2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT CLASS 3 LANDFILL AREA 1 AND CLOSED UNIT 2 SLURRY POND WINYAH GENERATING STATION

by Santee Cooper
Moncks Corner, South Carolina

January 31, 2022 (Amended March 2, 2022)

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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 the closed coal combustion residuals (CCR) management unit referred to as the Unit 2 Slurry Pond and currently operational Class 3 Landfill Area 1 located at the Winyah Generating Station (WGS) in Georgetown, South Carolina. This 2021 Annual Report was prepared to comply with the United States Environmental Protection Agency (EPA) Hazardous and Solid Waste Management System; Disposal of 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 closed Unit 2 Slurry Pond was previously classified as an inactive surface impoundment as defined by 40 CFR §257.53. However, on August 5, 2016, the EPA issued a "Direct Final Rule" effective on 4 October 2016, constituting a vacatur of 40 CFR §257.100. The Direct Final Rule applies the requirements of existing surface impoundments that had been previously declared inactive. As a result, owners and operators of inactive CCR surface impoundments must comply with the groundwater monitoring requirements for existing CCR surface impoundments.

Santee Cooper filed a Notice of Intent (NOI) to initiate closure of the Unit 2 Slurry Pond and placed the NOI in the facility's operating record in December 2015. The South Carolina Department of Health and Environmental Control (SCDHEC) certified closure was complete in accordance with SCDHEC regulations on November 9, 2017. After the Unit 2 Slurry Pond was certified closed, Santee Cooper constructed a Class 3 Landfill Area 1 at the site within the footprint of the closed Unit 2 Slurry Pond. Because both units (closed Unit 2 Slurry Pond and Class 3 Landfill Area 1 Area 1) occupy the same space, the groundwater monitoring network installed to monitor the Class 3 Landfill Area 1 is also appropriate for the closed Unit 2 Slurry Pond and complies with §257.91. This annual report addresses the groundwater monitoring requirements for both units at WGS (closed Unit 2 Slurry Pond and Class 3 Landfill Area 1).

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 Area 1 continued to operate under a detection monitoring program in accordance with § 257.94 and the closed Unit 2 Slurry Pond continued under an assessment monitoring program in accordance with § 257.95, which was initiated on December 12, 2019. As a result of the certified ASD, the Appendix III constituents were analyzed for the Class 3 Landfill Area 1 for statistically significant increases (SSIs) using an intrawell statistical test consistent with the Unified Guidance, while the Appendix IV constituents were analyzed for the Closed Unit 2 Slurry Pond using an interwell statistical test to determine if statistically significant levels (SSLs) were present downgradient of the units above groundwater protection standards (GWPS).

There were no SSIs of Appendix III constituents identified for the Class 3 Landfill Area 1 in either the March or August 2021 groundwater monitoring events. Therefore, at the end of the current annual reporting period (December 31, 2021), the Class 3 Landfill Area 1 remained in detection monitoring.

For the closed Unit 2 Slurry Pond in 2021, SSLs above the GWPS were not identified in either the March or August 2021 groundwater monitoring events. Therefore, at the end of the current annual reporting period (December 31, 2021), the closed Unit 2 Slurry Pond remained in assessment monitoring. Because

SSLs of Appendix IV constituents have not been identified, initiating, and completing an assessment of corrective measures, holding a public meeting, selecting a remedy, and initiating remedial activities for either CCR Unit are not required.

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 co-located Class 3 Landfill Area 1 and closed Unit 2 Slurry Pond at the WGS are subject to the groundwater monitoring and corrective action requirements set forth by the EPA in the Code of Federal Regulations 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 new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. 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 Area 1 and closed Unit 2 Slurry Pond at WGS 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 and § 257.95, 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 Area 1/Unit 2 Slurry Pond unit; therefore, the notification was provided, and an evaluation of alternate sources was conducted. A successful ASD was completed concluding that the closed Unit 2 Slurry Pond, on which the Class 3 Landfill Area 1 was constructed, was responsible for the Appendix III SSIs. Notification that an

assessment monitoring program was initiated for the closed Unit 2 Slurry Pond was posted on the facility's CCR website on December 12, 2019.

No SSIs of Appendix III constituents in the Detection Monitoring Program or SSLs of Appendix IV constituents in the Assessment Monitoring Program were identified in either of the March or August 2021 monitoring events. As a result, the Class 3 Landfill Area 1 remains in the Detection Monitoring program as required by § 257.94(e)(2) and the closed Unit 2 Slurry Pond remains in Assessment Monitoring. The statistical analyses are provided in Appendix A.

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 (March and August) in accordance with § 257.94 and § 257.95 and recorded the concentrations in the facility's operating record as required by § 257.94(f) and § 257.95(i). 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 and statistically significant levels for Appendix IV constituents in accordance with § 257.93(h)(2) (Appendix A).

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 Area 1 or closed Unit 2 Slurry Pond 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 as required by § 257.94 or § 257.95.
- Review of the detection monitoring results and statistical analysis for the Class 3 Landfill Area 1 to verify on-going validity of the certified ASD.

- Statistical analysis of Assessment Monitoring analytical data to determine if SSLs of the detected Appendix IV constituents are present.
- Prepare the 2022 annual report; place it in the operating 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 §257.90(e)(1) AERIAL IMAGE OF GROUNDWATER MONITORING PROGRAM

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 location of the co-located closed Unit 2 Slurry Pond and the Class 3 Landfill Area 1 and associated upgradient and downgradient monitoring wells is included in this report as Figure 1. The groundwater monitoring network meets the requirements of §257.91.

2.3.2 §257.90(e)(2) ADJUSTMENTS TO GROUNDWATER MONITORING PROGRAM

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 §257.90(e)(3) SUMMARY OF GROUNDWATER ANALYSIS

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 **[upgradient]** ***and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;***

Two independent samples from each background and downgradient monitoring well were collected and analyzed to satisfy the detection monitoring requirements for the Class 3 Landfill Area 1 and the assessment monitoring requirements for the closed Unit 2 Slurry Pond. A summary table including the sample names, dates of sample collection, reason for sample collection (detection or assessment), and monitoring data obtained for the groundwater monitoring program for the closed Unit 2 Slurry Pond and Class 3 Landfill Area 1 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 packages, along with field sampling forms, are provided in Appendix B.

2.3.4 §257.90(e)(4) CURRENT GROUNDWATER MONITORING PROGRAM

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);

As required by §257.93(h) of the Federal CCR Rule, Haley & Aldrich performed a statistical analysis of the Appendix III constituents detected in groundwater downgradient of the Class 3 Landfill Area 1 and closed Unit 2 Slurry Pond to evaluate the potential for SSIs of the Appendix III constituents to exist above background. A summary of the statistical evaluation is provided in Appendix A of this report. SSIs of Appendix III constituents in the Detection Monitoring Program and SSLs of Appendix IV constituents in the Assessment Monitoring Program were not identified in either of the March or August 2021 monitoring events. As described in the ASD (provided in the 2019 Annual Groundwater Report) the Class 3 Landfill Area 1 was constructed in the footprint of the closed Unit 2 Slurry Pond. The Class 3 Landfill Area 1 had not received CCR prior to completing detection monitoring. Haley & Aldrich conducted an evaluation, consistent with §257.94(e)(2), to demonstrate that a source other than the Class 3 Landfill Area 1 caused the statistically significant increase over background.

This ASD concluded that the closed Unit 2 Slurry Pond was the source for the Appendix III SSIs detected downgradient of the two units, and as a result, the Class 3 Landfill Area 1 remained in detection monitoring while the closed Unit 2 Slurry Pond transitioned into assessment monitoring. The assessment monitoring program was established to meet the requirements of 40 CFR § 257.95 on December 12, 2019.

2.3.5 §257.90(e)(5) OTHER REQUIRED INFORMATION

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

Since the Class 3 Landfill Area 1 remained in Detection Monitoring and the closed Unit 2 Slurry Pond remained in Assessment Monitoring in 2021, no other information was required to be included in this annual report. Other information including development of groundwater protection standards, recording groundwater monitoring results in the operating record, and an evaluation of alternate sources is discussed in preceding sections. 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
Winyah Generating Station Class 3 Landfill (Area 1) Detection Monitoring and Closed Unit 2 Slurry Pond Assessment Monitoring

					Appendix III Constituents							Appendix IV Constituents																Field Parameters							
Well ID	Purpose	Date of Sample Event	Laboratory Sample ID Number		Boron	Calcium	Chloride	Fluoride	Sulfate	Total Dissolved Solids	pH	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Radium 226	Radium 228	Radium 226/Radium 228 Combined Calculation	Selenium	Thallium	Depth to Groundwater	Groundwater Elevation	pH	Specific Conductivity	Temperature	Oxidation Reduction Potential	Turbidity	Dissolved Oxygen
				Unit	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	SU	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	pCi/L	pCi/L	pCi/L	ug/L	ug/L	Feet (btoc)	Feet (msl)	SU	uS	C	mv	NTU	ppm
				Method	EPA 6010D	EPA 6020B	EPA 300.0	EPA 300.0	EPA 300.0	SM 2540C		EPA 6020B	EPA 6020B	EPA 6020B	EPA 6020B	EPA 6020B	EPA 6020B	EPA 6020B	EPA 300.0	EPA 6020B	EPA 6010D	EPA 7470	EPA 6010D	EPA 903.1 Mo	EPA 904.0	PA 903.1 Mo	EPA 6020B	EPA 6020B						SM2580		
				GWPS/ US EPA MCL/RSL	---	---	---	4	---	---	---	6	10	2000	4	5	100	6	4	15	40	2	100	---	----	50	50	2	---	----	---	---	---	----	---	---	---
Site Background Wells																																			
WBW-A1-1	Background	3/1/2021	AE96413		48	26	39.8	<0.10	81.8	190	4.6			78.4					<0.10					0.972	0.271	1.24			5.77	22.37	4.6	288	22.11	62	0	0.58
WBW-A1-1	Background	8/5/2021	AF09084		42	44.7	9.75	<0.10	126	213.8	4.35	<5.0	<5.0	81.1	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.4	0.339	1.74	<10.0	<1.0	6.08	22.06	4.35	287	22.84	67	4.6	0.61
WBW-A1-1	**total samples**				2	2	2	2	2	2	2	1	1	2	1	1	1	1	2	1	1	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2
Class 3 Landfill (Area 1) /Closed Unit 2 Slurry Pond Wells																																			
WAP-7	Detection/ Assessment	2/24/2021	AE96385			89.9	8.2	<0.10	169	365	5.7	<5.0	<5.0	14.8	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.647	1.01	1.66	<10.0	<1.0	9.41	20.53	5.7	423	19.63	136	6	3.08
WAP-7	Detection/ Assessment	8/10/2021	AF09056		970	199	62.8	<0.10	390	851.2	5.62	<5.0	<5.0	40.4	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.12	3.7	4.82	<10.0	<1.0	9.24	20.7	5.62	946	29.47	179	0	1.41
WAP-7	**total samples**				1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
WLF-A1-1	Detection/ Assessment	3/2/2021	AE96414		1100	321	24.9	<0.10	569	1140	5.79			29.7					<0.10					0.624	1.48	2.1			16.75	24.6	5.79	1420	18.25	67	0.5	0.73
WLF-A1-1	Detection/ Assessment	8/5/2021	AF09085		1100	382	59.7	<0.10	557	1379	6.14	<5.0	<5.0	35.4	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.479	1.13	1.61	<10.0	<1.0	17.26	24.09	6.14	1700	22.84	-44	0.4	0.41
WLF-A1-1	**total samples**				2	2	2	2	2	2	2	1	1	2	1	1	1	1	2	1	1	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2
WLF-A1-2	Detection/ Assessment	3/1/2021	AE96415		120	21	12.6	<0.10	47.6	82.5	5.06			37.8					<0.10					0.908	1.32	2.23			3.91	25.3	5.06	150	18.26	83	0	0.49
WLF-A1-2	Detection/ Assessment	8/11/2021	AF09086		87	15.8	8.57	<0.10	47.4	108.8	4.45	<5.0	<5.0	47	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.26	2.43	3.68	<10.0	<1.0	5.71	23.5	4.45	129	27.61	-28	0	0.32
WLF-A1-2	**total samples**				2	2	2	2	2	2	2	1	1	2	1	1	1	1	2	1	1	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2
WLF-A1-3	Detection/ Assessment	3/1/2021	AE96416		59	22.3	3.05	<0.10	79.6	107.5	4.42			23.8					<0.10					0.694	0.271	0.965			4.13	24.18	4.42	173	20.49	96	0	0.6
WLF-A1-3	Detection/ Assessment	8/11/2021	AF09087		70	22.7	3.43	<0.10	77.6	130	4.29	<5.0	<5.0	33.9	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.3	1.87	3.17	<10.0	<1.0	5.38	22.93	4.29	165	28.68	2	0	0.37
WLF-A1-3	**total samples**				2	2	2	2	2	2	2	1	1	2	1	1	1	1	2	1	1	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2
WLF-A1-4	Detection/ Assessment	3/1/2021	AE96417		140	67.2	4.86	<0.10	65.2	198.8	6.22			31.8					<0.10					0.139	-0.953	0.139			3.98	24.26	6.22	278	20.77	27	0	0.52
WLF-A1-4	Duplicate	3/1/2021	AE96418		150	63.3	4.87	<0.10	65.7	252.5				30.5					<0.10					0.518	1.63	2.15										
WLF-A1-4	Detection/ Assessment	8/11/2021	AF09088		170	66.6	4.39	<0.10	82.4	271.2	6.15	<5.0	<5.0	37	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.626	2	2.62	<10.0	<1.0	5.42	22.82	6.15	315	24.32	-79	0	0.54
WLF-A1-4	Duplicate	8/11/2021	AF09089		180	69.2	4.44	<0.10	83.6	278.8		<5.0	<5.0	37.9	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.205	1.4	1.6	<10.0	<1.0								
WLF-A1-4	**total samples**				4	4	4	4	4	4	2	2	2	4	2	2	2	2	4	2	2	2	2	4	4	4	2	2	2	2	2	2	2	2	2	2
WLF-A1-5	Detection/ Assessment	3/2/2021	AE96419		1300	284	99.9	<0.10	475	1129	6.81			37					<0.10					0.97	0.552	1.52			16.22	21.42	6.81	1460	17.41	42	0.5	0.55
WLF-A1-5	Detection/ Assessment	8/5/2021	AF09090		2200	301	174	<0.10	480	1310	6.82	<5.0	<5.0	39.3	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.929	0.981	1.91	<10.0	<1.0	16.19	21.45	6.82	1600	23.08	-126	0	0.44
WLF-A1-5	**total samples**				2	2	2	2	2	2	2	1	1	2	1	1	1	1	2	1	1	1	1	2	2	2	1	1	2	2	2	2	2	2	2	2

All groundwater samples collected from the monitoring wells for Detection and Assessment Monitoring in 2021 for the constituents listed in Appendix III and Appendix IV 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.These Closed Unit 2 Slurry groundwater monitoring wells are only Appendix IV analytes detected in first sampling event with all Appendix IV analytes in the second sampling event.

