate Number SC000042014-1  
 Georgia Drinking Water Lab ID 880

**Client** Santee Cooper  
 Linda Williams  
 1 Riverwood Dr.  
 Moncks Corner, SC 29461

**Project:** Ground Water  
**Work Order:** 1020352  
**Received:** 02/04/2021 10:45

Sample Number	Sample Description	Matrix	Sampled	Type
1020352-01	AE94877 POZ-7	Ground Water	01/28/21 09:15	Grab
1020352-02	AE94878 POZ-7 Dup	Ground Water	01/28/21 09:20	Grab
1020352-03	AE94876 POZ-6	Ground Water	01/28/21 14:34	Grab
1020352-04	AE94874 POZ-4	Ground Water	01/28/21 11:43	Grab
1020352-05	AE94869 CLFIB-4	Ground Water	01/27/21 09:18	Grab
1020352-06	AE94870 CLFIB-5	Ground Water	01/27/21 10:21	Grab
1020352-07	AE94871 CLFIB-5D	Ground Water	01/27/21 11:17	Grab
1020352-08	AE94875 POZ-5D	Ground Water	01/27/21 12:23	Grab
1020352-09	AE94873 POZ-3	Ground Water	01/27/21 13:21	Grab
1020352-10	AE94872 PM-1	Ground Water	01/26/21 09:27	Grab
1020352-11	AE94854 CBW-1	Ground Water	01/26/21 10:39	Grab
1020352-12	AE94865 CLFIB-1	Ground Water	01/26/21 12:01	Grab
1020352-13	AE94866 CLFIB-1 Dup	Ground Water	01/26/21 12:06	Grab
1020352-14	AE94867 CLFIB-2	Ground Water	01/26/21 13:06	Grab
1020352-15	AE94868 CLFIB-3	Ground Water	01/26/21 13:58	Grab





Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Sample Data**

**Sample Number** 1020352-01  
**Sample Description** AE94877 POZ-7 collected on 01/28/21 09:15

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	02/09/21 10:28	EPA 7470A		MLR	B1B0412
Boron	ND	15	ug/L	1.00	02/09/21 18:02	EPA 6010D		MLR	B1B0278
Lithium	ND	10	ug/L	1.00	02/05/21 17:09	EPA 6010D		MLR	B1B0278
Molybdenum	ND	10	ug/L	1.00	02/05/21 17:09	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-02  
**Sample Description** AE94878 POZ-7 Dup collected on 01/28/21 09:20

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	02/09/21 10:40	EPA 7470A		MLR	B1B0412
Boron	ND	15	ug/L	1.00	02/09/21 18:06	EPA 6010D		MLR	B1B0278
Lithium	ND	10	ug/L	1.00	02/05/21 17:12	EPA 6010D		MLR	B1B0278
Molybdenum	ND	10	ug/L	1.00	02/05/21 17:12	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-03  
**Sample Description** AE94876 POZ-6 collected on 01/28/21 14:34

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	02/09/21 10:42	EPA 7470A		MLR	B1B0412
Boron	44	15	ug/L	1.00	02/09/21 18:10	EPA 6010D		MLR	B1B0278
Lithium	ND	10	ug/L	1.00	02/05/21 17:16	EPA 6010D		MLR	B1B0278
Molybdenum	ND	10	ug/L	1.00	02/05/21 17:16	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-04  
**Sample Description** AE94874 POZ-4 collected on 01/28/21 11:43

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	02/09/21 10:45	EPA 7470A		MLR	B1B0412
Boron	ND	15	ug/L	1.00	02/10/21 13:59	EPA 6010D		MLR	B1B0474
Lithium	ND	10	ug/L	1.00	02/05/21 16:30	EPA 6010D		MLR	B1B0278
Molybdenum	ND	10	ug/L	1.00	02/05/21 16:30	EPA 6010D		MLR	B1B0278



Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Sample Number** 1020352-05  
**Sample Description** AE94869 CLFIB-4 collected on 01/27/21 09:18

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	17	15	ug/L	1.00	02/09/21 18:14	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-06  
**Sample Description** AE94870 CLFIB-5 collected on 01/27/21 10:21

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	19	15	ug/L	1.00	02/09/21 18:18	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-07  
**Sample Description** AE94871 CLFIB-5D collected on 01/27/21 11:17

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	02/09/21 18:21	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-08  
**Sample Description** AE94875 POZ-5D collected on 01/27/21 12:23

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	260	15	ug/L	1.00	02/09/21 18:25	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-09  
**Sample Description** AE94873 POZ-3 collected on 01/27/21 13:21

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	02/09/21 18:29	EPA 6010D		MLR	B1B0278



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Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Sample Number** 1020352-10  
**Sample Description** AE94872 PM-1 collected on 01/26/21 09:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	02/09/21 10:54	EPA 7470A		MLR	B1B0412
Boron	ND	15	ug/L	1.00	02/09/21 18:33	EPA 6010D		MLR	B1B0278
Lithium	ND	10	ug/L	1.00	02/05/21 17:51	EPA 6010D		MLR	B1B0278
Molybdenum	ND	10	ug/L	1.00	02/05/21 17:51	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-11  
**Sample Description** AE94854 CBW-1 collected on 01/26/21 10:39