FIGURES

LEGEND

- CLASS 3 LANDFILL AREA 1 BACKGROUND WELL
- UNIT 2 SLURRY POND/CLASS 3 LANDFILL AREA 1 WELL
- CCR UNIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

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

N

0 370 740

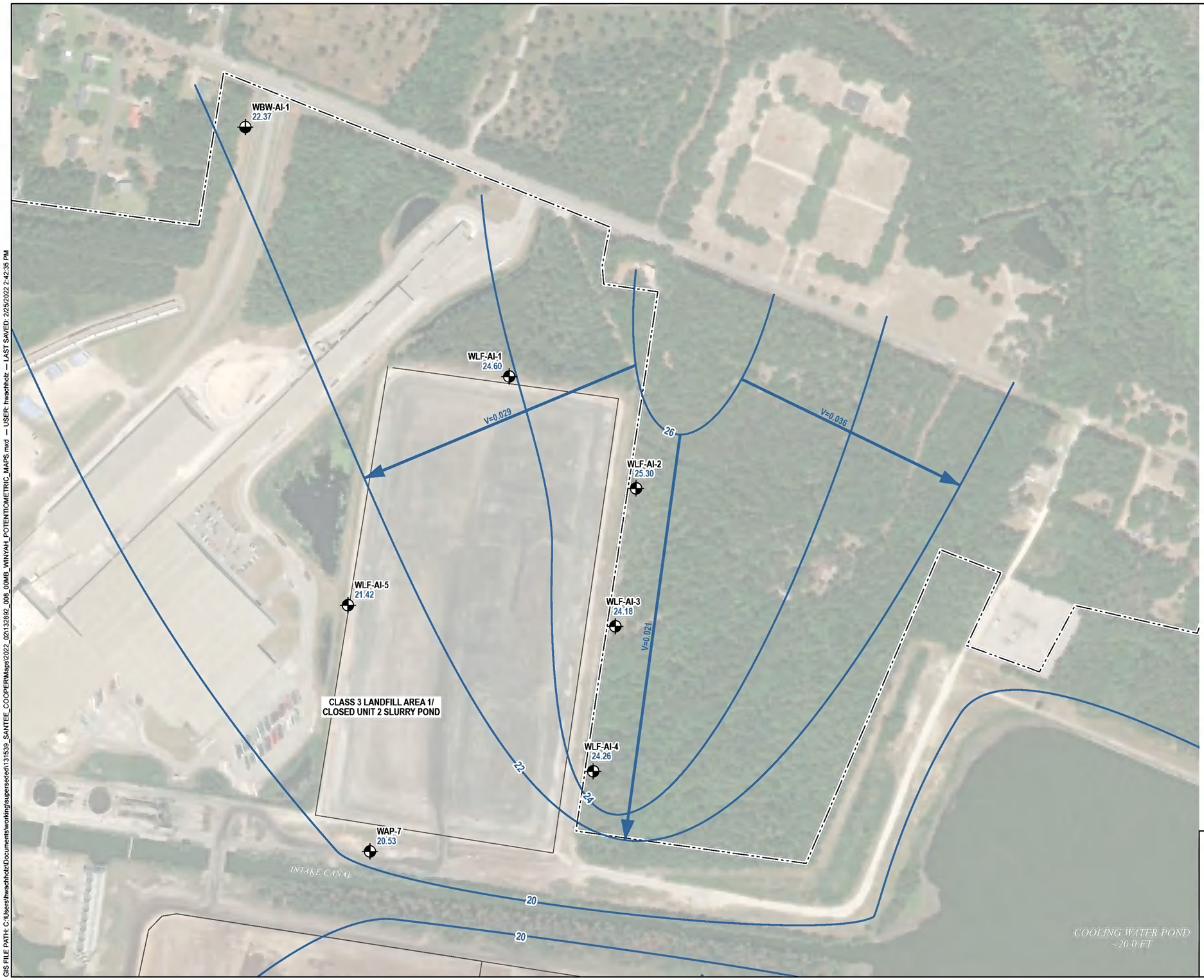
SCALE IN FEET

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

LOCATION OF CLASS 3 LANDFILL AREA 1 & CLOSED UNIT 2 SLURRY POND GROUNDWATER MONITORING WELLS FOR CCR COMPLIANCE

JANUARY 2022

FIGURE 1



LEGEND

- BACKGROUND WELL
- CCR MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR, 2-FT INTERVAL
- GROUNDWATER FLOW DIRECTION
- CCR UNIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.

2. AVERAGE LINEAR VELOCITY WAS CALCULATED USING:

$$v = -\frac{K}{n_e}\frac{\Delta h}{\Delta L}$$

3. ABREVIATIONS:
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 = 2.3 FEET PER DAY (ft/day)

5. n_e = 0.30

6. WATER LEVELS WERE MEASURED BY SANTEE COOPER FROM FEBRUARY 24, 2021 THROUGH MARCH 2, 2021

7. AERIAL IMAGERY SOURCE: ESRI

N

0 350 700
SCALE IN FEET

HALEY ALDRICH

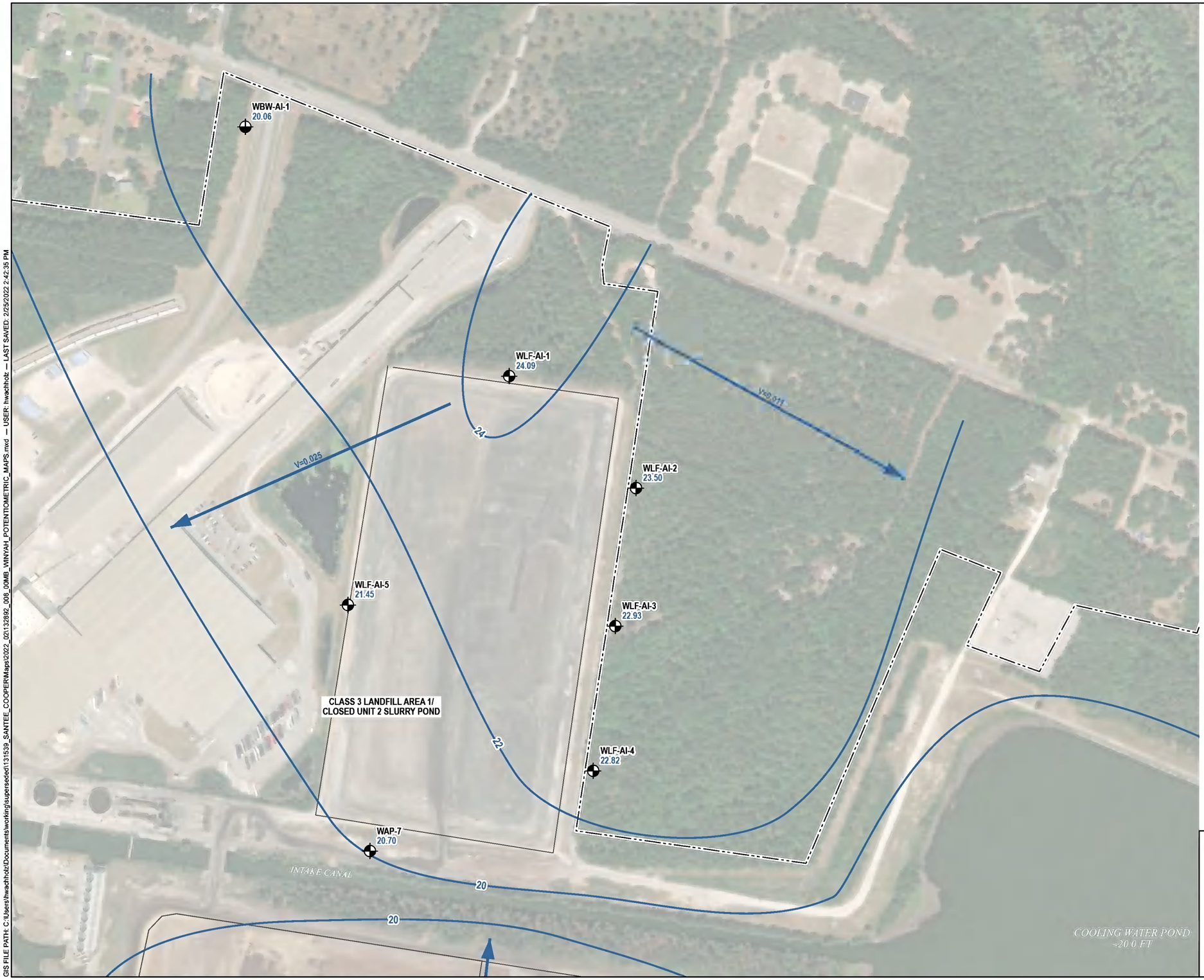
SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

POTENTIOMETRIC MAP
CLASS 3 LANDFILL AREA 1
AND CLOSED UNIT 2 SLURRY POND
FEBRUARY-MARCH 2021

FEBRUARY 2022

FIGURE 2

GIS FILE PATH: C:\Users\hwachholz\Documents\working\superseded\131539_SANTEE_COOPER\RMaps\2022_02\132892_008_00MB_WINYAH_POTENTIOMETRIC_MAPS.mxd — USER: hwachholz — LAST SAVED: 2/25/2022 2:42:35 PM



LEGEND

- BACKGROUND WELL
- CCR MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR, 2-FT INTERVAL
- GROUNDWATER FLOW DIRECTION
- CCR UNIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.

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$$v = -\frac{K}{n_e}\frac{\Delta h}{\Delta L}$$

3. ABREVIATIONS:
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ne = EFFECTIVE POROSITY

4. K = 2.3 FEET PER DAY (ft/day)

5. n_e = 0.30

6. WATER LEVELS WERE MEASURED BY SANTEE COOPER FROM AUGUST 5, 2021 THROUGH AUGUST 11, 2021

7. AERIAL IMAGERY SOURCE: ESRI

N

0 350 700
SCALE IN FEET

HALEY ALDRICH

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

POTENTIOMETRIC MAP
CLASS 3 LANDFILL AREA 1
AND CLOSED UNIT 2 SLURRY POND
AUGUST 2021

FEBRUARY 2022

FIGURE 3

GIS FILE PATH: C:\Users\hwachholz\Documents\working\superseded\131539_SANTEE_COOPER\Maps\2022_02\132892_008_00MB_WINYAH_POTENTIOMETRIC_MAPS.mxd — USER: hwachholz — LAST SAVED: 2/25/2022 2:42:35 PM

Appendix A – Statistical Analysis

HALEY & ALDRICH, INC.
400 Augusta Street
Suite 100
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TECHNICAL MEMORANDUM

July 28, 2021
File No. 132892-014

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

The results of analytical testing performed on samples collected from the groundwater monitoring network were evaluated to determine whether there has been a Statistically Significant Increase (SSI) over background for one or more Appendix III constituent. For the Class 3 Landfill which is in Detection Monitoring in 2021 as a result of a successful Alternate Source Demonstration (ASD), an intrawell statistical analysis was conducted. Intrawell analysis compares each compliance well against a background value composed of its own historical data.

In order to statistically evaluate the analytical results, upper prediction background limit (or UPL), which is a type of prediction interval method was selected to evaluate the data. The prediction interval method is one of the five methods outlined in Part V, Subpart E, Section 258.53.g of R.61-107.19. A prediction interval procedure in which a concentration limits for each constituent is established from the distribution of the background data, with a specified confidence level (e.g., 95 percent). The upper endpoint of a concentration limit is called the upper prediction limit or UPL. Depending on the background data distribution, parametric or non-parametric prediction limits procedures are used to evaluate groundwater monitoring data using this method. Parametric prediction limits utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the prediction limit. If all the background data are non-detect, a maximum reporting limit (RL) may serve as an approximate upper prediction limit. In the case of the Class 3 Landfill the statistical analysis was conducted using both parametric and non-parametric prediction limits.

Following the establishment of background, the current analytical result for each inorganic constituent at each monitoring well was compared to the background value of that constituent to determine whether an SSI has occurred. Table 1 presents the statistical analysis summary for the March 2021 sampling event. As presented in Table 1, SSIs were identified for pH using an intrawell statistical analysis.

The pH value measured at WLF-A1-1 resulted in an SSI using intrawell comparison. While the value is below the intrawell prediction limit of 6.0 for WLF-A1-1, this is consistent with the decreasing trend established during baseline sampling prior to the placement of waste in this unit and is not considered

an SSI. Therefore, pH at WLF-A1-1 is not considered an SSI and will continue to be monitored and evaluated during future semiannual sampling events.

Tables:

Table I – Summary of Assessment Monitoring Statistical Evaluation – March 2021

TABLES

Winyah Class III Landfill

Detection Monitoring Statistical Analysis Summary

Prepared: June 25, 2021

																				Inter-well Analysis		Intra-well Analysis	
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*	March 2021 Concentration (mg/L)	Detect?	Upper Prediction Limit (mg/L)	Exceedance above Background at Individual Well (SSI)	Background Limit (Upper Prediction Limit) mg/L	SSI
CCR Appendix-III: Boron, Total (mg/L)																									
WBW-A1-1	12/12	0%	-	0.0392	0.036	0.0615	0.078	0.0001797	0.0134	0.3415	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric			0.078			
WAP-07	11/11	0%	-	0.562	0.64	1.005	1.1	0.1411	0.3757	0.6687	NA	mg/L	N	0	0	No	No	Stable	Normal				N	2.12	N
WLF-A1-1	13/13	0%	-	3.34	3.7	4.04	4.1	0.7759	0.8809	0.2638	NA	mg/L	N	0	0	No	No	Decreasing	Normal	1.10	Y		Y	5.80	N
WLF-A1-2	13/13	0%	-	0.493	0.37	1.152	1.8	0.2104	0.4587	0.9302	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.12	Y		Y	1.80	N
WLF-A1-3	13/13	0%	-	0.117	0.086	0.27	0.48	0.01223	0.1106	0.9415	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.06	Y		N	0.48	N
WLF-A1-4	13/13	0%	-	0.412	0.36	0.816	1.2	0.07042	0.2654	0.6436	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.14	Y		Y	1.20	N
WLF-A1-5	13/13	0%	-	2.17	2.1	3	3	0.4006	0.633	0.2918	NA	mg/L	N	0	0	No	No	Stable	Normal	1.30	Y		Y	4.55	N
CCR Appendix-III: Calcium, Total (mg/L)																									
WBW-A1-1	13/13	0%	-	41.1	44.8	61.7	65	273.1	16.53	0.4019	NA	mg/L	N	0	0	Yes	Yes	Decrease	Normal			98.35			
WAP-07	14/14	0%	-	274	180	584.5	602	43970	209.7	0.7641	NA	mg/L	N	0	0	No	No	Stable	Normal	90	Y		N	1077.68	N
WLF-A1-1	13/13	0%	-	471	487	663.8	746	32090	179.1	0.3802	NA	mg/L	N	0	0	Yes	Yes	Decrease	Normal	321	Y		Y	934.02	N
WLF-A1-2	13/13	0%	-	88.3	102	170.8	187	4533	67.33	0.7624	NA	mg/L	N	0	0	Yes	Yes	Stable	Normal	21.0	Y		N	351.67	N
WLF-A1-3	13/13	0%	-	13.4	9.74	26.18	26.3	69.32	8.326	0.6204	NA	mg/L	N	0	0	Yes	Yes	Increasing	Normal	22.3	Y		N	43.66	N
WLF-A1-4	13/13	0%	-	118	130	196.4	212	3088	55.57	0.4729	NA	mg/L	N	0	0	Yes	Yes	Stable	Normal	67.2	Y		N	301.08	N
WLF-A1-5	13/13	0%	-	222	242	298.8	321	6483	80.52	0.3624	NA	mg/L	N	0	0	Yes	Yes	Stable	Normal	284	Y		Y	423.39	N
CCR Appendix-III: Chloride (mg/L)																									
WBW-A1-1	13/13	0%	-	17.5	9.49	50.88	67.5	297.4	17.24	0.9872	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric			67.50			
WAP-07	14/14	0%	-	18	13.4	39.33	66.7	237.4	15.41	0.858	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	8.2	Y		N	66.70	N
WLF-A1-1	13/13	0%	-	144	143	259.8	270	5385	73.38	0.5081	NA	mg/L	N	0	0	No	No	Decreasing	Normal	24.9	Y		N	410.41	N
WLF-A1-2	12/12	0%	-	48.4	27.55	162.1	211	3519	59.32	1.226	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	12.6	Y		N	211.00	N
WLF-A1-3	13/13	0%	-	8.46	4	27.67	59.3	234.4	15.31	1.809	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	3.1	Y		N	59.30	N
WLF-A1-4	13/13	0%	-	10.3	6.96	26.12	41.3	96.95	9.847	0.9558	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	4.9	Y		N	41.30	N
WLF-A1-5	13/13	0%	-	121	107	174.4	175	1469	38.33	0.3157	NA	mg/L	N	0	0	No	No	Stable	Normal	99.9	Y		Y	274.35	N
CCR Appendix-III: Fluoride (mg/L)																									
WBW-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA			0.10			
WAP-07	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	N
WLF-A1-1	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	N
WLF-A1-2	4/13	69%	0.1-0.1	0.108	0.1	0.134	0.14	0.0001859	0.01363	0.1266	4	mg/L	N	0	0	No	No	Stable	Non-parametric	0.1	0.0		N	0.14	N
WLF-A1-3	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	N
WLF-A1-4	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	N
WLF-A1-5	1/13	92%	0.1-0.1	0.101	0.1	0.104	0.11	0.000007692	0.002774	0.02752	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.11	N
CCR Appendix-III: pH, Field (pH units)																									
WBW-A1-1	13/13	0%	-	4.51	4.52	4.688	4.7	0.01434	0.1198	0.02653	NA	pH units	N	0	0	No	No	Stable	Normal			3.85, 5.17			
WAP-07	14/14	0%	-	5.95	5.955	6.612	6.69	0.195	0.4415	0.07419	NA	pH units	N	0	0	No	No	Stable	Normal	5.7	Y		Y	4.15, 7.79	N
WLF-A1-1	13/13	0%	-	6.32	6.4	6.47	6.47	0.03318	0.1821	0.0288	NA	pH units	N	0	0	No	No	Decreasing	Normal	5.8	Y		Y	6, 6.74	N
WLF-A1-2	13/13	0%	-	5.96	6.25	6.628	6.67	0.4887	0.699	0.1174	NA	pH units	N	0	0	No	No	Decreasing	Normal	5.06	Y		N	3.25, 8.81	N
WLF-A1-3	13/13	0%	-	4.21	4.15	4.508	4.58	0.03189	0.1786	0.04243	NA	pH units	N	0	0	Yes	No	Stable	Normal	4.4	Y		N	3.47, 4.91	N
WLF-A1-4	13/13	0%	-	6.39	6.44	6.668	6.74	0.06154	0.2481	0.03882	NA	pH units	N	0	0	No	No	Stable	Normal	6.2	Y		Y	5.36, 7.45	N
WLF-A1-5	13/13	0%	-	6.91	6.89	7.046	7.07	0.006336	0.0796	0.01152	NA	pH units	N	0	0	No	No	Stable	Normal	6.8	Y		Y	6.6, 7.24	N
CCR Appendix-III: Sulfate (mg/L)																									
WBW-A1-1	13/13	0%	-	125	117	174.6	180	854.2	29.23	0.233	NA	mg/L	N	0	0	No	No	Stable	Normal			261.08			
WAP-07	14/14	0%	-	659	548.5	1343	1440	215100	463.8	0.7033	NA	mg/L	N	0	0	No	No	Stable	Normal	169	Y		N	2416	N
WLF-A1-1	13/13	0%	-	918	978	1064	1070	28630	169.2	0.1843	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	569	Y		Y	1070	N
WLF-A1-2	12/12	0%	-	237	169.5	645.7	1040	77360	278.1	1.172	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	48	Y		N	1040	N
WLF-A1-3	13/13	0%	-	77.2	75.7	159.4	160	1661	40.75	0.5277	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	80	Y		N	160	N
WLF-A1-4	13/13	0%	-	157	127	293.4	366	6918	83.17	0.5312	NA	mg/L	N	0	0	Yes	No	Stable	Normal	65	Y		N	478	N
WLF-A1-5	13/13	0%	-	376	368	526.4	575	8698	93.26	0.2478	NA	mg/L	N	0	0	Yes	No	Stable	Normal	475	Y		Y	722	N
CCR Appendix-III: Total Dissolved Solids (TDS) (mg/L)																									
WBW-A1-1	13/13	0%	-	242	226.2	342	352.5	3225	56.79	0.2346	NA	mg/L	N	0	0	No	No	Stable	Normal			522.34			
WAP-07	14/14	0%	-	1120	864.9	2207	2296	560500	748.7	0.6677	NA	mg/L	N	0	0	No	No	Stable	Normal	365	Y		N	3966	N
WLF-A1-1	13/13	0%	-	1980	2165	2427	2480	175000	418.4	0.211	NA	mg/L	N	0	0	No	No	Decreasing	Normal	1140	Y		Y	3385	N
WLF-A1-2	13/13	0%	-	426	430	741.5	890	60340	245.6	0.5767	NA	mg/L	N	0	0	No	No	Stable	Normal	83	Y		N	1346	N
WLF-A1-3	13/13	0%	-	113	101.2	176.8	241.2	1727	41.56	0.3668	NA	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	108	Y		N	241	N
WLF-A1-4	13/13	0%	-	468	462.5	670.3	755	20410	142.9	0.3055	NA	mg/L	N	0	0	No	No	Stable	Normal	199	Y		N	961	N
WLF-A1-5	13/13	0%	-	1040	1119	1248	1252	32940	181.5	0.1742	NA	mg/L	N	0	0	No	No	Stable	Normal	1129	Y		Y	1753	N

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TECHNICAL MEMORANDUM

December 2, 2021
File No. 132892-014

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

The results of analytical testing performed on samples collected from the groundwater monitoring network were evaluated to determine whether there has been a Statistically Significant Increase (SSI) over background for one or more Appendix III constituent. For the Class 3 Landfill which is in Detection Monitoring in 2021 as a result of a successful Alternate Source Demonstration (ASD), an intrawell statistical analysis was conducted. Intrawell analysis compares each compliance well against a background value composed of its own historical data.

In order to statistically evaluate the analytical results, upper prediction background limit (or UPL), which is a type of prediction interval method was selected to evaluate the data. The prediction interval method is one of the five methods outlined in Part V, Subpart E, Section 258.53.g of R.61-107.19. A prediction interval procedure in which a concentration limits for each constituent is established from the distribution of the background data, with a specified confidence level (e.g., 95 percent). The upper endpoint of a concentration limit is called the upper prediction limit or UPL. Depending on the background data distribution, parametric or non-parametric prediction limits procedures are used to evaluate groundwater monitoring data using this method. Parametric prediction limits utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the prediction limit. If all the background data are non-detect, a maximum reporting limit (RL) may serve as an approximate upper prediction limit. In the case of the Class 3 Landfill the statistical analysis was conducted using both parametric and non-parametric prediction limits.

Following the establishment of background, the current analytical result for each inorganic constituent at each monitoring well was compared to the background value of that constituent to determine whether an SSI has occurred. Table 1 presents the statistical analysis summary for the August 2021 sampling event. As presented in Table 1, SSIs of Appendix III constituents were not identified during the August 2021 sampling event.

Tables:
Table I – Summary of Assessment Monitoring Statistical Evaluation – August 2021

TABLES

Winyah Class III Landfill

Detection Monitoring Statistical Analysis Summary

Prepared: October 26, 2021

																				Inter-well Analysis		Intra-well Analysis	
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*	August 2021 Concentration (mg/L)	Detect?	Upper Prediction Limit (mg/L)	Exceedance above Background at Individual Well (SSI)	Background Limit (Upper Prediction Limit) mg/L	SSI
CCR Appendix-III: Boron, Total (mg/L)																									
WBW-A1-1	12/12	0%	-	0.0392	0.036	0.0615	0.078	0.0001797	0.0134	0.3415	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric			0.078			
WAP-07	11/11	0%	-	0.562	0.64	1.005	1.1	0.1411	0.3757	0.6687	NA	mg/L	N	0	0	No	No	Stable	Normal	0.97	Y		Y	2.04	N
WLF-A1-1	13/13	0%	-	3.34	3.7	4.04	4.1	0.7759	0.8809	0.2638	NA	mg/L	N	0	0	No	No	Decreasing	Non-parametric	1.10	Y		Y	4.10	N
WLF-A1-2	13/13	0%	-	0.493	0.37	1.152	1.8	0.2104	0.4587	0.9302	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.09	Y		Y	1.80	N
WLF-A1-3	13/13	0%	-	0.117	0.086	0.27	0.48	0.01223	0.1106	0.9415	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.07	Y		N	0.48	N
WLF-A1-4	13/13	0%	-	0.412	0.36	0.816	1.2	0.07042	0.2654	0.6436	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.17	Y		Y	1.20	N
WLF-A1-5	13/13	0%	-	2.17	2.1	3	3	0.4006	0.633	0.2918	NA	mg/L	N	0	0	No	No	Stable	Normal	2.20	Y		Y	4.53	N
CCR Appendix-III: Calcium, Total (mg/L)																									
WBW-A1-1	13/13	0%	-	41.1	44.8	61.7	65	273.1	16.53	0.4019	NA	mg/L	N	0	0	Yes	Yes	Decrease	Normal			98.35			
WAP-07	14/14	0%	-	274	180	584.5	602	43970	209.7	0.7641	NA	mg/L	N	0	0	No	No	Stable	Normal	199	Y		Y	1042.12	N
WLF-A1-1	13/13	0%	-	471	487	663.8	746	32090	179.1	0.3802	NA	mg/L	N	0	0	Yes	Yes	Decrease	Normal	382	Y		Y	950.42	N
WLF-A1-2	13/13	0%	-	88.3	102	170.8	187	4533	67.33	0.7624	NA	mg/L	N	0	0	Yes	Yes	Stable	Normal	15.8	Y		N	343.28	N
WLF-A1-3	13/13	0%	-	13.4	9.74	26.18	26.3	69.32	8.326	0.6204	NA	mg/L	N	0	0	Yes	Yes	Increasing	Normal	22.7	Y		N	43.69	N
WLF-A1-4	13/13	0%	-	118	130	196.4	212	3088	55.57	0.4729	NA	mg/L	N	0	0	Yes	Yes	Decreasing	Normal	66.6	Y		N	299.11	N
WLF-A1-5	13/13	0%	-	222	242	298.8	321	6483	80.52	0.3624	NA	mg/L	N	0	0	Yes	Yes	Stable	Normal	301	Y		Y	421.16	N
CCR Appendix-III: Chloride (mg/L)																									
WBW-A1-1	13/13	0%	-	17.5	9.49	50.88	67.5	297.4	17.24	0.9872	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric			67.50			
WAP-07	14/14	0%	-	18	13.4	39.33	66.7	237.4	15.41	0.858	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	62.8	Y		N	66.70	N
WLF-A1-1	13/13	0%	-	144	143	259.8	270	5385	73.38	0.5081	NA	mg/L	N	0	0	No	No	Decreasing	Normal	59.7	Y		N	418.68	N
WLF-A1-2	12/12	0%	-	48.4	27.55	162.1	211	3519	59.32	1.226	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	8.6	Y		N	211.00	N
WLF-A1-3	13/13	0%	-	8.46	4	27.67	59.3	234.4	15.31	1.809	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	3.4	Y		N	59.30	N
WLF-A1-4	13/13	0%	-	10.3	6.96	26.12	41.3	96.95	9.847	0.9558	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	4.4	Y		N	41.30	N
WLF-A1-5	13/13	0%	-	121	107	174.4	175	1469	38.33	0.3157	NA	mg/L	N	0	0	No	No	Stable	Normal	174.0	Y		Y	264.66	N
CCR Appendix-III: Fluoride (mg/L)																									
WBW-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA			0.10			
WAP-07	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	N		N	0.10	N
WLF-A1-1	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	N		N	0.10	N
WLF-A1-2	4/13	69%	0.1-0.1	0.108	0.1	0.134	0.14	0.0001859	0.01363	0.1266	4	mg/L	N	0	0	No	No	Stable	Non-parametric	0.1	N		N	0.14	N
WLF-A1-3	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	N		N	0.10	N
WLF-A1-4	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	N		N	0.10	N
WLF-A1-5	1/13	92%	0.1-0.1	0.101	0.1	0.104	0.11	0.000007692	0.002774	0.02752	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	N		N	0.11	N
CCR Appendix-III: pH, Field (pH units)																									
WBW-A1-1	13/13	0%	-	4.51	4.52	4.688	4.7	0.01434	0.1198	0.02653	NA	pH units	N	0	0	No	No	Stable	Normal			3.85, 5.17			
WAP-07	14/14	0%	-	5.95	5.955	6.612	6.69	0.195	0.4415	0.07419	NA	pH units	N	0	0	No	No	Stable	Normal	5.6	Y		Y	4.21, 7.69	N
WLF-A1-1	13/13	0%	-	6.32	6.4	6.47	6.47	0.03318	0.1821	0.0288	NA	pH units	N	0	0	No	No	Decreasing	Non-parametric	6.1	Y		Y	5.79, 6.47	N
WLF-A1-2	13/13	0%	-	5.96	6.25	6.628	6.67	0.4887	0.699	0.1174	NA	pH units	N	0	0	No	No	Decreasing	Normal	4.45	Y		N	3.14, 8.77	N
WLF-A1-3	13/13	0%	-	4.21	4.15	4.508	4.58	0.03189	0.1786	0.04243	NA	pH units	N	0	0	Yes	No	Stable	Normal	4.3	Y		N	3.49, 4.93	N
WLF-A1-4	13/13	0%	-	6.39	6.44	6.668	6.74	0.06154	0.2481	0.03882	NA	pH units	N	0	0	No	No	Stable	Normal	6.2	Y		Y	5.39, 7.39	N
WLF-A1-5	13/13	0%	-	6.91	6.89	7.046	7.07	0.006336	0.0796	0.01152	NA	pH units	N	0	0	No	No	Stable	Normal	6.8	Y		Y	6.59, 7.23	N
CCR Appendix-III: Sulfate (mg/L)																									
WBW-A1-1	13/13	0%	-	125	117	174.6	180	854.2	29.23	0.233	NA	mg/L	N	0	0	No	No	Stable	Normal			261.08			
WAP-07	14/14	0%	-	659	548.5	1343	1440	215100	463.8	0.7033	NA	mg/L	N	0	0	No	No	Decreasing	Normal	390	Y		Y	2357	N
WLF-A1-1	13/13	0%	-	918	978	1064	1070	28630	169.2	0.1843	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	557	Y		Y	1070	N
WLF-A1-2	12/12	0%	-	237	169.5	645.7	1040	77360	278.1	1.172	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	47	Y		N	1040	N
WLF-A1-3	13/13	0%	-	77.2	75.7	159.4	160	1661	40.75	0.5277	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	78	Y		N	160	N
WLF-A1-4	13/13	0%	-	157	127	293.4	366	6918	83.17	0.5312	NA	mg/L	N	0	0	Yes	No	Stable	Normal	82	Y		N	467	N
WLF-A1-5	13/13	0%	-	376	368	526.4	575	8698	93.26	0.2478	NA	mg/L	N	0	0	Yes	No	Stable	Normal	480	Y		Y	725	N
CCR Appendix-III: Total Dissolved Solids (TDS) (mg/L)																									
WBW-A1-1	13/13	0%	-	242	226.2	342	352.5	3225	56.79	0.2346	NA	mg/L	N	0	0	No	No	Stable	Normal			522.34			
WAP-07	14/14	0%	-	1120	864.9	2207	2296	560500	748.7	0.6677	NA	mg/L	N	0	0	No	No	Stable	Normal	851	Y		Y	3863	N
WLF-A1-1	13/13	0%	-	1980	2165	2427	2480	175000	418.4	0.211	NA	mg/L	N	0	0	No	No	Decreasing	Normal	1379	Y		Y	3546	N
WLF-A1-2	13/13	0%	-	426	430	741.5	890	60340	245.6	0.5767	NA	mg/L	N	0	0	No	No	Stable	Normal	109	Y		N	1344	N
WLF-A1-3	13/13	0%	-	113	101.2	176.8	241.2	1727	41.56	0.3668	NA	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	130	Y		N	241	N
WLF-A1-4	13/13	0%	-	468	462.5	670.3	755	20410	142.9	0.3055	NA	mg/L	N	0	0	No	No	Stable	Normal	271	Y		N	1002	N
WLF-A1-5	13/13	0%	-	1040	1119	1248	1252	32940	181.5	0.1742	NA	mg/L	N	0	0	No	No	Stable	Normal	1310	Y		Y	1720	N

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TECHNICAL MEMORANDUM

July 28, 2021
File No. 132892-014

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data
Statistical Evaluation
Winyah Generating Station
Closed Unit 2 Slurry Pond

Pursuant to Title 40 Code of Federal Regulations (40 CFR) § 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the groundwater analytical results obtained for the February 2021 semi-annual assessment monitoring event for the Closed Unit 2 Slurry Pond at the Winyah Generating Station (WGS). The statistical evaluation discussed in this memorandum was conducted to continue to evaluate the Appendix IV groundwater monitoring constituents for the presence of statistically significant levels (SSLs) above Groundwater Protection Standards (GWPS) consistent with the requirements in 40 CFR § 257.95.

Utilizing interwell evaluations, data from the groundwater sampling events for the downgradient monitoring wells were compared to the GWPS established from the background dataset for the upgradient monitoring well (WBW-A1-1) for detected Appendix IV constituents. GWPS for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level, regional screening level (RSL), or background concentration. The results of the groundwater assessment monitoring statistical evaluation are discussed below and provided in Table I.

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR §257.93(f) (1-4)). The statistical method used for these evaluations, tolerance limit (TL), was certified by Haley & Aldrich, Inc. on January 24, 2020. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above GWPS. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (UTL), and a minimum 95 percent confidence coefficient and 95 percent coverage. The groundwater sampling result from each compliance well was compared to the corresponding GWPS to determine if a SSL existed.

STATISTICAL EVALUATION

An interwell evaluation was used to determine SSLs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well

data. Because the CCR unit has transitioned into assessment monitoring, statistical evaluations were not conducted on Appendix III (detection monitoring) semi-annual assessment monitoring data.

The parametric TL methods were used to complete statistical evaluations of the referenced dataset. The TL procedure is one in which a concentration limit for each constituent is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a tolerance interval is called the UTL. Depending on the data distribution, parametric or non-parametric TL procedures are used to evaluate groundwater monitoring data using this method. Parametric TLs utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the TL. If all the background data are non-detect, a maximum reporting limit may serve as an appropriate UTL.