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	02/09/21 10:56	EPA 7470A		MLR	B1B0412
Boron	18	15	ug/L	1.00	02/10/21 13:36	EPA 6010D		MLR	B1B0474
Lithium	ND	10	ug/L	1.00	02/05/21 16:49	EPA 6010D		MLR	B1B0278
Molybdenum	ND	10	ug/L	1.00	02/05/21 16:49	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-12  
**Sample Description** AE94865 CLFIB-1 collected on 01/26/21 12:01

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	02/09/21 18:48	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-13  
**Sample Description** AE94866 CLFIB-1 Dup collected on 01/26/21 12:06

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	02/09/21 18:52	EPA 6010D		MLR	B1B0278

**Sample Number** 1020352-14  
**Sample Description** AE94867 CLFIB-2 collected on 01/26/21 13:06

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	17	15	ug/L	1.00	02/09/21 18:56	EPA 6010D		MLR	B1B0278



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1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Sample Number** 1020352-15  
**Sample Description** AE94868 CLFIB-3 collected on 01/26/21 13:58

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	34	15	ug/L	1.00	02/09/21 19:00	EPA 6010D		MLR	B1B0278



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1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Total Metals**  
**Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
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**Batch B1B0278 - EPA 3005A**

**Blank (B1B0278-BLK1)**

Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							

**LCS (B1B0278-BS1)**

Boron	260	15	ug/L	250		103	80-120			
Lithium	261	10	ug/L	250		104	80-120			
Molybdenum	250	10	ug/L	250		102	80-120			

**LCS Dup (B1B0278-BSD1)**

Boron	260	15	ug/L	250		102	80-120	0.2	20	
Lithium	262	10	ug/L	250		105	80-120	0.3	20	
Molybdenum	250	10	ug/L	250		102	80-120	0.001	20	

**Matrix Spike (B1B0278-MS1) Source: 1020352-04**

Lithium	278	10	ug/L	250	ND	108	75-125			
Molybdenum	250	10	ug/L	250	ND	100	75-125			

**Matrix Spike (B1B0278-MS2) Source: 1020352-11**

Lithium	255	10	ug/L	250	ND	102	75-125			
Molybdenum	250	10	ug/L	250	ND	100	75-125			

**Matrix Spike (B1B0278-MS3) Source: 1020352-04RE1**

Boron	270	30	ug/L	250	ND	107	75-125			
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**Matrix Spike (B1B0278-MS4) Source: 1020352-11RE1**

Boron	270	30	ug/L	250	ND	110	75-125			
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**Matrix Spike Dup (B1B0278-MSD1) Source: 1020352-04**

Lithium	271	10	ug/L	250	ND	105	75-125	2	20	
Molybdenum	250	10	ug/L	250	ND	99	75-125	0.7	20	

**Matrix Spike Dup (B1B0278-MSD2) Source: 1020352-11**

Lithium	253	10	ug/L	250	ND	101	75-125	0.6	20	
Molybdenum	250	10	ug/L	250	ND	99	75-125	1	20	



Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Total Metals**  
**Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
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**Batch B1B0278 - EPA 3005A**

**Matrix Spike Dup (B1B0278-MSD3) Source: 1020352-04RE1**

Boron	270	30	ug/L	250	ND	106	75-125	0.9	20	
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**Matrix Spike Dup (B1B0278-MSD4) Source: 1020352-11RE1**

Boron	280	30	ug/L	250	ND	111	75-125	0.9	20	
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**Post Spike (B1B0278-PS1) Source: 1020352-04**

Lithium	0.521		mg/L	0.500	ND	103	75-125			
Molybdenum	0.51		mg/L	0.500	ND	102	75-125			

**Post Spike (B1B0278-PS2) Source: 1020352-11**

Lithium	0.475		mg/L	0.500	ND	95	75-125			
Molybdenum	0.51		mg/L	0.500	ND	101	75-125			

**Post Spike (B1B0278-PS3) Source: 1020352-04RE1**

Boron	1000	30	ug/L	1000	ND	103	75-125			
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**Post Spike (B1B0278-PS4) Source: 1020352-11RE1**

Boron	1000	30	ug/L	1000	ND	102	75-125			
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**Batch B1B0412 - EPA 7470A**

**Blank (B1B0412-BLK1)**

Mercury	ND	0.20	ug/L							
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**LCS (B1B0412-BS1)**

Mercury	4.8	0.20	ug/L	5.00		96	80-120			
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**LCS Dup (B1B0412-BSD1)**

Mercury	4.8	0.20	ug/L	5.00		95	80-120	0.9	20	
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**Matrix Spike (B1B0412-MS1) Source: 1020352-01**

Mercury	5.2	0.20	ug/L	5.00	ND	105	75-125			
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Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Total Metals**  
**Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
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**Batch B1B0412 - EPA 7470A**

**Matrix Spike Dup (B1B0412-MSD1) Source: 1020352-01**

Mercury	5.3	0.20	ug/L	5.00	ND	105	75-125	0.3	20	
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**Post Spike (B1B0412-PS1) Source: 1020352-01**

Mercury	4.3		ug/L	4.00	ND	106	80-120			
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**Batch B1B0474 - EPA 3005A**

**Blank (B1B0474-BLK1)**

Boron	ND	15	ug/L							
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**LCS (B1B0474-BS1)**

Boron	270	15	ug/L	250		107	80-120			
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**LCS Dup (B1B0474-BSD1)**

Boron	270	15	ug/L	250		107	80-120	0.2	20	
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**Matrix Spike (B1B0474-MS1) Source: 1020352-11**