These statistical evaluations were conducted using the background dataset for all detected Appendix IV constituents using parametric TL. If an Appendix IV constituent concentration from the March 2021 semi-annual sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent was used to evaluate if a SSL was present. The LCL is the lower end of the confident interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset 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 using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample location (WBW-A1-1) were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset was evaluated to determine the method for UTL calculation. Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009,* 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.

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the March 2021 semi-annual assessment monitoring event were compared to their

respective GWPS (Table I). A sample concentration greater than the GWPS is considered to represent a SSL. Based on the results from previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Consistent with previous statistical evaluations SSLs above GWPS were not identified at the Closed Unit 2 Slurry Pond and as a result, the Closed Unit 2 Slurry Pond will remain in assessment monitoring.

Tables:

Table I – Summary of Assessment Monitoring Statistical Evaluation – March 2021

TABLES

Winyah Unit 2 Slurry Pond Landfill

Assessment Monitoring Statistical Analysis Summary

Prepared: July 15, 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 Group	Distribution Well*	Inter-well Analysis				GWPS (Higher of MCL/RSL or Upper Tolerance Limit) mg/L	SSL
																					March/April 2021 Concentration	Detect?	Upper Tolerance Limit (mg/L)	SSI		
CCR Appendix-IV: Antimony, Total (mg/L)																										
WBW-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA	NA	NA			0.025		0.025	
WAP-07	0/11	100%	0.005-0.025	0.00682	0.005	0.015		0.00003636	0.00603	0.8844	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Arsenic, Total (mg/L)																										
WBW-A1-1	0/10	100%	0.005-0.005	0.005	0.005	0.005		1.205E-20	1.098E-10	2.195E-08	0.01	mg/L	N	0	0	NA	NA	NA	NA	NA			0.005		0.010	
WAP-07	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.251E-20	1.118E-10	2.237E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	5/9	44%	0.005-0.005	0.00644	0.00564	0.00922	0.0099	0.000003232	0.001798	0.2792	0.01	mg/L	N	0	0	No	No	Stable		Normal	NS			Y		No
WLF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Barium, Total (mg/L)																										
WBW-A1-1	12/12	0%	-	0.09	0.0853	0.1124	0.114	0.0002141	0.01463	0.1625	2	mg/L	N	0	0	No	No	Stable	Normal	Normal			0.120		2.000	
WAP-07	14/14	0%	-	0.0286	0.02805	0.04187	0.0537	0.000093	0.009644	0.3376	2	mg/L	N	0	0	Yes	No	Stable		Normal	0.015	Y		N		No
WLF-A1-1	11/11	0%	-	0.037	0.0329	0.0493	0.0496	0.00006261	0.007913	0.2141	2	mg/L	N	0	0	No	No	Decreasing		Normal	0.030	Y		N		No
WLF-A1-2	11/11	0%	-	0.0472	0.0507	0.0646	0.0663	0.0002547	0.01596	0.338	2	mg/L	N	0	0	No	No	Stable		Normal	0.038	Y		N		No
WLF-A1-3	11/11	0%	-	0.0352	0.0352	0.04005	0.0405	0.0000195	0.004415	0.1255	2	mg/L	N	0	0	No	No	Stable		Normal	0.024	Y		N		No
WLF-A1-4	11/11	0%	-	0.0434	0.0397	0.0653	0.0792	0.0001784	0.01335	0.3077	2	mg/L	N	0	0	Yes	No	Stable		Non-parametric	0.032	Y		N		No
WLF-A1-5	11/11	0%	-	0.0466	0.0473	0.0518	0.0534	0.00002071	0.004551	0.09771	2	mg/L	N	0	0	No	No	Stable		Normal	0.037	Y		N		No
CCR Appendix-IV: Beryllium, Total (mg/L)																										
WBW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0005		0.004	
WAP-07	0/11	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Cadmium, Total (mg/L)																										
WBW-A1-1	0/10	100%	0.0005-0.002	0.00065	0.0005	0.001325		0.000000225	0.0004743	0.7298	0.005	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.005	
WAP-07	0/14	100%	0.0005-0.002	0.000607	0.0005	0.001025		1.607E-07	0.0004009	0.6603	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	1/9	89%	0.0005-0.0005	0.00053	0.0005	0.000662	0.00077	8.1E-09	0.00009	0.1698	0.005	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Chromium, Total (mg/L)																										
WBW-A1-1	0/10	100%	0.005-0.01	0.0055	0.005	0.00775		0.0000025	0.001581	0.2875	0.1	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.100	
WAP-07	0/14	100%	0.005-0.01	0.00536	0.005	0.00675		0.000001786	0.001336	0.2494	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Cobalt, Total (mg/L)																										
WBW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0005		0.006	
WAP-07	2/11	82%	0.0005-0.0005	0.000507	0.0005	0.00054	0.00058	5.818E-10	0.00002412	0.04755	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	Y		N		No
WLF-A1-1	1/9	89%	0.0005-0.0005	0.0005	0.0005	0.0005	0.0005	0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	2/9	78%	0.0005-0.0005	0.000511	0.0005	0.00056	0.0006	1.111E-09	0.00003333	0.06522	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Fluoride (mg/L)																										
WBW-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA	NA			0.1		4.000	
WAP-07	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-1	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-2	4/13	69%	0.1-0.1	0.108	0.1	0.134	0.14	0.0001859	0.01363	0.1266	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-3	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-4	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-5	1/13	92%	0.1-0.1	0.101	0.1	0.104	0.11	0.000007692	0.002774	0.02752	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No

Winyah Unit 2 Slurry Pond Landfill

Assessment Monitoring Statistical Analysis Summary

Prepared: July 15, 2021

CCR Appendix-IV: Lead, Total (mg/L)																									
WBW-A1-1	0/10	100%	0.001-0.002	0.0011	0.001	0.00155		0.0000001	0.0003162	0.2875	0.015	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.015	
WAP-07	1/14	93%	0.001-0.002	0.00108	0.001	0.001415	0.0011	7.104E-08	0.0002665	0.2471	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Lithium, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.040	
WAP-07	0/11	100%	0.01-0.01	0.01	0.01	0.01		4.337E-20	2.083E-10	2.083E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.01-0.02	0.0111	0.01	0.016		0.00001111	0.003333	0.3	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Mercury, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0002		0.002	
WAP-07	0/11	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Molybdenum, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231	0.1	mg/L	N	0	0	NA	NA	NA	NA	NA			0.05		0.100	
WAP-07	0/11	100%	0.01-0.01	0.01	0.01	0.01		4.337E-20	2.083E-10	2.083E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																									
WBW-A1-1	8/11	27%	4-4	3.78	4	4.95	5.07	1.428	1.195	0.3161	5	pCi/L	Y	1	0	Yes	No	Stable	Normal	Normal			5.9037		5.90	
WAP-07	5/11	55%	4-4	3.79	4	5.01	5.31	1.017	1.008	0.2663	5	pCi/L	Y	1	0	Yes	No	Decrease		Normal	1.660	Y		N		No
WLF-A1-1	6/11	45%	4-4	3.54	4	4.285	4.34	0.9039	0.9508	0.2685	5	pCi/L	N	0	0	Yes	No	Decrease		Non-parametric	2.100	Y		N		No
WLF-A1-2	5/11	55%	4-4	3.6	4	4.965	5.92	1.553	1.246	0.3461	5	pCi/L	Y	1	0	No	No	Stable		Normal	2.230	Y		N		No
WLF-A1-3	10/11	9%	4-4	3.87	4.24	5.205	5.25	2.21	1.487	0.3845	5	pCi/L	Y	2	0	No	No	Stable		Normal	0.965	Y		N		No
WLF-A1-4	5/11	55%	4-4	3.21	4	4.275	4.51	2.302	1.517	0.4732	5	pCi/L	N	0	0	No	No	Decrease		Non-parametric	0.139	Y		N		No
WLF-A1-5	6/11	45%	4-4	3.26	4	4.33	4.37	2.208	1.486	0.4554	5	pCi/L	N	0	0	No	No	Decrease		Non-parametric	1.520	Y		N		No
CCR Appendix-IV: Selenium, Total (mg/L)																									
WBW-A1-1	0/10	100%	0.005-0.01	0.0095	0.01	0.01		0.0000025	0.001581	0.1664	0.05	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.050	
WAP-07	0/14	100%	0.005-0.01	0.00964	0.01	0.01		0.000001786	0.001336	0.1386	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
CCR Appendix-IV: Thallium, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.001		0.002	
WAP-07	0/11	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No

Notes:

NS= Not Sampled

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TECHNICAL MEMORANDUM

November 8, 2021
File No. 132892-014

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data
Statistical Evaluation
Winyah Generating Station
Closed Unit 2 Slurry Pond

Pursuant to Title 40 Code of Federal Regulations (40 CFR) § 257.93 and 257.95 (Rule), this memorandum summarizes the statistical evaluation of the groundwater analytical results obtained for the August 2021 semi-annual assessment monitoring event for the Closed Unit 2 Slurry Pond at the Winyah Generating Station (WGS). The statistical evaluation discussed in this memorandum was conducted to continue to evaluate the Appendix IV groundwater monitoring constituents for the presence of statistically significant levels (SSLs) above Groundwater Protection Standards (GWPS) consistent with the requirements in 40 CFR § 257.95.

Utilizing interwell evaluations, data from the groundwater sampling events for the downgradient monitoring wells were compared to the GWPS established from the background dataset for the upgradient monitoring well (WBW-A1-1) for detected Appendix IV constituents. GWPS for each of the Appendix IV constituents have been set equal to the highest value of the maximum contaminant level, regional screening level (RSL), or background concentration. The results of the groundwater assessment monitoring statistical evaluation are discussed below and provided in Table I.

Statistical Evaluation of Appendix IV Constituents

The Rule provides four specific options for statistical evaluation of groundwater quality data collected at a coal combustion residual (CCR) unit (40 CFR §257.93(f) (1-4)). The statistical method used for these evaluations, tolerance limit (TL), was certified by Haley & Aldrich, Inc. on January 24, 2020. The TL method, as determined applicable for this sampling event, was used to evaluate potential SSLs above GWPS. Background levels for each constituent listed in Appendix IV were computed as upper tolerance limits (UTL), and a minimum 95 percent confidence coefficient and 95 percent coverage. The groundwater sampling result from each compliance well was compared to the corresponding GWPS to determine if an SSL existed.

STATISTICAL EVALUATION

An interwell evaluation was used to determine SSLs. Interwell evaluation compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well

data. Because the CCR unit has transitioned into assessment monitoring, statistical evaluations were not conducted on Appendix III (detection monitoring) semi-annual assessment monitoring data.

The parametric TL methods were used to complete statistical evaluations of the referenced dataset. The TL procedure is one in which a concentration limit for each constituent is established from the distribution of the background data, with a minimum 95 percent confidence level. The upper endpoint of a tolerance interval is called the UTL. Depending on the data distribution, parametric or non-parametric TL procedures are used to evaluate groundwater monitoring data using this method. Parametric TLs utilize normally distributed data or normalized data via a transformation of the sample background data used to construct the limit. If the data are non-normal and a transformation is not indicated, non-parametric procedures (order statistics or bootstrap methods) are used to calculate the TL. If all the background data are non-detect, a maximum reporting limit may serve as an appropriate UTL.

These statistical evaluations were conducted using the background dataset for all detected Appendix IV constituents using parametric TL. If an Appendix IV constituent concentration from the August 2021 semi-annual sampling event was above the GWPS, the lower confidence limit (LCL) for the downgradient well constituent was used to evaluate if an SSL was present. The LCL is the lower end of the confident interval range, which is an estimated concentration range intended to contain the true mean or median of the population from which the sample is drawn. The confidence interval range is designed to locate the true population mean or median with a high degree of statistical confidence, or conversely, with a low probability of error.

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset 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 using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

BACKGROUND DISTRIBUTIONS

The groundwater analytical results for each sampling event from the background sample location (WBW-A1-1) were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset was evaluated to determine the method for UTL calculation. Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009,* 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.

RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

The sample concentrations from the downgradient wells for each of the detected Appendix IV constituents from the August 2021 semi-annual assessment monitoring event were compared to their

respective GWPS (Table I). A sample concentration greater than the GWPS is considered to represent an SSL. Based on the results from previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Consistent with previous statistical evaluations SSLs above GWPS were not identified at the Closed Unit 2 Slurry Pond and as a result the Closed Unit 2 Slurry Pond will remain in assessment monitoring.

Tables:

Table I – Summary of Assessment Monitoring Statistical Evaluation – August 2021

TABLES

Winyah Closed Unit 2 Slurry Pond

Assessment Monitoring Statistical Analysis Summary

Prepared: October 1, 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 Group	Distribution Well*	Inter-well Analysis: August 2021 Concentration (mg/L)	Inter-well Analysis: Detect?	Inter-well Analysis: Upper Tolerance Limit (mg/L)	Inter-well Analysis: SSI	GWPS (Higher of MCL/RSL or Upper Tolerance Limit) mg/L	SSL
CCR Appendix-IV: Antimony, Total (mg/L)																										
WBW-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA	NA	NA			0.025		0.025	
WAP-07	0/10	100%	0.005-0.025	0.007	0.005	0.016		0.00004	0.006325	0.9035	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-2	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-3	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-4	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-5	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005	N		N		No
CCR Appendix-IV: Arsenic, Total (mg/L)																										
WBW-A1-1	0/10	100%	0.005-0.005	0.005	0.005	0.005		1.205E-20	1.098E-10	2.195E-08	0.01	mg/L	N	0	0	NA	NA	NA	NA	NA			0.005		0.010	
WAP-07	0/13	100%	0.005-0.005	0.005	0.005	0.005		1.807E-20	1.344E-10	2.688E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-3	5/9	44%	0.005-0.005	0.00644	0.00564	0.00922	0.0099	0.000003232	0.001798	0.2792	0.01	mg/L	N	0	0						0.005	N		N		No
WLF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
CCR Appendix-IV: Barium, Total (mg/L)																										
WBW-A1-1	11/11	0%	-	0.0911	0.087	0.1125	0.114	0.0002208	0.01486	0.1631	2	mg/L	N	0	0	No	No	Stable	Normal	Normal			0.1188		2.000	
WAP-07	13/13	0%	-	0.0296	0.0302	0.04278	0.0537	0.00008375	0.009151	0.3089	2	mg/L	N	0	0	Yes	No	Stable		Normal	0.040	Y		N		No
WLF-A1-1	10/10	0%	-	0.0377	0.0352	0.04933	0.0496	0.00006312	0.007945	0.2108	2	mg/L	N	0	0	No	No	Decreasing		Normal	0.035	Y		N		No
WLF-A1-2	10/10	0%	-	0.0482	0.0523	0.06477	0.0663	0.0002722	0.0165	0.3426	2	mg/L	N	0	0	No	No	Stable		Normal	0.047	Y		N		No
WLF-A1-3	10/10	0%	-	0.0363	0.03565	0.0401	0.0405	0.000005854	0.00242	0.06664	2	mg/L	N	0	0	No	No	Stable		Normal	0.034	Y		N		No
WLF-A1-4	10/10	0%	-	0.0446	0.03995	0.06669	0.0792	0.0001817	0.01348	0.3024	2	mg/L	N	0	0	Yes	No	Stable		Non-parametric	0.037	Y		N		No
WLF-A1-5	10/10	0%	-	0.0475	0.04765	0.05196	0.0534	0.00001181	0.003436	0.0723	2	mg/L	N	0	0	No	No	Stable		Normal	0.039	Y		N		No
CCR Appendix-IV: Beryllium, Total (mg/L)																										
WBW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0005		0.004	
WAP-07	0/10	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-3	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
CCR Appendix-IV: Cadmium, Total (mg/L)																										
WBW-A1-1	0/10	100%	0.0005-0.002	0.00065	0.0005	0.001325		0.000000225	0.0004743	0.7298	0.005	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.005	
WAP-07	0/13	100%	0.0005-0.002	0.000615	0.0005	0.0011		1.731E-07	0.000416	0.676	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-3	1/9	89%	0.0005-0.0005	0.00053	0.0005	0.000662	0.00077	8.1E-09	0.00009	0.1698	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
CCR Appendix-IV: Chromium, Total (mg/L)																										
WBW-A1-1	0/10	100%	0.005-0.01	0.0055	0.005	0.00775		0.0000025	0.001581	0.2875	0.1	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.100	
WAP-07	0/13	100%	0.005-0.01	0.00538	0.005	0.007		0.000001923	0.001387	0.2575	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-3	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		No
CCR Appendix-IV: Cobalt, Total (mg/L)																										
WBW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0005		0.006	
WAP-07	2/10	80%	0.0005-0.0005	0.000508	0.0005	0.000544	0.00058	6.4E-10	0.0000253	0.0498	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-1	1/9	89%	0.0005-0.0005	0.0005	0.0005	0.0005	0.0005	0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-3	2/9	78%	0.0005-0.0005	0.000511	0.0005	0.00056	0.0006	1.111E-09	0.00003333	0.06522	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		No
CCR Appendix-IV: Fluoride (mg/L)																										
WBW-A1-1	0/11	100%	0.1-0.1	0.1	0.1	0.1		6.939E-18	2.634E-09	2.634E-08	4	mg/L	N	0	0	NA	NA	NA	NA	NA			0.1		4.000	
WAP-07	0/11	100%	0.1-0.1	0.1	0.1	0.1		6.939E-18	2.634E-09	2.634E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-2	4/12	67%	0.1-0.1	0.108	0.1	0.1345	0.14	0.000197	0.01403	0.1296	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-3	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-4	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No
WLF-A1-5	1/12	92%	0.1-0.1	0.101	0.1	0.1045	0.11	0.000008333	0.002887	0.02863	4	mg/L	N	0	0	NA	NA	NA		NA	0.100	N		N		No