Boron	270	15	ug/L	250	18	101	75-125			
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**Matrix Spike Dup (B1B0474-MSD1) Source: 1020352-11**

Boron	270	15	ug/L	250	18	99	75-125	2	20	
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**Post Spike (B1B0474-PS1) Source: 1020352-11**

Boron	0.52		mg/L	0.500	ND	101	75-125			
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Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

**Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst
<b>EPA 3005A ICP Digestion</b>				
EPA 3005A	B1B0278	1020352-01	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-02	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-03	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-04	02/05/2021 09:16	MTH
EPA 3005A	B1B0474	1020352-04	02/09/2021 14:39	MTH
EPA 3005A	B1B0278	1020352-05	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-06	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-07	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-08	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-09	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-10	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-11	02/05/2021 09:16	MTH
EPA 3005A	B1B0474	1020352-11	02/09/2021 14:39	MTH
EPA 3005A	B1B0278	1020352-12	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-13	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-14	02/05/2021 09:16	MTH
EPA 3005A	B1B0278	1020352-15	02/05/2021 09:16	MTH
<b>EPA 7470A Mercury Digestion</b>				
EPA 7470A	B1B0412	1020352-01	02/08/2021 15:10	MLR
EPA 7470A	B1B0412	1020352-02	02/08/2021 15:10	MLR
EPA 7470A	B1B0412	1020352-03	02/08/2021 15:10	MLR
EPA 7470A	B1B0412	1020352-04	02/08/2021 15:10	MLR
EPA 7470A	B1B0412	1020352-10	02/08/2021 15:10	MLR
EPA 7470A	B1B0412	1020352-11	02/08/2021 15:10	MLR





Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1020352  
Reported: 02/11/21 16:21

### Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit  
NR Not reported  
RPD Relative Percent Difference

# Chain of Custody

1020352



Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by:            Project/Task/Unit #: 121567 / JM02.09.G01 / 36500 Rerun request for any flagged QC Yes No

**Analysis Group**

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	B	J	Mo	Hg		
															AE94877	POZ-7
AE94878	POZ-7 DUP	-02		0920							L1-6010	RL 10.0 ug/L	X	X	X	X
AE94876	POZ-6	-03		1434							M0 6010	RL 15.0 ug/L	X	X	X	X
AE94874	POZ-4	-04		1143							Hg 7470	RL 0.200 ug/L	X	X	X	X
AE94869	CLFIB-4	-05	1/27/21	0918									X			
AE94870	CLFIB-5	-06		1021									X			
AE94871	CLFIB-5D	-07	1/21/21	1117									X			
AE94875	POZ-5D	-08		1223									X			
AE94873	POZ-3	-09		1321									X			

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>sbrown</i>	35574	2/3/21	1300	<i>Feder</i>			
<i>FedEx</i>		2-4-21	1045	<i>MANA</i>		2-4-21	1045

**Sample Receiving (Internal Use Only)**  
 TEMP (°C): 10.5 Initial: MANA  
 Correct pH:  Yes  No  
 Preservative Lot#:             
 Date/Time/Init for preservative:           

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input checked="" type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input checked="" type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	<b>Nutrients</b> TOC DOC TP/PO4 NH-N F Cl NO2 Br NO3 NO3-	<b>MISC.</b> <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	<b>Gypsum</b> Wallboard Gypsum (all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	<b>Coal</b> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	<b>Flyash</b> Ammonia LOI % Carbon Mineral Analysis Sieve % Moisture <b>NPDES</b> Oil & Grease As TSS	<b>Oil</b> Iron, Oil, Grease Ash Volatile Matter Sulfur BTUs Particle Size Sulfur
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# Chain of Custody

1020352



Customer Email/Report Recipient: LCWILLIA@santeecooper.com Date Results Needed by:            Project/Task/Unit #: 121567 / JM02.09.G01 / #36500 Rerun request for any flagged QC: Yes No

**Analysis Group**

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments	D	L	MO	Hg	
AE94872	PM-1	-10	1/26/21	0927	ATH DEW	1	P	G	GW	2	B-6010 RL < 15.0 ug/L	X	X	X	X
AE94854	CBW-1	-11	1	1039	1	1	1	1	1	1	Li-6010 RL < 10.0 ug/L	X	X	X	X
AE94865	CLFIB-1	-12	1	1201	1	1	1	1	1	1	Mo 6010 RL < 15.0 ug/L	X			
AE94866	CLFIB-1 DUP	-13	1	1206	1	1	1	1	1	1	Hg 7470 RL < 0.200 ug/L	X			
AE94867	CLFIB-2	-14	1	1306	1	1	1	1	1	1		X			
AE94868	CLFIB-3	-15	1	1358	1	1	1	1	1	1		X			

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>Amman</i>	35594	2/3/21	1300	<i>FedEx</i>			
<i>FedEx</i>		2-4-21	1045	<i>MANS</i>		2-4-21	1045

Sample Receiving (Internal Use Only)  
 TEMP (°C): 10.5 Initial: MANS  
 Correct pH:  Yes  No  
 Preservative Lot#: \_\_\_\_\_  
 Date/Time/Init for preservative: \_\_\_\_\_

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input checked="" type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input checked="" type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	<b>Nutrients</b> <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP TP04 <input type="checkbox"/> NH-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	<b>MISC.</b> <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	<b>Gypsum</b> <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum (all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	<b>Coal</b> <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN <b>Other Tests:</b> <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	<b>Flyash</b> <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture <b>NPDES</b> <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	<b>Oil</b> <input type="checkbox"/> Crude Oil Qual <input type="checkbox"/> Substances <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Viscosity <input type="checkbox"/> Specific Gravity <input type="checkbox"/> IFI <input type="checkbox"/> Dissolved Solids <input type="checkbox"/> Used Oil <input type="checkbox"/> Flashpoint <input type="checkbox"/> Moisture <input type="checkbox"/> (ASTM D153, D153, D153) <input type="checkbox"/> H2O <input type="checkbox"/> TX <input type="checkbox"/> COVER
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)  
 Preservative code- 1=<4°C 2=HNO3 3=H2SO4 4=HCl 5=Na2S2O3 6=Other (Specify)



### Sample Receipt Verification

Client: Santee Cooper Date Received: 2-4-21 Work Order: 1020352

Carrier Name: Client FedEx UPS US Mail Courier Field Services Other: \_\_\_\_\_  
Tracking Number: 816240672602

Receipt Criteria	Y e s	N o	N A	Comments
Shipping container / cooler intact?	X			Damaged Leaking Other:
Custody seals intact?			X	
COC included with samples?	X			
COC signed when relinquished and received?	X			
Sample bottles intact?	X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	X			
Date / time on COC agree with label on bottle(s)?	X			
Number of bottles on COC agrees with number of bottles received?	X			
Samples received within holding time?	X			
Sample volume sufficient for analysis?	X			
VOA vials free of headspace (<6mm bubble)?			X	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 97050067			X	Ice Cold Packs Dry Ice <u>None</u>
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.	X			
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.			X	

If in-house preservation used – record Lot #			
HCL		H <sub>3</sub> PO <sub>4</sub>	
H <sub>2</sub> SO <sub>4</sub>		NaOH	
HNO <sub>3</sub>		Other	

Comments:

Were non-conformance issues noted at sample receipt? Yes or No  
Non-Conformance issue other than noted above:



## Laboratory Report

<b>Client</b>	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	<b>Project:</b>	Ground Water
		<b>Work Order:</b>	1061329
		<b>Received:</b>	06/30/2021 09:30

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on June 30, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

Privileged / Confidential information may be contained in this report and is intended only for the use of the addressee. If you are not the addressee, or the person responsible for delivering to the person addressed, you may not copy or deliver this message to anyone else. If you receive this message by mistake, please notify Rogers and Callcott immediately.

We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at [lhollister@rcenviro.com](mailto:lhollister@rcenviro.com), (864)-232-1556 if you have any questions about this report.

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Report Approved By:

---

Lauren Hollister  
Project Manager

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PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140

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an employee-owned company



# Certificate of Analysis

South Carolina Greenville Laboratory Identification 23105  
 South Carolina Columbia Laboratory Identification 40572  
 North Carolina Laboratory Certification Number 27  
 North Carolina Drinking Water Lab Number 45710  
 NELAP Utah Certificate Number SC000042014-1  
 Georgia Drinking Water Lab ID 880

**Client**  
 Santee Cooper  
 Linda Williams  
 1 Riverwood Dr.  
 Moncks Corner, SC 29461

**Project:** Ground Water  
**Work Order:** 1061329  
**Received:** 06/30/2021 09:30

Sample Number	Sample Description	Matrix	Sampled	Type
1061329-01	AF07281 PM-1	Ground Water	06/21/21 13:08	Grab
1061329-02	AF07259 CBW-1	Ground Water	06/21/21 14:13	Grab
1061329-03	AF07274 CLFIB-1	Ground Water	06/22/21 10:07	Grab
1061329-04	AF07275 CLFIB-1 DUP	Ground Water	06/22/21 10:12	Grab
1061329-05	AF07276 CLFIB-2	Ground Water	06/22/21 12:13	Grab
1061329-06	AF07277 CLFIB-3	Ground Water	06/22/21 13:58	Grab
1061329-07	AF07278 CLFIB-4	Ground Water	06/22/21 14:54	Grab
1061329-08	AF07283 POZ-4	Ground Water	06/23/21 13:55	Grab
1061329-09	AF07285 POZ-6	Ground Water	06/23/21 15:04	Grab
1061329-10	AF07280 CLFIB-5D	Ground Water	06/23/21 10:29	Grab
1061329-11	AF07284 POZ-5D	Ground Water	06/23/21 12:49	Grab
1061329-12	AF07279 CLFIB-5	Ground Water	06/23/21 09:15	Grab
1061329-13	AF07286 POZ-7	Ground Water	06/24/21 10:40	Grab
1061329-14	AF07287 POZ-7-DUP	Ground Water	06/24/21 10:45	Grab
1061329-15	AF07282 POZ-3	Ground Water	06/24/21 09:18	Grab
1061329-16	AF07244 CAP-1	Ground Water	06/24/21 12:19	Grab



Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

**Sample Data**

**Sample Number** 1061329-01  
**Sample Description** AF07281 PM-1 collected on 06/21/21 13:08

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	07/05/21 12:07	EPA 7470A		NAR	B1G0086
Boron	ND	15	ug/L	1.00	07/05/21 14:38	EPA 6010D		MLR	B1F1295
Lithium	ND	10	ug/L	1.00	07/05/21 14:38	EPA 6010D		MLR	B1F1295
Molybdenum	ND	10	ug/L	1.00	07/05/21 14:38	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-02  
**Sample Description** AF07259 CBW-1 collected on 06/21/21 14:13