Winyah Closed Unit 2 Slurry Pond

Assessment Monitoring Statistical Analysis Summary

Prepared: October 1, 2021

CCR Appendix-IV: Lead, Total (mg/L)																									
WBW-A1-1	0/10	100%	0.001-0.002	0.0011	0.001	0.00155		0.0000001	0.0003162	0.2875	0.015	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.015	
WAP-07	1/13	92%	0.001-0.002	0.00108	0.001	0.00146	0.0011	7.641E-08	0.0002764	0.2549	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
CCR Appendix-IV: Lithium, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.040	
WAP-07	0/10	100%	0.01-0.01	0.01	0.01	0.01		4.819E-20	2.195E-10	2.195E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-2	0/9	100%	0.01-0.02	0.0111	0.01	0.016		0.00001111	0.003333	0.3	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
CCR Appendix-IV: Mercury, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0002		0.002	
WAP-07	0/10	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-2	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-3	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-4	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-5	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
CCR Appendix-IV: Molybdenum, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231	0.1	mg/L	N	0	0	NA	NA	NA	NA	NA			0.05		0.100	
WAP-07	0/10	100%	0.01-0.01	0.01	0.01	0.01		4.819E-20	2.195E-10	2.195E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																									
WBW-A1-1	7/10	30%	4-4	4.03	4.08	4.962	5.07	0.7978	0.8932	0.2214	5	pCi/L	Y	1	0	Yes	No	Stable	Normal	Normal			5.9037		5.90	
WAP-07	4/10	60%	4-4	4	4	5.04	5.31	0.5769	0.7595	0.1899	5	pCi/L	Y	1	0						4.820	Y		N		No
WLF-A1-1	5/10	50%	4-4	3.69	4	4.291	4.34	0.7506	0.8664	0.2351	5	pCi/L	N	0	0						1.610	Y		N		No
WLF-A1-2	4/10	60%	4-4	3.74	4	5.061	5.92	1.496	1.223	0.3273	5	pCi/L	Y	1	0						3.680	Y		N		No
WLF-A1-3	9/10	10%	4-4	4.16	4.285	5.209	5.25	1.427	1.194	0.2873	5	pCi/L	Y	2	0						3.170	Y		N		No
WLF-A1-4	4/10	60%	4-4	3.51	4	4.299	4.51	1.408	1.187	0.3378	5	pCi/L	N	0	0						2.620	Y		N		No
WLF-A1-5	5/10	50%	4-4	3.44	4	4.334	4.37	2.082	1.443	0.4198	5	pCi/L	N	0	0						1.910	Y		N		No
CCR Appendix-IV: Selenium, Total (mg/L)																									
WBW-A1-1	0/10	100%	0.005-0.01	0.0095	0.01	0.01		0.0000025	0.001581	0.1664	0.05	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.050	
WAP-07	0/13	100%	0.005-0.01	0.00962	0.01	0.01		0.000001923	0.001387	0.1442	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
CCR Appendix-IV: Thallium, Total (mg/L)																									
WBW-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.001		0.002	
WAP-07	0/10	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No

Appendix B – Laboratory Analytical Reports

santee cooper

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 # AE96385 **Location:** GW Well WAP-7 **Date:** 02/24/2021 **Sample Collector:** DEW/ATH

Loc. Code WAP-7 **Time:** 11:02

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Barium	14.8	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Calcium	89.9	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Iron	164	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	03/08/2021	R&C	EPA 7470
Lithium	<10	ug/L	03/04/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	03/04/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.647	pCi/L	03/04/2021	GEL	EPA 903.1 Mod
Radium 228	1.01	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.66	pCi/L	03/24/2021	GEL	EPA 903.1 Mod
Chloride	8.2	mg/L	02/26/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/26/2021	KCWELLS	EPA 300.0
Sulfate	169	mg/L	02/26/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	365.0	mg/L	03/01/2021	KCWELLS	SM 2540C
pH	5.70	SU	02/24/2021	DEW/ATH	
Spec. Cond.	423	uS	02/24/2021	DEW/ATH	
Dissolved Oxygen	3.08	ppm	02/24/2021	DEW/ATH	
Oxidation Reduction Potential	136	mv	02/24/2021	DEW/ATH	SM2580
Temp	19.63	C	02/24/2021	DEW/ATH	
Turbidity	6.00	NTU	02/24/2021	DEW/ATH	
Depth	9.41	Feet	02/24/2021	DEW/ATH	
Elevation	20.53	Feet	03/08/2021	DEWEST	
Aluminum	0.19	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Magnesium	1.6	mg/L	03/09/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	03/09/2021	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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09056 **Location:** GW Well WAP-7 **Date:** 08/10/2021 **Sample Collector:** BSB/MDG

Loc. Code WAP-7 **Time:** 15:00

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Barium	40.4	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Boron	970	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	199	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Iron	<50.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Radium 226	1.12	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	3.70	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	4.82	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	62.8	mg/L	08/17/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/17/2021	KCWELLS	EPA 300.0
Sulfate	390	mg/L	09/17/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	851.2	mg/L	08/18/2021	SJBROWN	SM 2540C
pH	5.62	SU	08/10/2021	MDG/BSB	
Spec. Cond.	946	uS	08/10/2021	MDG/BSB	
Dissolved Oxygen	1.41	ppm	08/10/2021	MDG/BSB	
Oxidation Reduction Potential	179	mv	08/10/2021	MDG/BSB	SM2580
Temp	29.47	C	08/10/2021	MDG/BSB	
Turbidity	0	NTU	08/10/2021	MDG/BSB	
Depth	9.24	Feet	08/10/2021	MDG/BSB	
Elevation	20.70	Feet	08/18/2021	MDGOINGS	
Aluminum	0.10	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Magnesium	3.8	mg/L	08/25/2021	SJHATCHE	EPA 6020B
Nickel	<0.50	ug/L	08/25/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	08/24/2021	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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96413 **Location:** WGS well WBW A1 **Date:** 03/01/2021 **Sample Collector:** DEW/ML

Loc. Code WBW-A1-1 **Time:** 10:05

Analysis	Result	Units	Test Date	Analyst	Method
Barium	78.4	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	48.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	26.0	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.972	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.271	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.24	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	39.8	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	81.8	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	190.0	mg/L	03/05/2021	KCWELLS	SM 2540C
pH	4.60	SU	03/01/2021	DEW/ML	
Spec. Cond.	288	uS	03/01/2021	DEW/ML	
Dissolved Oxygen	0.580	ppm	03/01/2021	DEW/ML	
Oxidation Reduction Potential	62.0	mv	03/01/2021	DEW/ML	SM2580
Temp	22.11	C	03/01/2021	DEW/ML	
Turbidity	0	NTU	03/01/2021	DEW/ML	
Depth	5.77	Feet	03/01/2021	DEW/ML	
Elevation	22.37	Feet	03/08/2021	DEWEST	

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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09084 **Location:** WGS well WBW A1 **Date:** 08/05/2021 **Sample Collector:** BRT/BWW

Loc. Code WBW-A1-1 **Time:** 10:30

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	81.1	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	42	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	44.7	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	4390	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/19/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	1.40	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	0.339	pCi/L	09/07/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.74	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	9.75	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	126	mg/L	08/26/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	213.8	mg/L	08/14/2021	SJBROWN	SM 2540C
pH	4.35	SU	08/05/2021	BRT/BM	
Spec. Cond.	287	uS	08/05/2021	BRT/BM	
Dissolved Oxygen	0.610	ppm	08/05/2021	BRT/BM	
Oxidation Reduction Potential	67.0	mv	08/05/2021	BRT/BM	SM2580
Temp	22.84	C	08/05/2021	BRT/BM	
Turbidity	4.60	NTU	08/05/2021	BRT/BM	
Depth	6.08	Feet	08/05/2021	BRT/BM	
Elevation	22.06	Feet	08/18/2021	MDGOINGS	
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96415 **Location:** WGS well WLF A1-2 **Date:** 03/01/2021 **Sample Collector:** DEW/ML

Loc. Code WLF-A1-2 **Time:** 13:48

Analysis	Result	Units	Test Date	Analyst	Method
Barium	37.8	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	120.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	21.0	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.908	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	1.32	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.23	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	12.6	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	47.6	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	82.50	mg/L	03/05/2021	KCWELLS	SM 2540C
pH	5.06	SU	03/01/2021	DEW/ML	
Spec. Cond.	150	uS	03/01/2021	DEW/ML	
Dissolved Oxygen	0.490	ppm	03/01/2021	DEW/ML	
Oxidation Reduction Potential	83.0	mv	03/01/2021	DEW/ML	SM2580
Temp	18.26	C	03/01/2021	DEW/ML	
Turbidity	0	NTU	03/01/2021	DEW/ML	
Depth	3.91	Feet	03/01/2021	DEW/ML	
Elevation	25.30	Feet	03/08/2021	DEWEST	

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

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09086 **Location:** WGS well WLF A1-2 **Date:** 08/11/2021 **Sample Collector:** MDG/CWS

Loc. Code WLF-A1-2 **Time:** 13:35

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	47.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	87	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	15.8	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	922	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	1.26	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	2.43	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.68	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	8.57	mg/L	08/17/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/17/2021	KCWELLS	EPA 300.0
Sulfate	47.4	mg/L	08/17/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	108.8	mg/L	08/18/2021	SJBROWN	SM 2540C
pH	4.45	SU	08/11/2021	MDG/CS	
Spec. Cond.	129	uS	08/11/2021	MDG/CS	
Dissolved Oxygen	0.320	ppm	08/11/2021	MDG/CS	
Oxidation Reduction Potential	-28.0	mv	08/11/2021	MDG/CS	SM2580
Temp	27.61	C	08/11/2021	MDG/CS	
Turbidity	0	NTU	08/11/2021	MDG/CS	
Depth	5.71	Feet	08/11/2021	MDG/CS	
Elevation	23.50	Feet	08/18/2021	MDGOINGS	
Nickel	0.52	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96416 **Location:** WGS well WLF A1-3 **Date:** 03/01/2021 **Sample Collector:** DEW/ML

Loc. Code WLF-A1-3 **Time:** 12:31

Analysis	Result	Units	Test Date	Analyst	Method
Barium	23.8	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	59.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	22.3	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.694	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.271	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.965	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	3.05	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	79.6	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	107.5	mg/L	03/05/2021	KCWELLS	SM 2540C
pH	4.42	SU	03/01/2021	DEW/ML	
Spec. Cond.	173	uS	03/01/2021	DEW/ML	
Dissolved Oxygen	0.600	ppm	03/01/2021	DEW/ML	
Oxidation Reduction Potential	96.0	mv	03/01/2021	DEW/ML	SM2580
Temp	20.49	C	03/01/2021	DEW/ML	
Turbidity	0	NTU	03/01/2021	DEW/ML	
Depth	4.13	Feet	03/01/2021	DEW/ML	
Elevation	24.18	Feet	03/08/2021	DEWEST	

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

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09087 **Location:** WGS well WLF A1-3 **Date:** 08/11/2021 **Sample Collector:** MDG/CWS

Loc. Code WLF-A1-3 **Time:** 12:05

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	33.9	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	70	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	22.7	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	624	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	1.30	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	1.87	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.17	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	3.43	mg/L	08/17/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/17/2021	KCWELLS	EPA 300.0
Sulfate	77.6	mg/L	08/17/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	130.0	mg/L	08/18/2021	SJBROWN	SM 2540C
pH	4.29	SU	08/11/2021	MDG/CS	
Spec. Cond.	165	uS	08/11/2021	MDG/CS	
Dissolved Oxygen	0.370	ppm	08/11/2021	MDG/CS	
Oxidation Reduction Potential	2.00	mv	08/11/2021	MDG/CS	SM2580
Temp	28.68	C	08/11/2021	MDG/CS	
Turbidity	0	NTU	08/11/2021	MDG/CS	
Depth	5.38	Feet	08/11/2021	MDG/CS	
Elevation	22.93	Feet	08/18/2021	MDGOINGS	
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96417 **Location:** WGS well WLF A1-4 **Date:** 03/01/2021 **Sample Collector:** DEW/ML

Loc. Code WLF-A1-4 **Time:** 11:10

Analysis	Result	Units	Test Date	Analyst	Method
Barium	31.8	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	140.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	67.2	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.139	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	-0.953	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.139	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	4.86	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	65.2	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	198.8	mg/L	03/05/2021	KCWELLS	SM 2540C
pH	6.22	SU	03/01/2021	DEW/ML	
Spec. Cond.	278	uS	03/01/2021	DEW/ML	
Dissolved Oxygen	0.520	ppm	03/01/2021	DEW/ML	
Oxidation Reduction Potential	27.0	mv	03/01/2021	DEW/ML	SM2580
Temp	20.77	C	03/01/2021	DEW/ML	
Turbidity	0	NTU	03/01/2021	DEW/ML	
Depth	3.98	Feet	03/01/2021	DEW/ML	
Elevation	24.26	Feet	03/08/2021	DEWEST	

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

Linda Williams - Supervisor Analytical Services

santee cooper

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96418 **Location:** WGS well WLF A1-4 **Date:** 03/01/2021 **Sample Collector:** DEW/ML

Loc. Code WLF-A1-4 Duplicate **Time:** 11:15

Analysis	Result	Units	Test Date	Analyst	Method
Barium	30.5	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	150.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	63.3	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.518	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	1.63	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.15	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	4.87	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	65.7	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	252.5	mg/L	03/05/2021	KCWELLS	SM 2540C

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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09088 **Location:** WGS well WLF A1-4 **Date:** 08/11/2021 **Sample Collector:** MDG/CWS

Loc. Code WLF-A1-4 **Time:** 11:07

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	37.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	170	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	66.6	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	2380	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.626	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	2.00	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.62	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	4.39	mg/L	08/17/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/17/2021	KCWELLS	EPA 300.0
Sulfate	82.4	mg/L	08/17/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	271.2	mg/L	08/18/2021	SJBROWN	SM 2540C
pH	6.15	SU	08/11/2021	MDG/CS	
Spec. Cond.	315	uS	08/11/2021	MDG/CS	
Dissolved Oxygen	0.540	ppm	08/11/2021	MDG/CS	
Oxidation Reduction Potential	-79.0	mv	08/11/2021	MDG/CS	SM2580
Temp	24.32	C	08/11/2021	MDG/CS	
Turbidity	0	NTU	08/11/2021	MDG/CS	
Depth	5.42	Feet	08/11/2021	MDG/CS	
Elevation	22.82	Feet	08/18/2021	MDGOINGS	
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09089 **Location:** WGS well WLF A1-4 **Date:** 08/11/2021 **Sample Collector:** MDG/CWS

Loc. Code WLF-A1-4 DUP **Time:** 11:12

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	37.9	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	180	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	69.2	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	2330	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.205	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	1.40	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.60	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	4.44	mg/L	08/17/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/17/2021	KCWELLS	EPA 300.0
Sulfate	83.6	mg/L	08/17/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	278.8	mg/L	08/18/2021	SJBROWN	SM 2540C
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96414 **Location:** WGS well WLF A1-1 **Date:** 03/02/2021 **Sample Collector:** DEW/TG/DJ