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	07/05/21 12:18	EPA 7470A		NAR	B1G0086
Boron	ND	40	ug/L	2.00	07/05/21 16:38	EPA 6010D	X	MLR	B1F1295
Lithium	ND	20	ug/L	2.00	07/05/21 16:38	EPA 6010D	X	MLR	B1F1295
Molybdenum	ND	20	ug/L	2.00	07/05/21 16:38	EPA 6010D	X	MLR	B1F1295

**Sample Number** 1061329-03  
**Sample Description** AF07274 CLFIB-1 collected on 06/22/21 10:07

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	07/05/21 14:59	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-04  
**Sample Description** AF07275 CLFIB-1 DUP collected on 06/22/21 10:12

Parameter	Result	Reporting Limit	Units	DF	Analized	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	07/05/21 15:24	EPA 6010D		MLR	B1F1295



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1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

**Sample Number** 1061329-05  
**Sample Description** AF07276 CLFIB-2 collected on 06/22/21 12:13

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	16	15	ug/L	1.00	07/05/21 15:28	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-06  
**Sample Description** AF07277 CLFIB-3 collected on 06/22/21 13:58

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	80	15	ug/L	1.00	07/05/21 15:32	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-07  
**Sample Description** AF07278 CLFIB-4 collected on 06/22/21 14:54

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	16	15	ug/L	1.00	07/05/21 15:36	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-08  
**Sample Description** AF07283 POZ-4 collected on 06/23/21 13:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	07/05/21 16:04	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-09  
**Sample Description** AF07285 POZ-6 collected on 06/23/21 15:04

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	41	15	ug/L	1.00	07/05/21 16:09	EPA 6010D		MLR	B1F1295





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Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

**Sample Number** 1061329-10  
**Sample Description** AF07280 CLFIB-5D collected on 06/23/21 10:29

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	07/05/21 16:13	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-11  
**Sample Description** AF07284 POZ-5D collected on 06/23/21 12:49

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	230	15	ug/L	1.00	07/05/21 16:17	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-12  
**Sample Description** AF07279 CLFIB-5 collected on 06/23/21 09:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	19	15	ug/L	1.00	07/05/21 16:21	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-13  
**Sample Description** AF07286 POZ-7 collected on 06/24/21 10:40

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	07/05/21 16:26	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-14  
**Sample Description** AF07287 POZ-7-DUP collected on 06/24/21 10:45

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	15	15	ug/L	1.00	07/05/21 16:30	EPA 6010D		MLR	B1F1295



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Reported: 07/07/21 14:46

**Sample Number** 1061329-15  
**Sample Description** AF07282 POZ-3 collected on 06/24/21 09:18

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	ND	15	ug/L	1.00	07/05/21 16:34	EPA 6010D		MLR	B1F1295

**Sample Number** 1061329-16  
**Sample Description** AF07244 CAP-1 collected on 06/24/21 12:19

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	07/05/21 12:21	EPA 7470A		NAR	B1G0086
Boron	<b>480</b>	15	ug/L	1.00	07/05/21 17:06	EPA 6010D		MLR	B1F1295
Lithium	<b>96</b>	10	ug/L	1.00	07/05/21 17:06	EPA 6010D		MLR	B1F1295



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Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

**Total Metals**  
**Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
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**Batch B1F1295 - EPA 3005A**

**Blank (B1F1295-BLK1)**

Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							

**LCS (B1F1295-BS1)**

Boron	230	15	ug/L	250		93	80-120			
Lithium	235	10	ug/L	250		94	80-120			
Molybdenum	230	10	ug/L	250		91	80-120			

**Matrix Spike (B1F1295-MS1) Source: 1061329-01**

Boron	250	15	ug/L	250	ND	101	75-125			
Lithium	257	10	ug/L	250	ND	102	75-125			
Molybdenum	240	10	ug/L	250	ND	94	75-125			

**Matrix Spike (B1F1295-MS2) Source: 1061329-03**

Boron	260	15	ug/L	250	ND	102	75-125			
Lithium	290	10	ug/L	250	ND	113	75-125			
Molybdenum	240	10	ug/L	250	ND	96	75-125			

**Matrix Spike Dup (B1F1295-MSD1) Source: 1061329-01**

Boron	250	15	ug/L	250	ND	99	75-125	2	20	
Lithium	254	10	ug/L	250	ND	100	75-125	1	20	
Molybdenum	230	10	ug/L	250	ND	93	75-125	2	20	

**Matrix Spike Dup (B1F1295-MSD2) Source: 1061329-03**

Boron	250	15	ug/L	250	ND	101	75-125	2	20	
Lithium	282	10	ug/L	250	ND	109	75-125	3	20	
Molybdenum	230	10	ug/L	250	ND	94	75-125	2	20	

**Post Spike (B1F1295-PS1) Source: 1061329-01**

Boron	0.48		mg/L	0.500	ND	95	75-125			
Lithium	0.507		mg/L	0.500	ND	101	75-125			
Molybdenum	0.47		mg/L	0.500	ND	93	75-125			



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Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

**Total Metals**  
**Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
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**Batch B1F1295 - EPA 3005A**

**Post Spike (B1F1295-PS2)**

Source: 1061329-03

Boron	0.49		mg/L	0.500	ND	96	75-125			
Lithium	0.552		mg/L	0.500	ND	109	75-125			
Molybdenum	0.47		mg/L	0.500	ND	94	75-125			

**Batch B1G0086 - EPA 7470A**

**Blank (B1G0086-BLK1)**

Mercury	ND	0.20	ug/L							
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**LCS (B1G0086-BS1)**

Mercury	5.0	0.20	ug/L	5.00		100	80-120			
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**Matrix Spike (B1G0086-MS1)**

Source: 1061329-01

Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125			
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**Matrix Spike Dup (B1G0086-MSD1)**

Source: 1061329-01

Mercury	4.9	0.20	ug/L	5.00	ND	99	75-125	0.7	20	
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**Post Spike (B1G0086-PS1)**

Source: 1061329-01

Mercury	3.9		ug/L	4.00	ND	98	80-120			
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Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

**Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst
<b>EPA 3005A ICP Digestion</b>				
EPA 3005A	B1F1295	1061329-01	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-02	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-03	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-04	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-05	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-06	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-07	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-08	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-09	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-10	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-11	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-12	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-13	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-14	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-15	06/30/2021 15:35	MTH
EPA 3005A	B1F1295	1061329-16	06/30/2021 15:35	MTH
<b>EPA 7470A Mercury Digestion</b>				
EPA 7470A	B1G0086	1061329-01	07/05/2021 09:25	NAR
EPA 7470A	B1G0086	1061329-02	07/05/2021 09:25	NAR
EPA 7470A	B1G0086	1061329-16	07/05/2021 09:25	NAR



Santee Cooper  
1 Riverwood Dr.  
Moncks Corner, SC 29461

Project: Ground Water  
Work Order: 1061329  
Reported: 07/07/21 14:46

### Data Qualifiers and Definitions

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not reported
- RPD Relative Percent Difference
- X Result subject to sample matrix interference. Reporting limit has been adjusted where applicable.



# Chain of Custody

1061329

Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by: 7/9/21 Project/Task/Unit #: 121567 / JMO2.07.G01 / 36500 Rerun request for any flagged QC: Yes No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type (Glass/ G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	B	L	Mo	Hg
AF07281	PM-1 -01	6/21/21	1308	MDG/BRT	1	P	G	GW	2		X	X	X	X
AF07259	CBW-1 -02	1	1413	1	1	1	1	1	1		X	X	X	X
74 AF07274	CLFIB-1 -03	6/22/21	1007	BRT/ML	1						X			
AF07275	CLFIB-1 DUP -04	1	1012	1	1						X			
AF07276	CLFIB-2 -05	1	1213	1	1						X			
AF07277	CLFIB-3 -06	1	1359	1	1						X			
AF07278	CLFIB-4 -07	1	1454	1	1						X			
AF07283	POZ-4 -08	6/23/21	1355	1	1						X			
AF07285	POZ-6 -09	1	1504	1	1						X			

Relinquished by:	Employee#	Date	Time	Received by:	Employee#	Date	Time
<i>AF07281</i>	35594	6/29/21	1300	<i>FSPSA</i>			
<i>F0060</i>				<i>Gre</i>		01/01/21	0930

Sample Receiving (Internal Use Only)  
 TEMP (°C): 23.6 Initial: GC  
 Correct pH: Yes No  
 Preservative Lot#:  
 Date/Time/Init for preservative:

<input type="checkbox"/> Ag <input type="checkbox"/> Al <input type="checkbox"/> As <input type="checkbox"/> B <input type="checkbox"/> Ba <input type="checkbox"/> Be <input type="checkbox"/> Ca <input type="checkbox"/> Cd <input type="checkbox"/> Co <input type="checkbox"/> Cr	<input type="checkbox"/> Cu <input type="checkbox"/> Fe <input type="checkbox"/> K <input type="checkbox"/> Li <input type="checkbox"/> Mg <input type="checkbox"/> Mn <input type="checkbox"/> Mo <input type="checkbox"/> Na <input type="checkbox"/> Ni <input type="checkbox"/> Pb <input type="checkbox"/> Sb <input type="checkbox"/> Se <input type="checkbox"/> Sn <input type="checkbox"/> Sr <input type="checkbox"/> Ti <input type="checkbox"/> Tl <input type="checkbox"/> V <input type="checkbox"/> Zn <input type="checkbox"/> Hg <input type="checkbox"/> CrVI	<b>Nutrients:</b> <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TP04 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	<b>MISC:</b> <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	<b>Gypsum:</b> <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum (all) (lib) <input type="checkbox"/> AM <input type="checkbox"/> POC <input type="checkbox"/> Total Hardness <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Solubles <input type="checkbox"/> Chlorides <input type="checkbox"/> Particulate Size <input type="checkbox"/> Sulfur	<b>Coal:</b> <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN <b>Other Tests:</b> <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	<b>Flyash:</b> <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture <b>NPDES:</b> <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	<b>Oil:</b> <b>Trans. Oil Qual:</b> <input type="checkbox"/> Acidity <input type="checkbox"/> FW <input type="checkbox"/> Case <input type="checkbox"/> Used Oil <input type="checkbox"/> Heavy Metals <input type="checkbox"/> PCB
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# Chain of Custody