Loc. Code WLF-A1-1 **Time:** 12:53

Analysis	Result	Units	Test Date	Analyst	Method
Barium	29.7	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	1100.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	321	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.624	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	1.48	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.10	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	24.9	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	569	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1140	mg/L	03/09/2021	KCWELLS	SM 2540C
pH	5.79	SU	03/02/2021	DEW/DJ/TG	
Spec. Cond.	1420	uS	03/02/2021	DEW/DJ/TG	
Dissolved Oxygen	0.730	ppm	03/02/2021	DEW/DJ/TG	
Oxidation Reduction Potential	67.0	mv	03/02/2021	DEW/DJ/TG	SM2580
Temp	18.25	C	03/02/2021	DEW/DJ/TG	
Turbidity	0.500	NTU	03/02/2021	DEW/DJ/TG	
Depth	16.75	Feet	03/02/2021	DEW/DJ/TG	
Elevation	24.60	Feet	03/08/2021	DEWEST	

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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09085 **Location:** WGS well WLF A1-1 **Date:** 08/05/2021 **Sample Collector:** BRT/BWW

Loc. Code WLF-A1-1 **Time:** 11:38

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	35.4	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	1100	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	382	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	6010	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.479	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	1.13	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.61	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	59.7	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	557	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1379	mg/L	08/14/2021	SJBROWN	SM 2540C
pH	6.14	SU	08/05/2021	BRT/BM	
Spec. Cond.	1700	uS	08/05/2021	BRT/BM	
Dissolved Oxygen	0.410	ppm	08/05/2021	BRT/BM	
Oxidation Reduction Potential	-44.0	mv	08/05/2021	BRT/BM	SM2580
Temp	22.84	C	08/05/2021	BRT/BM	
Turbidity	0.400	NTU	08/05/2021	BRT/BM	
Depth	17.26	Feet	08/05/2021	BRT/BM	
Elevation	24.09	Feet	08/18/2021	MDGOINGS	
Nickel	2.1	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96419 **Location:** WGS well WLF A1-5 **Date:** 03/02/2021 **Sample Collector:** DEW/TG/DJ

Loc. Code WLF-A1-5 **Time:** 14:01

Analysis	Result	Units	Test Date	Analyst	Method
Barium	37.0	ug/L	04/21/2021	SJHATCHE	EPA 6020B
Boron	1300.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	284	mg/L	04/21/2021	SJHATCHE	EPA 6020B
Radium 226	0.970	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.552	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.52	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	99.9	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	475	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1129	mg/L	03/09/2021	KCWELLS	SM 2540C
pH	6.81	SU	03/02/2021	DEW/DJ/TG	
Spec. Cond.	1460	uS	03/02/2021	DEW/DJ/TG	
Dissolved Oxygen	0.550	ppm	03/02/2021	DEW/DJ/TG	
Oxidation Reduction Potential	42.0	mv	03/02/2021	DEW/DJ/TG	SM2580
Temp	17.41	C	03/02/2021	DEW/DJ/TG	
Turbidity	0.500	NTU	03/02/2021	DEW/DJ/TG	
Depth	16.22	Feet	03/02/2021	DEW/DJ/TG	
Elevation	21.42	Feet	03/08/2021	DEWEST	

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

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09090 **Location:** WGS well WLF A1-5 **Date:** 08/05/2021 **Sample Collector:** BRT/BWW

Loc. Code WLF-A1-5 **Time:** 12:46

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	39.3	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	2200	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	301	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	3000	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/19/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.929	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Radium 228	0.981	pCi/L	09/07/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.91	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	174	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	480	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1310	mg/L	08/14/2021	SJBROWN	SM 2540C
pH	6.82	SU	08/05/2021	BRT/BM	
Spec. Cond.	1600	uS	08/05/2021	BRT/BM	
Dissolved Oxygen	0.440	ppm	08/05/2021	BRT/BM	
Oxidation Reduction Potential	-126	mv	08/05/2021	BRT/BM	SM2580
Temp	23.08	C	08/05/2021	BRT/BM	
Turbidity	0	NTU	08/05/2021	BRT/BM	
Depth	16.19	Feet	08/05/2021	BRT/BM	
Elevation	21.45	Feet	08/18/2021	MDGOINGS	
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	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

Linda Williams - Supervisor Analytical Services

Rogers & Callcott ENVIRONMENTAL

Laboratory Services

Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	**Project:** **Work Order:** **Received:**	Ground Water 1030283 03/03/2021 13:20

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 March 03, 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, (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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com
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Rogers & Callcott ENVIRONMENTAL

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

Certificate of Analysis

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

Project: Ground Water
Work Order: 1030283
Received: 03/03/2021 13:20

Sample Number	Sample Description	Matrix	Sampled	Type
1030283-01	AE96387 WAP-9	Ground Water	02/23/21 12:49	Grab
1030283-02	AE96382 WAP-4	Ground Water	02/23/21 14:28	Grab
1030283-03	AE96385 WAP-7	Ground Water	02/24/21 11:02	Grab
1030283-04	AE96381 WAP-3	Ground Water	02/24/21 13:18	Grab
1030283-05	AE96398 WAP-14C	Ground Water	02/25/21 12:20	Grab
1030283-06	AE96397 WAP-14B	Ground Water	02/25/21 13:56	Grab
1030283-07	AE96396 WAP-14C	Ground Water	02/25/21 14:46	Grab
1030283-08	AE96394 WAP-14	Ground Water	02/25/21 11:10	Grab
1030283-09	AE96395 WAP-14DUP	Ground Water	02/25/21 11:15	Grab
1030283-10	AE96399 WAP-15	Ground Water	02/25/21 15:40	Grab

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Sample Data

Sample Number 1030283-01
Sample Description AE96387 WAP-9 collected on 02/23/21 12:49

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:10	EPA 7470A		MLR	B1C0396
Lithium	**69**	10	ug/L	1.00	03/04/21 17:43	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 17:43	EPA 6010D		MLR	B1C0267

Sample Number 1030283-02
Sample Description AE96382 WAP-4 collected on 02/23/21 14:28

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:12	EPA 7470A		MLR	B1C0396
Lithium	ND	10	ug/L	1.00	03/04/21 17:47	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 17:47	EPA 6010D		MLR	B1C0267

Sample Number 1030283-03
Sample Description AE96385 WAP-7 collected on 02/24/21 11:02

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:15	EPA 7470A		MLR	B1C0396
Lithium	ND	10	ug/L	1.00	03/04/21 17:51	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 17:51	EPA 6010D		MLR	B1C0267

Sample Number 1030283-04
Sample Description AE96381 WAP-3 collected on 02/24/21 13:18

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:26	EPA 7470A		MLR	B1C0396
Lithium	ND	10	ug/L	1.00	03/04/21 17:55	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 17:55	EPA 6010D		MLR	B1C0267

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Sample Number 1030283-05
Sample Description AE96398 WAP-14C collected on 02/25/21 12:20

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	03/04/21 17:20	EPA 6010D		MLR	B1C0267

Sample Number 1030283-06
Sample Description AE96397 WAP-14B collected on 02/25/21 13:56

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**12**	10	ug/L	1.00	03/04/21 17:59	EPA 6010D		MLR	B1C0267

Sample Number 1030283-07
Sample Description AE96396 WAP-14C collected on 02/25/21 14:46

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**36**	10	ug/L	1.00	03/04/21 18:03	EPA 6010D		MLR	B1C0267

Sample Number 1030283-08
Sample Description AE96394 WAP-14 collected on 02/25/21 11:10

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:29	EPA 7470A		MLR	B1C0396
Boron	**6000**	150	ug/L	10.0	03/04/21 18:22	EPA 6010D		MLR	B1C0267
Lithium	ND	10	ug/L	1.00	03/04/21 18:37	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 18:37	EPA 6010D		MLR	B1C0267

Sample Number 1030283-09
Sample Description AE96395 WAP-14DUP collected on 02/25/21 11:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:32	EPA 7470A		MLR	B1C0396
Boron	**6200**	150	ug/L	10.0	03/04/21 18:26	EPA 6010D		MLR	B1C0267
Lithium	ND	10	ug/L	1.00	03/04/21 18:41	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 18:41	EPA 6010D		MLR	B1C0267

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Sample Number 1030283-10
Sample Description AE96399 WAP-15 collected on 02/25/21 15:40

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/08/21 13:35	EPA 7470A		MLR	B1C0396
Boron	**3400**	15	ug/L	1.00	03/04/21 18:45	EPA 6010D		MLR	B1C0267
Lithium	**23**	10	ug/L	1.00	03/04/21 18:45	EPA 6010D		MLR	B1C0267
Molybdenum	ND	10	ug/L	1.00	03/04/21 18:45	EPA 6010D		MLR	B1C0267

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0267 - EPA 200.7										
Blank (B1C0267-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1C0267-BS1)										
Boron	240	15	ug/L	250		96	80-120			
Lithium	266	10	ug/L	250		106	80-120			
Molybdenum	220	10	ug/L	250		89	80-120			
LCS Dup (B1C0267-BSD1)										
Boron	250	15	ug/L	250		100	80-120	5	20	
Lithium	264	10	ug/L	250		106	80-120	0.7	20	
Molybdenum	230	10	ug/L	250		94	80-120	5	20	
Matrix Spike (B1C0267-MS1)	**Source: 1030283-05**									
Boron	680	15	ug/L	250	400	109	75-125			
Lithium	286	10	ug/L	250	ND	112	75-125			
Molybdenum	230	10	ug/L	250	ND	94	75-125			
Matrix Spike Dup (B1C0267-MSD1)	**Source: 1030283-05**									
Boron	680	15	ug/L	250	400	110	75-125	0.6	20	
Lithium	283	10	ug/L	250	ND	110	75-125	1	20	
Molybdenum	240	10	ug/L	250	ND	98	75-125	4	20	
Post Spike (B1C0267-PS1)	**Source: 1030283-05**									
Boron	0.91		mg/L	0.500	ND	101	75-125			
Lithium	0.531		mg/L	0.500	ND	105	75-125			
Molybdenum	0.47		mg/L	0.500	ND	94	75-125			
Batch B1C0396 - EPA 7470A										
Blank (B1C0396-BLK1)										
Mercury	ND	0.20	ug/L							

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0396 - EPA 7470A										
LCS (B1C0396-BS1)										
Mercury	5.0	0.20	ug/L	5.00		100	80-120			
LCS Dup (B1C0396-BSD1)										
Mercury	5.0	0.20	ug/L	5.00		101	80-120	1	20	
Matrix Spike (B1C0396-MS1)	**Source: 1030283-03**									
Mercury	4.8	0.20	ug/L	5.00	ND	97	75-125			
Matrix Spike Dup (B1C0396-MSD1)	**Source: 1030283-03**									
Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125	3	20	
Post Spike (B1C0396-PS1)	**Source: 1030283-03**									
Mercury	4.0		ug/L	4.00	ND	99	80-120			

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Sample Preparation Data

Parameter	Batch	Sample ID	Prepared	Analyst
EPA 200.7 Metal Digestion				
EPA 200.7	B1C0267	1030283-01	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-02	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-03	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-04	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-05	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-06	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-07	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-08	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-09	03/04/2021 15:59	MTH
EPA 200.7	B1C0267	1030283-10	03/04/2021 15:59	MTH
EPA 7470A Mercury Digestion				
EPA 7470A	B1C0396	1030283-01	03/05/2021 13:44	ELN
EPA 7470A	B1C0396	1030283-02	03/05/2021 13:44	ELN
EPA 7470A	B1C0396	1030283-03	03/05/2021 13:44	ELN
EPA 7470A	B1C0396	1030283-04	03/05/2021 13:44	ELN
EPA 7470A	B1C0396	1030283-08	03/05/2021 13:44	ELN
EPA 7470A	B1C0396	1030283-09	03/05/2021 13:44	ELN
EPA 7470A	B1C0396	1030283-10	03/05/2021 13:44	ELN

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030283
Moncks Corner, SC 29461		Reported:	03/11/21 09:01

Data Qualifiers and Definitions

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

Contract Lab Info: R/C Contract Lab Due Date (Lab Only): 3 / 10 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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

1030283

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	Li	Mo	Hg
AE96387	WAP-9	2/23/21	1249	DEW/MDG	1	P	G	GW	2	-01		X	X	X
AE96382	WAP-4	↓	1428	↓	↓	↓	↓	↓	↓	-02		X	X	X
AE96385	WAP-7	2/24/21	1102	DEW/ATH						-03		X	X	X
AE96381	WAP-3	↓	1318	↓	↓	↓	↓	↓	↓	-04		X	X	X
AE96398	WAP-14C	2/25/21	1220	DEW/MDG						-05		X		
AE96397	WAP-14B		1356							-06		X		
AE96396	WAP-14C	↓	1446	↓	↓	↓	↓	↓	↓	-07		X		
AE96394	WAP-14	2/25/21	1110	DEW/MFE						-08	X	X	X	X
AE96395	WAP-14 DUP		1115							-09	X	X	X	X
AE96399	WAP-15	↓	1540	↓	↓	↓	↓	↓	↓	-10	X	X	X	X

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	35594	3/2/21	1500	FEDEX			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FEDEX				[signature]		3/3/21	1320
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 10.0 Initial: [initials]
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
TOC
DOC
TP TPO4
NH_3-N
F
Cl
NO2
Br
NO3
SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum *(all below)*
AIM
TOC
Total metals
Soluble Metals
Purity ($CaSO_4$)
% Moisture
Sulfites
pH
Chlorides
Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
LOI
% Carbon
Mineral Analysis
Sieve
☐ % Moisture

NPDES
Oil & Grease
As
TSS

Oil
Trans. Oil Qual.
%Moisture
Color
Acidity
Dielectric Strength
IFT
Dissolved Gases
Used Oil
Flashpoint
Metals in oil
Hg
Cl
OTHER

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Rogers & Callcott ENVIRONMENTAL

Sample Receipt Verification

Client: Santee Cooper | Date Received: 03/03/21 | Work Order: 1030283

Carrier Name: Client (FedEx) UPS US Mail Courier Field Services Other: _____

Tracking Number: 816240672657

Receipt Criteria	Yes	No	NA	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 (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_3PO_4	
H_2SO_4		NaOH	
HNO_3		Other	

Comments:

Were non-conformance issues noted at sample receipt? Yes or (No)

Non-Conformance issue other than noted above:

Rogers & Callcott ENVIRONMENTAL

Laboratory Services

Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	**Project:** **Work Order:** **Received:**	Ground Water 1030536 03/09/2021 12:55

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 March 09, 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, (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

PO Box 5655 | Greenville, SC 29606 | 426 Fairforest Way | Greenville, SC 29607 | main 864.232.1556 | fax 864.232.6140 rogersandcallcott.com
an employee-owned company

Rogers & Callcott ENVIRONMENTAL

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

Certificate of Analysis

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

Project: Ground Water
Work Order: 1030536
Received: 03/09/2021 12:55

Sample Number	Sample Description	Matrix	Sampled	Type
1030536-01	AE96413 WBW-A1-1	Ground Water	03/01/21 10:05	Grab
1030536-02	AE96417 WLF-A1-4	Ground Water	03/01/21 11:10	Grab
1030536-03	AE96418 WLF-A1-4 dup	Ground Water	03/01/21 11:15	Grab
1030536-04	AE96416 WLF-A1-3	Ground Water	03/01/21 12:31	Grab
1030536-05	AE96415 WLF-A1-2	Ground Water	03/01/21 13:48	Grab
1030536-06	AE96401 WAP-17	Ground Water	03/02/21 10:48	Grab
1030536-07	AE96402 WAP-17 DUP	Ground Water	03/02/21 10:53	Grab
1030536-08	AE96414 WLF-A1-1	Ground Water	03/02/21 12:53	Grab
1030536-09	AE96419 WLF-A1-5	Ground Water	03/02/21 14:01	Grab
1030536-10	AE96409 WAP-24	Ground Water	03/02/21 11:28	Grab
1030536-11	AE96411 WAP-26	Ground Water	03/02/21 15:13	Grab
1030536-12	AE96410 WAP-25	Ground Water	03/04/21 10:36	Grab
1030536-13	AE96393 WAP-13	Ground Water	03/04/21 11:55	Grab
1030536-14	AE96391 WAP-12	Ground Water	03/04/21 13:09	Grab
1030536-15	AE96392 WAP-12 DUP	Ground Water	03/04/21 13:14	Grab
1030536-16	AE96400 WAP-16	Ground Water	03/04/21 14:27	Grab

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Sample Data

Sample Number 1030536-01
Sample Description AE96413 WBW-A1-1 collected on 03/01/21 10:05

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**48**	15	ug/L	1.00	03/15/21 14:30	EPA 6010D		MLR	B1C0515

Sample Number 1030536-02
Sample Description AE96417 WLF-A1-4 collected on 03/01/21 11:10

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**140**	15	ug/L	1.00	03/15/21 15:16	EPA 6010D		MLR	B1C0515

Sample Number 1030536-03
Sample Description AE96418 WLF-A1-4 dup collected on 03/01/21 11:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**150**	15	ug/L	1.00	03/15/21 15:20	EPA 6010D		MLR	B1C0515

Sample Number 1030536-04
Sample Description AE96416 WLF-A1-3 collected on 03/01/21 12:31

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**59**	15	ug/L	1.00	03/15/21 15:24	EPA 6010D		MLR	B1C0515

Sample Number 1030536-05
Sample Description AE96415 WLF-A1-2 collected on 03/01/21 13:48

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**120**	15	ug/L	1.00	03/15/21 15:28	EPA 6010D		MLR	B1C0515

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Sample Number 1030536-06
Sample Description AE96401 WAP-17 collected on 03/02/21 10:48

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:27	EPA 7470A		MLR	B1C0646
Boron	**2800**	15	ug/L	1.00	03/15/21 15:49	EPA 6010D		MLR	B1C0515
Lithium	**160**	10	ug/L	1.00	03/11/21 19:11	EPA 6010D		MLR	B1C0515
Molybdenum	**110**	10	ug/L	1.00	03/11/21 19:11	EPA 6010D		MLR	B1C0515

Sample Number 1030536-07
Sample Description AE96402 WAP-17 DUP collected on 03/02/21 10:53

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:29	EPA 7470A		MLR	B1C0646
Boron	**2900**	15	ug/L	1.00	03/15/21 15:53	EPA 6010D		MLR	B1C0515
Lithium	**150**	10	ug/L	1.00	03/11/21 19:15	EPA 6010D		MLR	B1C0515
Molybdenum	**110**	10	ug/L	1.00	03/11/21 19:15	EPA 6010D		MLR	B1C0515

Sample Number 1030536-08
Sample Description AE96414 WLF-A1-1 collected on 03/02/21 12:53

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**1100**	15	ug/L	1.00	03/15/21 15:57	EPA 6010D		MLR	B1C0515

Sample Number 1030536-09
Sample Description AE96419 WLF-A1-5 collected on 03/02/21 14:01

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**1300**	15	ug/L	1.00	03/15/21 16:01	EPA 6010D		MLR	B1C0515

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Sample Number 1030536-10
Sample Description AE96409 WAP-24 collected on 03/02/21 11:28

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	03/11/21 19:57	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 19:57	EPA 6010D		MLR	B1C0515

Sample Number 1030536-11
Sample Description AE96411 WAP-26 collected on 03/02/21 15:13

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	03/11/21 20:01	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 20:01	EPA 6010D		MLR	B1C0515

Sample Number 1030536-12
Sample Description AE96410 WAP-25 collected on 03/04/21 10:36

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	03/11/21 20:05	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 20:05	EPA 6010D		MLR	B1C0515

Sample Number 1030536-13
Sample Description AE96393 WAP-13 collected on 03/04/21 11:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:32	EPA 7470A	S7	MLR	B1C0646
Boron	**4400**	15	ug/L	1.00	03/15/21 16:05	EPA 6010D		MLR	B1C0515
Lithium	ND	10	ug/L	1.00	03/11/21 19:27	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 19:27	EPA 6010D		MLR	B1C0515

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Sample Number 1030536-14
Sample Description AE96391 WAP-12 collected on 03/04/21 13:09

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:35	EPA 7470A	S7	MLR	B1C0646
Boron	**4900**	15	ug/L	1.00	03/15/21 16:09	EPA 6010D		MLR	B1C0515
Lithium	ND	10	ug/L	1.00	03/11/21 19:30	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 19:30	EPA 6010D		MLR	B1C0515

Sample Number 1030536-15
Sample Description AE96392 WAP-12 DUP collected on 03/04/21 13:14

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:38	EPA 7470A	S7	MLR	B1C0646
Boron	**4800**	15	ug/L	1.00	03/15/21 16:16	EPA 6010D		MLR	B1C0515
Lithium	ND	10	ug/L	1.00	03/11/21 19:34	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 19:34	EPA 6010D		MLR	B1C0515

Sample Number 1030536-16
Sample Description AE96400 WAP-16 collected on 03/04/21 14:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:49	EPA 7470A		MLR	B1C0646
Boron	**1600**	15	ug/L	1.00	03/15/21 14:53	EPA 6010D		MLR	B1C0515
Lithium	ND	10	ug/L	1.00	03/11/21 16:52	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 16:52	EPA 6010D		MLR	B1C0515

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0515 - EPA 200.7										
Blank (B1C0515-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1C0515-BS1)										
Boron	280	15	ug/L	250		110	80-120			
Lithium	264	10	ug/L	250		106	80-120			
Molybdenum	240	10	ug/L	250		98	80-120			
LCS Dup (B1C0515-BSD1)										
Boron	250	15	ug/L	250		100	80-120	10	20	
Lithium	250	10	ug/L	250		100	80-120	6	20	
Molybdenum	250	10	ug/L	250		100	80-120	3	20	
Matrix Spike (B1C0515-MS1)	**Source: 1030536-01**									
Boron	290	15	ug/L	250	48	98	75-125			
Lithium	272	10	ug/L	250	ND	109	75-125			
Molybdenum	250	10	ug/L	250	ND	99	75-125			
Matrix Spike (B1C0515-MS2)	**Source: 1030536-16**									
Boron	1800	15	ug/L	250	1600	103	75-125			
Lithium	277	10	ug/L	250	ND	109	75-125			
Molybdenum	240	10	ug/L	250	ND	95	75-125			
Matrix Spike Dup (B1C0515-MSD1)	**Source: 1030536-01**									
Boron	290	15	ug/L	250	48	96	75-125	1	20	
Lithium	263	10	ug/L	250	ND	105	75-125	3	20	
Molybdenum	250	10	ug/L	250	ND	100	75-125	0.3	20	
Matrix Spike Dup (B1C0515-MSD2)	**Source: 1030536-16**									
Boron	1800	15	ug/L	250	1600	113	75-125	1	20	
Lithium	284	10	ug/L	250	ND	112	75-125	2	20	
Molybdenum	240	10	ug/L	250	ND	97	75-125	2	20	

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0515 - EPA 200.7										
Post Spike (B1C0515-PS1)	**Source: 1030536-01**									
Boron	0.53		mg/L	0.500	ND	96	75-125			
Lithium	0.515		mg/L	0.500	ND	103	75-125			
Molybdenum	0.49		mg/L	0.500	ND	98	75-125			
Post Spike (B1C0515-PS2)	**Source: 1030536-16**									
Boron	2.1		mg/L	0.500	ND	103	75-125			
Lithium	0.542		mg/L	0.500	ND	108	75-125			
Molybdenum	0.48		mg/L	0.500	ND	96	75-125			
Batch B1C0646 - EPA 7470A										
Blank (B1C0646-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1C0646-BS1)										
Mercury	4.9	0.20	ug/L	5.00		98	80-120			
LCS Dup (B1C0646-BSD1)										
Mercury	5.0	0.20	ug/L	5.00		101	80-120	3	20	
Matrix Spike (B1C0646-MS1)	**Source: 1030536-15**									
Mercury	4.1	0.20	ug/L	5.00	ND	81	75-125			S7
Matrix Spike Dup (B1C0646-MSD1)	**Source: 1030536-15**									
Mercury	4.1	0.20	ug/L	5.00	ND	81	75-125	0	20	S7
Post Spike (B1C0646-PS1)	**Source: 1030536-15**									
Mercury	3.3		ug/L	4.00	ND	82	80-120			S7
Post Spike (B1C0646-PS3)	**Source: 1030536-06**									
Mercury	3.9		ug/L	4.00	ND	98	80-120			
Post Spike (B1C0646-PS4)	**Source: 1030536-07**									
Mercury	3.9		ug/L	4.00	ND	97	80-120			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0646 - EPA 7470A										
Post Spike (B1C0646-PS5)	**Source: 1030536-13**									
Mercury	3.3		ug/L	4.00	ND	82	80-120			S7
Post Spike (B1C0646-PS6)	**Source: 1030536-14**									
Mercury	3.2		ug/L	4.00	ND	81	80-120			S7
Post Spike (B1C0646-PS7)	**Source: 1030536-16**									
Mercury	3.6		ug/L	4.00	ND	89	80-120			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Sample Preparation Data

Parameter	Batch	Sample ID	Prepared	Analyst
EPA 200.7 Metal Digestion				
EPA 200.7	B1C0515	1030536-01	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-02	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-03	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-04	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-05	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-06	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-07	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-08	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-09	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-10	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-11	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-12	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-13	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-14	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-15	03/10/2021 15:25	MTH
EPA 200.7	B1C0515	1030536-16	03/10/2021 15:25	MTH
EPA 7470A Mercury Digestion				
EPA 7470A	B1C0646	1030536-06	03/10/2021 13:16	ELN
EPA 7470A	B1C0646	1030536-07	03/10/2021 13:16	ELN
EPA 7470A	B1C0646	1030536-13	03/10/2021 13:16	ELN
EPA 7470A	B1C0646	1030536-14	03/10/2021 13:16	ELN
EPA 7470A	B1C0646	1030536-15	03/10/2021 13:16	ELN
EPA 7470A	B1C0646	1030536-16	03/10/2021 13:16	ELN

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1030536
Moncks Corner, SC 29461		Reported:	03/17/21 10:37

Data Qualifiers and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported
RPD	Relative Percent Difference
S7	Result calculated by Method of Standard Addition due to sample matrix interference and initial spike failures.

Contract Lab Info: R/C Contract Lab Due Date (Lab Only): 3 / 16 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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

1030536

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	ID	Li	Mo	Hg
AE96413	WBW-A1-1	3/1/21	1005	DEW/ML	1	P	G	GW	2	-01	X			
AE96417	WLF-A1-4	"	1110	"	"	"	"	"	"	-02	X			
AE96418	WLF-A1-4 DUP	"	1115	"	"	"	"	"	"	-03	X			
AE96416	WLF-A1-3	"	1231	"	"	"	"	"	"	-04	X			
AE96415	WLF-A1-2	"	1348	"	"	"	"	"	"	-05	X			
AE96401	WAP-17	3/2/21	1048	DEW TG/DJ	"	"	"	"	"	-06	X	X	X	X
AE96402	WAP-17 DUP	"	1053	"	"	"	"	"	"	-07	X	X	X	X
AE96414	WLF-A1-1	3/2/21	1253	"	"	"	"	"	"	-08	X			
AE96419	WLF-A1-5	"	1401	"	"	"	"	"	"	-09	X			

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[illegible]	35594	3/8/21	1200	FEDEX			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FEDEX				[signature]		3/9/21	1255
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 17.6 Initial: cm
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ **METALS (all)**

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TKN
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum(*all below*)
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
☐ Purity (CaSO4)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
Ammonia
☐ LOI
☐ % Carbon
Mineral Analysis
Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
As
☐ TSS

Oil
Used Oil

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Contract Lab Info: RYC Contract Lab Due Date (Lab Only): 3 / 16 / 21 Send report to lcwillia@santeecooper.com & sibrown@santeecooper.com

Chain of Custody

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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

1030536

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	Li	Mo	Hg
AE96409	WAP-24	3/2/21	1128	DEW HG DJ	1	P	G	GW	2	-10		X	X	
AE96411	WAP-26	1	1513	1	1	1	1	1	2	-11		X	X	
AE96410	WAP-25	3/4/21	1036	DEW ML	1	1	1	1	2	-12		X	X	
AE96393	WAP-13	1	1155	1	1	1	1	1	1	-13	X	X	X	X
AE96391	WAP-12	1	1309	1	1	1	1	1	1	-14	X	X	X	X
AE96392	WAP-12 DUP	1	1314	1	1	1	1	1	1	-15	X	X	X	X
AE96400	WAP-16	1	1427	1	1	1	1	1	1	-16	X	X	X	X

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	35594	3/8/21	1200	FEDEX			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FEDEX				[signature]		3/9/21	1255
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 14.6 Initial: [initials]
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ **METALS (all)**

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
- TOC
- DOC
- TP TPO4
- NH3-N
- F
- Cl
- NO2
- Br
- NO3
- SO4

MISC.
- ☐ BTEX
- ☐ Napthalene
- ☐ THM/HAA
- ☐ VOC
- ☐ Oil & Grease
- ☐ E. Coli
- ☐ Total Coliform
- ☐ pH
- ☐ Dissolved As
- ☐ Dissolved Fe
- ☐ Rad 226
- ☐ Rad 228
- ☐ PCB

Gypsum
- ☐ Wallboard Gypsum(*all below*)
  - ☐ AIM
  - ☐ TOC
  - ☐ Total metals
  - ☐ Soluble Metals
  - ☐ Purity (CaSO4)
  - ☐ % Moisture
  - ☐ Sulfites
  - ☐ pH
  - ☐ Chlorides
  - ☐ Particle Size
- ☐ Sulfur

Coal
- ☐ Ultimate
  - ☐ % Moisture
  - ☐ Ash
  - ☐ Sulfur
  - ☐ BTUs
  - ☐ Volatile Matter
  - ☐ CHN

Other Tests:
- ☐ XRF Scan
- ☐ HGI
- ☐ Fineness
- ☐ Particulate Matter

Flyash
- ☐ Ammonia
- ☐ LOI
- ☐ % Carbon
- ☐ Mineral Analysis
- ☐ Sieve
- ☐ % Moisture

NPDES
- ☐ Oil & Grease
- ☐ As
- ☐ TSS

Oil
- Trans. Oil Qual.
- Used Oil

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Rogers & Callcott ENVIRONMENTAL

Sample Receipt Verification

Client: Santee Cooper | Date Received: 3/9/21 | Work Order: 1030536

Carrier Name: Client (FedEx) UPS US Mail Courier Field Services Other: _____

Tracking Number: 804137735722

Receipt Criteria	Yes	No	NA	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 (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_3PO_4	
H_2SO_4		NaOH	
HNO_3		Other	

Comments:

Were non-conformance issues noted at sample receipt? Yes or (No)

Non-Conformance issue other than noted above:

Rogers & Callcott ENVIRONMENTAL

Laboratory Services

Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	**Project:** **Work Order:** **Received:**	Ground Water 1080871 08/13/2021 09:25

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 August 13, 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.

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We strive to provide excellent service to our clients. Please contact Lauren Hollister, your Project Manager, at 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

Rogers & Callcott ENVIRONMENTAL

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: 1080871
Received: 08/13/2021 09:25

Sample Number	Sample Description	Matrix	Sampled	Type
1080871-01	AF09085 WLF-A1-1	Ground Water	08/05/21 12:46	Grab
1080871-02	AF09056 WAP-7	Ground Water	08/10/21 15:00	Grab
1080871-03	AF09076 WAP-20	Ground Water	08/10/21 15:36	Grab
1080871-04	AF09081 WAP-25	Ground Water	08/10/21 13:32	Grab
1080871-05	AF09082 WAP-26	Ground Water	08/10/21 11:46	Grab
1080871-06	AF09086 WLF-A1-2	Ground Water	08/11/21 13:35	Grab
1080871-07	AF09087 WLF-A1-3	Ground Water	08/11/21 12:05	Grab
1080871-08	AF09088 WLF-A1-4	Ground Water	08/11/21 11:07	Grab
1080871-09	AF09089 WLF-A1-4 DUP	Ground Water	08/11/21 11:12	Grab
1080871-10	AF09052 WAP-3	Ground Water	07/29/21 12:35	Grab
1080871-11	AF09071 WAP-16	Ground Water	07/29/21 15:38	Grab
1080871-12	AF09064 WAP-13	Ground Water	07/29/21 11:29	Grab
1080871-13	AF09062 WAP-12	Ground Water	07/29/21 13:54	Grab
1080871-14	AF09063 WAP-12 DUP	Ground Water	07/29/21 13:59	Grab
1080871-15	AF09080 WAP-24	Ground Water	08/02/21 12:50	Grab
1080871-16	AF09059 WAP-10	Ground Water	08/02/21 11:34	Grab
1080871-17	AF09060 WAP-10 DUP	Ground Water	08/02/21 11:39	Grab
1080871-18	AF09058 WAP-9	Ground Water	08/02/21 13:39	Grab
1080871-19	AF09072 WAP-17	Ground Water	08/02/21 15:12	Grab
1080871-20	AF09073 WAP-17 DUP	Ground Water	08/02/21 15:17	Grab
1080871-21	AF09079 WAP-23	Ground Water	08/03/21 12:36	Grab
1080871-22	AF09077 WAP-21	Ground Water	08/03/21 11:30	Grab
1080871-23	AF09075 WAP-19	Ground Water	08/03/21 16:27	Grab
1080871-24	AF09078 WAP-22	Ground Water	08/04/21 13:31	Grab
1080871-25	AF09091 WLF-A2-6	Ground Water	08/04/21 15:02	Grab
1080871-26	AF09092 WLF-A2-6 DUP	Ground Water	08/04/21 15:07	Grab
1080871-27	AF09074 WAP-18	Ground Water	08/04/21 12:16	Grab