10201329

Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by:      Project/Task/Unit #: 121567 / JMO2-09-G01 / 36500 Rerun request for any flagged QC: Yes No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass/ G/Plastic/P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments: • Method # • Reporting limit • Misc. sample info • Any other notes			
AF07280	CLFIB-5D -10	6/23/21	1029	BRT/ML	1	G	G	GW	2		X		
AF07284	POZ-5D -11	1	1249	1	1	1	1	1	1		X		
AF07279	CLFIB-5 -12	1	0915	1	1	1	1	1	1		X		
AF07286	POZ-7 -13	6/24/21	1040	1	1	1	1	1	1		X		
AF07287	POZ-7-DUP -14	1	1045	1	1	1	1	1	1		X		
AF07282	POZ-3 -15	1	0918	1	1	1	1	1	1		X		
AF07244	CAP-1 -16	1	1219	1	1	1	1	1	1		X	X	X
<del>AF07255</del>	<del>CAP-11</del>	<del>1</del>	<del>1340</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>	<del>1</del>		<del>X</del>	<del>X</del>	<del>X</del>
	SW 6/25												

Relinquished by:	Employee#:	Date:	Time:	Received by:	Employee #:	Date:	Time:
<i>SJBrown</i>	35574	6/29/21	1500	<i>FGD SN</i>			
<i>FGD</i>				<i>Cell</i>		6/30/21	0930

Sample Receiving (Internal Use Only)  
TEMP (°C): 23.0 Initial: ere  
Correct pH: Yes No  
Preservative Lot#:  
Date/Time/Init for preservative:

<input type="checkbox"/> Ag <input type="checkbox"/> Al <input type="checkbox"/> As <input type="checkbox"/> B <input type="checkbox"/> Ba <input type="checkbox"/> Be <input type="checkbox"/> Ca <input type="checkbox"/> Cd <input type="checkbox"/> Co <input type="checkbox"/> Cr	<input type="checkbox"/> Cu <input type="checkbox"/> Fe <input type="checkbox"/> K <input type="checkbox"/> Li <input type="checkbox"/> Mg <input type="checkbox"/> Mn <input type="checkbox"/> Mo <input type="checkbox"/> Na <input type="checkbox"/> Ni <input type="checkbox"/> Pb <input type="checkbox"/> Rb <input type="checkbox"/> Sb <input type="checkbox"/> Se <input type="checkbox"/> Sn <input type="checkbox"/> Sr <input type="checkbox"/> Ti <input type="checkbox"/> Tl <input type="checkbox"/> V <input type="checkbox"/> Zn <input type="checkbox"/> Hg <input type="checkbox"/> CrVI	<b>Nutrients</b> <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/PO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	<b>MISC</b> <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	<b>Gypsum</b> <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum (all) (etc.) <input type="checkbox"/> ATM <input type="checkbox"/> TOC <input type="checkbox"/> Soluble Matter <input type="checkbox"/> Perme (GSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> pH <input type="checkbox"/> Chloride <input type="checkbox"/> Particulate Size <input type="checkbox"/> Sulfur	<b>Coal</b> <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUS <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN <b>Other Tests:</b> <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	<b>Flyash</b> <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture <b>NPDES</b> <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	<b>Oil</b> Trans. Oil Qual. Moisture Used Oil MS (A) (C) (G) (S) (T) (U) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)
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### Sample Receipt Verification

Client: Santee Cooper Date Received: 06/30/21 Work Order: 1061329

Carrier Name: Client FedEx UPS US Mail Courier Field Services Other: \_\_\_\_\_  
Tracking Number: 815367915239

Receipt Criteria	Y e s	N o	N A	Comments
Shipping container / cooler intact?	X			Damaged Leaking Other:
Custody seals intact?			X	
COC included with samples?	X			
COC signed when relinquished and received?	X			
Sample bottles intact?	X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	X			
Date / time on COC agree with label on bottle(s)?	X			
Number of bottles on COC agrees with number of bottles received?	X			
Samples received within holding time?	X			
Sample volume sufficient for analysis?	X			
VOA vials free of headspace (<6mm bubble)?			X	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 97050067	X			<u>Ice</u> Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.	X			
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.			X	

If in-house preservation used – record Lot #			
HCL		H <sub>3</sub> PO <sub>4</sub>	
H <sub>2</sub> SO <sub>4</sub>		NaOH	
HNO <sub>3</sub>		Other	

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

Were non-conformance issues noted at sample receipt? Yes or No  
Non-Conformance issue other than noted above: \_\_\_\_\_

## **Field Data Sheets**

(Note: the color coding is to assist field personnel in determining when the well has stabilized enough to begin sample collection.)





**Cross Generating Station**  
**Class 3 Landfill Background Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CBW-1	85.80	10.12	14-24	1/26/2021	1039	26.94

Drawdown: 10.15 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1005	20.71	4.33	160	187	3.2	2.82
1010	20.31	4.27	221	187	0.6	1.48
1015	20.2	4.2	268	191	0	1.15
1020	20.25	4.22	288	191	0	1.05
1025	20.3	4.29	303	192	0	0.84
1030	20.32	4.29	318	192	0	0.78
1033	20.34	4.29	326	192	0	0.76
1036	20.31	4.28	334	192	0	0.74
1039	20.25	4.31	338	192	0	0.71

Comments/Conditions:

Samples were collected by Aaron Hill and Trey West



**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-1	83.76	6.97	12.0 - 22.0	1/26/2021	1201	25.12

Drawdown: 7.1 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1130	19.37	6.73	262	754	7.4	16.67
1135	18.89	6.88	236	782	4.9	2.46
1140	18.84	6.87	168	788	5.2	1.95
1145	18.82	6.86	112	795	5	1.47
1150	18.86	6.84	102	797	3.4	1.27
1155	18.89	6.8	93	797	1.4	1.08
1158	18.91	6.83	87	794	1.2	1.01
1201	18.9	6.84	83	792	0.7	0.98

Comments/Conditions: Duplicate taken at 1206

Samples were collected by Aaron Hill and Trey West

**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-1	83.76	8.37	12.0 - 22.0	6/22/2021	1007	25.53

Drawdown: 8.51 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
936	21.02	6.66	75	798	0	11.24
941	21.27	6.6	65	785	0	1.34
946	21.25	6.65	57	778	0	0.9
951	21.17	6.65	54	775	0	0.77
956	21.16	6.66	54	773	0.7	0.72
1001	21.21	6.67	52	775	2	0.63
1004	21.25	6.68	51	775	1.9	0.61
1007	21.29	6.66	51	774	1.7	0.59

Comments/Conditions:

Duplicate at 1012

Samples were collected by Marvin Lewis and Ben Taylor



**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-2	82.04	5.2	12.0 - 22.0	1/26/2021	1306	25.06

Drawdown: 5.25 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1235	19.91	7.05	124	658	10.3	3.29
1240	19.69	6.96	134	664	7.2	1.59
1245	19.67	6.98	66	664	2.9	1.3
1250	19.74	6.98	42	664	2.7	1.07
1255	19.91	6.98	31	664	1.7	1.97
1300	20.02	6.97	25	662	0	0.89
1303	20.17	6.97	22	662	0	0.85
1306	20.2	6.97	19	660	0	0.81

Comments/Conditions:

Samples were collected by Aaron Hill and Trey West

**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-2	82.04	6.53	12.0 - 22.0	6/22/2021	1213	25.05

Drawdown: 6.81 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1142	22.15	6.94	40	680	0	12.78
1147	21.78	6.92	41	681	0	1.14
1152	21.3	6.88	35	679	0	1.02
1157	21.14	6.86	28	671	0	1.34
1202	20.99	6.85	24	670	0	2.02
1207	20.87	6.83	21	670	0	1.7
1210	20.84	6.83	19	670	0	1.74
1213	20.72	6.83	18	670	0	1.79

Comments/Conditions:

Samples were collected by Marvin Lewis and Ben Taylor

**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-3	82.75	5.83	10.0 - 20.0	1/26/2021	1358	22.98

Drawdown: 5.84 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP 8	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1327	20.67	6.8	114	695	13.1	3.12
1332	20.62	6.78	112	707	6.4	1.6
1337	20.47	6.78	88	709	5.1	1.37
1342	20.47	6.77	72	712	4	1.18
1347	20.42	6.77	60	716	3	1.05
1352	20.38	6.77	51	718	2.6	0.97
1355	20.39	6.77	46	719	2.4	0.92
1358	20.38	6.76	43	721	2.5	0.88

Comments/Conditions:

Samples were collected by Aaron Hill and Trey West



**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-4	82.74	5.71	12.0 - 22.0	1/27/2021	918	24.44

Drawdown: 5.77 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
847	18.15	6.84	209	532	3	10.23
852	17.81	7	287	532	14.3	8.36
857	18.03	7.06	353	531	13.3	7.36
902	18.14	7.05	386	531	10.1	6.52
907	18.18	7.05	399	532	8	5.84
912	18.24	7.06	411	533	6.6	5.22
915	18.26	7.06	418	534	5.5	4.88
918	18.28	7.06	420	534	4.9	4.57

Comments/Conditions:

Samples were collected by Aaron Hill and Trey West

**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-4	82.74	7.88	12.0 - 22.0	6/22/2021	1454	24.44

Drawdown: 7.98 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1423	22.67	7.11	-9	604	0	9.37
1428	22.27	7.05	-17	602	0	1.4
1433	21.86	7.04	-20	616	0	0.86
1438	21.57	7.03	-23	618	4.3	0.7
1443	21.52	7.03	-25	613	3.6	0.63
1448	21.43	7.03	-25	611	2.7	0.56
1451	21.37	7.03	-25	610	1.7	0.54
1454	21.33	7.03	-26	607	0.7	0.53

Comments/Conditions:

Samples were collected by Marvin Lewis and Ben Taylor

**Cross Generating Station  
Class 3 Landfill CCR Groundwater Monitoring Wells**

Well ID	TOC Elevation (feet)	GW Depth (feet)	Depth of Screened Interval (ft, bgs)	Sample Date	Sample Time	Total Well Depth
CLF1B-5	81.09	4	12.0 - 22.0	1/27/2021	1021	24.76

Drawdown: 4.21 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
950	18.3	6.68	364	1290	20.8	2.34
955	18.15	6.61	499	1310	7.2	1.49
1000	18.36	6.6	434	1310	7.3	1.28
1005	18.44	6.59	89	1310	5.4	1.1
1010	18.47	6.58	60	1310	4.3	0.89
1015	18.55	6.57	46	1310	2.8	0.76
1018	18.44	6.58	41	1310	3.1	0.77
1021	18.27	6.58	40	1310	2.2	0.77

Comments/Conditions:

Samples were collected by Aaron Hill and Trey West