Rogers & Callcott
ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number	Sample Description	Matrix	Sampled	Type
1080871-28	AF09084 WBW-A1-1	Ground Water	08/05/21 10:30	Grab
1080871-29	AF09090 WLF-A1-5	Ground Water	08/05/21 11:38	Grab

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Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Data

Sample Number 1080871-01
Sample Description AF09085 WLF-A1-1 collected on 08/05/21 12:46

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 14:50	EPA 7470A		NAR	B1H0833
Boron	**1100**	20	ug/L	1.00	08/17/21 19:18	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 19:18	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 19:18	EPA 6010D		MLR	B1H0709

Sample Number 1080871-02
Sample Description AF09056 WAP-7 collected on 08/10/21 15:00

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:01	EPA 7470A		NAR	B1H0833
Boron	**970**	20	ug/L	1.00	08/17/21 18:16	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 18:16	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 18:16	EPA 6010D		MLR	B1H0709

Sample Number 1080871-03
Sample Description AF09076 WAP-20 collected on 08/10/21 15:36

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:18	EPA 7470A		NAR	B1H0833
Boron	**1800**	20	ug/L	1.00	08/17/21 19:22	EPA 6010D		MLR	B1H0709
Lithium	**41**	10	ug/L	1.00	08/17/21 19:22	EPA 6010D		MLR	B1H0709
Molybdenum	**21**	10	ug/L	1.00	08/17/21 19:22	EPA 6010D		MLR	B1H0709

Sample Number 1080871-04
Sample Description AF09081 WAP-25 collected on 08/10/21 13:32

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	08/17/21 19:26	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 19:26	EPA 6010D		MLR	B1H0709

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number 1080871-05
Sample Description AF09082 WAP-26 collected on 08/10/21 11:46

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	08/17/21 19:30	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 19:30	EPA 6010D		MLR	B1H0709

Sample Number 1080871-06
Sample Description AF09086 WLF-A1-2 collected on 08/11/21 13:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:21	EPA 7470A		NAR	B1H0833
Boron	**87**	20	ug/L	1.00	08/17/21 19:53	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 19:53	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 19:53	EPA 6010D		MLR	B1H0709

Sample Number 1080871-07
Sample Description AF09087 WLF-A1-3 collected on 08/11/21 12:05

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:24	EPA 7470A		NAR	B1H0833
Boron	**70**	20	ug/L	1.00	08/17/21 19:57	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 19:57	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 19:57	EPA 6010D		MLR	B1H0709

Sample Number 1080871-08
Sample Description AF09088 WLF-A1-4 collected on 08/11/21 11:07

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:26	EPA 7470A		NAR	B1H0833
Boron	**170**	20	ug/L	1.00	08/17/21 20:00	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 20:00	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:00	EPA 6010D		MLR	B1H0709

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number 1080871-09
Sample Description AF09089 WLF-A1-4 DUP collected on 08/11/21 11:12

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:29	EPA 7470A		NAR	B1H0833
Boron	**180**	20	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709

Sample Number 1080871-10
Sample Description AF09052 WAP-3 collected on 07/29/21 12:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**1700**	20	ug/L	1.00	08/17/21 18:36	EPA 6010D		MLR	B1H0709

Sample Number 1080871-11
Sample Description AF09071 WAP-16 collected on 07/29/21 15:38

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**1500**	20	ug/L	1.00	08/17/21 20:08	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 20:08	EPA 6010D		MLR	B1H0709

Sample Number 1080871-12
Sample Description AF09064 WAP-13 collected on 07/29/21 11:29

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**4200**	20	ug/L	1.00	08/17/21 20:12	EPA 6010D		MLR	B1H0709

Sample Number 1080871-13
Sample Description AF09062 WAP-12 collected on 07/29/21 13:54

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**370**	20	ug/L	1.00	08/17/21 20:16	EPA 6010D		MLR	B1H0709

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number 1080871-14
Sample Description AF09063 WAP-12 DUP collected on 07/29/21 13:59

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**390**	20	ug/L	1.00	08/17/21 20:20	EPA 6010D		MLR	B1H0709

Sample Number 1080871-15
Sample Description AF09080 WAP-24 collected on 08/02/21 12:50

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	08/17/21 20:43	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:43	EPA 6010D		MLR	B1H0709

Sample Number 1080871-16
Sample Description AF09059 WAP-10 collected on 08/02/21 11:34

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**8800**	100	ug/L	5.00	08/17/21 16:56	EPA 6010D		MLR	B1H0709
Lithium	**25**	10	ug/L	1.00	08/17/21 20:47	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:47	EPA 6010D		MLR	B1H0709

Sample Number 1080871-17
Sample Description AF09060 WAP-10 DUP collected on 08/02/21 11:39

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**8700**	100	ug/L	5.00	08/17/21 16:59	EPA 6010D		MLR	B1H0709
Lithium	**25**	10	ug/L	1.00	08/17/21 20:51	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:51	EPA 6010D		MLR	B1H0709

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number 1080871-18
Sample Description AF09058 WAP-9 collected on 08/02/21 13:39

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**4600**	20	ug/L	1.00	08/17/21 20:54	EPA 6010D		MLR	B1H0709
Lithium	**57**	10	ug/L	1.00	08/17/21 20:54	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:54	EPA 6010D		MLR	B1H0709

Sample Number 1080871-19
Sample Description AF09072 WAP-17 collected on 08/02/21 15:12

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**4100**	20	ug/L	1.00	08/17/21 20:58	EPA 6010D		MLR	B1H0709
Lithium	**12**	10	ug/L	1.00	08/17/21 20:58	EPA 6010D		MLR	B1H0709
Molybdenum	**12**	10	ug/L	1.00	08/17/21 20:58	EPA 6010D		MLR	B1H0709

Sample Number 1080871-20
Sample Description AF09073 WAP-17 DUP collected on 08/02/21 15:17

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**3900**	20	ug/L	1.00	08/17/21 21:02	EPA 6010D		MLR	B1H0709
Lithium	**11**	10	ug/L	1.00	08/17/21 21:02	EPA 6010D		MLR	B1H0709
Molybdenum	**14**	10	ug/L	1.00	08/17/21 21:02	EPA 6010D		MLR	B1H0709

Sample Number 1080871-21
Sample Description AF09079 WAP-23 collected on 08/03/21 12:36

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**12**	10	ug/L	1.00	08/17/21 21:06	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/17/21 21:06	EPA 6010D		MLR	B1H0734

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number 1080871-22
Sample Description AF09077 WAP-21 collected on 08/03/21 11:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**2200**	20	ug/L	1.00	08/17/21 21:10	EPA 6010D		MLR	B1H0734
Lithium	ND	10	ug/L	1.00	08/17/21 21:10	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/17/21 21:10	EPA 6010D		MLR	B1H0734

Sample Number 1080871-23
Sample Description AF09075 WAP-19 collected on 08/03/21 16:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**4000**	20	ug/L	1.00	08/19/21 16:09	EPA 6010D		MLR	B1H0734
Lithium	**240**	10	ug/L	1.00	08/19/21 16:09	EPA 6010D		MLR	B1H0734
Molybdenum	**24**	10	ug/L	1.00	08/19/21 16:09	EPA 6010D		MLR	B1H0734

Sample Number 1080871-24
Sample Description AF09078 WAP-22 collected on 08/04/21 13:31

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**67**	10	ug/L	1.00	08/17/21 18:55	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/17/21 18:55	EPA 6010D		MLR	B1H0734

Sample Number 1080871-25
Sample Description AF09091 WLF-A2-6 collected on 08/04/21 15:02

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:32	EPA 7470A		NAR	B1H0833
Boron	**410**	20	ug/L	1.00	08/19/21 15:57	EPA 6010D		MLR	B1H0734
Lithium	**41**	10	ug/L	1.00	08/19/21 15:57	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/19/21 15:57	EPA 6010D		MLR	B1H0734

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Number 1080871-26
Sample Description AF09092 WLF-A2-6 DUP collected on 08/04/21 15:07

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:35	EPA 7470A		NAR	B1H0833
Boron	**410**	20	ug/L	1.00	08/19/21 16:01	EPA 6010D		MLR	B1H0734
Lithium	**39**	10	ug/L	1.00	08/19/21 16:01	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/19/21 16:01	EPA 6010D		MLR	B1H0734

Sample Number 1080871-27
Sample Description AF09074 WAP-18 collected on 08/04/21 12:16

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**3500**	20	ug/L	1.00	08/19/21 16:13	EPA 6010D		MLR	B1H0734
Lithium	**500**	10	ug/L	1.00	08/19/21 16:13	EPA 6010D		MLR	B1H0734
Molybdenum	**90**	10	ug/L	1.00	08/19/21 16:13	EPA 6010D		MLR	B1H0734

Sample Number 1080871-28
Sample Description AF09084 WBW-A1-1 collected on 08/05/21 10:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:38	EPA 7470A		NAR	B1H0833
Boron	**42**	20	ug/L	1.00	08/19/21 16:05	EPA 6010D		MLR	B1H0734
Lithium	ND	10	ug/L	1.00	08/19/21 16:05	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/19/21 16:05	EPA 6010D		MLR	B1H0734

Sample Number 1080871-29
Sample Description AF09090 WLF-A1-5 collected on 08/05/21 11:38

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:41	EPA 7470A		NAR	B1H0833
Boron	**2200**	20	ug/L	1.00	08/19/21 16:17	EPA 6010D		MLR	B1H0734
Lithium	ND	10	ug/L	1.00	08/19/21 16:17	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/19/21 16:17	EPA 6010D		MLR	B1H0734

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1H0709 - EPA 3005A										
Blank (B1H0709-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1H0709-BS1)										
Boron	490	15	ug/L	500		98	80-120			
Lithium	516	10	ug/L	500		103	80-120			
Molybdenum	470	10	ug/L	500		93	80-120			
Matrix Spike (B1H0709-MS1)	**Source: 1080871-02**									
Boron	1400	15	ug/L	500	970	84	75-125			
Lithium	484	10	ug/L	500	ND	97	75-125			
Molybdenum	500	10	ug/L	500	ND	100	75-125			
Matrix Spike (B1H0709-MS2)	**Source: 1080871-10**									
Boron	2200	15	ug/L	500	1700	100	75-125			
Lithium	547	10	ug/L	500	11	107	75-125			
Molybdenum	460	10	ug/L	500	ND	92	75-125			
Matrix Spike Dup (B1H0709-MSD1)	**Source: 1080871-02**									
Boron	1500	15	ug/L	500	970	102	75-125	6	20	
Lithium	512	10	ug/L	500	ND	102	75-125	6	20	
Molybdenum	460	10	ug/L	500	ND	91	75-125	10	20	
Matrix Spike Dup (B1H0709-MSD2)	**Source: 1080871-10**									
Boron	2200	15	ug/L	500	1700	112	75-125	3	20	
Lithium	547	10	ug/L	500	11	107	75-125	0.03	20	
Molybdenum	460	10	ug/L	500	ND	92	75-125	0.003	20	
Post Spike (B1H0709-PS1)	**Source: 1080871-02**									
Boron	1.5		mg/L	0.500	ND	99	75-125			
Lithium	0.515		mg/L	0.500	ND	103	75-125			
Molybdenum	0.48		mg/L	0.500	ND	95	75-125			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1H0709 - EPA 3005A										
Post Spike (B1H0709-PS2)	**Source: 1080871-10**									
Boron	2.1		mg/L	0.500	ND	97	75-125			
Lithium	0.552		mg/L	0.500	ND	108	75-125			
Molybdenum	0.47		mg/L	0.500	ND	94	75-125			
Batch B1H0734 - EPA 3005A										
Blank (B1H0734-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1H0734-BS1)										
Boron	510	15	ug/L	500		101	80-120			
Lithium	519	10	ug/L	500		104	80-120			
Molybdenum	490	10	ug/L	500		97	80-120			
Matrix Spike (B1H0734-MS1)	**Source: 1080871-24**									
Boron	4500	15	ug/L	500	4000	94	75-125			
Lithium	615	10	ug/L	500	67	110	75-125			
Molybdenum	460	10	ug/L	500	ND	91	75-125			
Matrix Spike Dup (B1H0734-MSD1)	**Source: 1080871-24**									
Boron	4700	15	ug/L	500	4000	139	75-125	5	20	S5
Lithium	640	10	ug/L	500	67	114	75-125	4	20	
Molybdenum	470	10	ug/L	500	ND	94	75-125	3	20	
Post Spike (B1H0734-PS1)	**Source: 1080871-24**									
Boron	4.6		mg/L	0.500	ND	109	75-125			
Lithium	0.629		mg/L	0.500	ND	112	75-125			
Molybdenum	0.48		mg/L	0.500	ND	96	75-125			
Batch B1H0833 - EPA 7470A										
Blank (B1H0833-BLK1)										
Mercury	ND	0.20	ug/L							

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1H0833 - EPA 7470A										
LCS (B1H0833-BS1)										
Mercury	5.0	0.20	ug/L	5.00		99	80-120			
Matrix Spike (B1H0833-MS1)	**Source: 1080871-01**									
Mercury	4.2	0.20	ug/L	5.00	ND	83	75-125			
Matrix Spike (B1H0833-MS2)	**Source: 1080871-02**									
Mercury	5.0	0.20	ug/L	5.00	ND	101	75-125			
Matrix Spike Dup (B1H0833-MSD1)	**Source: 1080871-01**									
Mercury	4.2	0.20	ug/L	5.00	ND	83	75-125	0.2	20	
Matrix Spike Dup (B1H0833-MSD2)	**Source: 1080871-02**									
Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125	0.9	20	
Post Spike (B1H0833-PS1)	**Source: 1080871-01**									
Mercury	3.2		ug/L	4.00	ND	81	80-120			
Post Spike (B1H0833-PS2)	**Source: 1080871-02**									
Mercury	3.8		ug/L	4.00	ND	95	80-120			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Sample Preparation Data

Parameter	Batch	Sample ID	Prepared	Analyst
EPA 3005A ICP Digestion				
EPA 3005A	B1H0709	1080871-01	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-02	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-03	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-04	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-05	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-06	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-07	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-08	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-09	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-10	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-11	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-12	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-13	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-14	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-15	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-16	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-17	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-18	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-19	08/16/2021 11:50	MTH
EPA 3005A	B1H0709	1080871-20	08/16/2021 11:50	MTH
EPA 3005A	B1H0734	1080871-21	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-22	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-23	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-24	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-25	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-26	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-27	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-28	08/17/2021 08:40	MTH
EPA 3005A	B1H0734	1080871-29	08/17/2021 08:40	MTH

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

EPA 7470A Mercury Digestion

EPA 7470A	B1H0833	1080871-01	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-02	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-03	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-06	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-07	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-08	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-09	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-25	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-26	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-28	08/18/2021 11:33	NAR
EPA 7470A	B1H0833	1080871-29	08/18/2021 11:33	NAR

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080871
Moncks Corner, SC 29461		Reported:	08/27/21 23:29

Data Qualifiers and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported
RPD	Relative Percent Difference
S5	The raw sample concentration was greater than four times the spike concentration. The spike recovery was not evaluated against the control limits.

Contract Lab Info: R/C *Contract Lab Due Date (Lab Only):* 8 / 25 / 21 *Send report to* lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

1080871

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 1080871	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	Li	Mo	Hg
AF09085	WLF-AI-1 -01	8/5/21	1246	BRT/BWM							X	X	X	X
AF09056	WAP-7 -02	8/10/21	1500	MDG/BSB							X	X	X	X
AF09076	WAP-20 -03	|	1536	|							X	X	X	X
AF09081	WAP-25 -04	|	1332	|								X	X	
AF09082	WAP-26 -05	⊥	1146	⊥								X	X	
AF09086	WLF-AI-2 -06	8/11/21	1335	MDG/CWS							X	X	X	X
AF09087	WLF-AI-3 -07	|	1205	|							X	X	X	X
AF09088	WLF-AI-4 -08	|	1107	|							X	X	X	X
AF09089	WLF-AI-4 DUP -09	⊥	1112	⊥							X	X	X	X

MAW 8/13/21

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	8/12/21	1500	[signature] FedEX			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FedEX				[signature]		8/13/21	0925
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 22.4 **Initial:** MA
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TPO4
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum (*all below*)
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
☐ Purity (CaSO4)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
☐ LOI
☐ % Carbon
☐ Mineral Analysis
☐ Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Oil
Trans. Oil Qual.
% Moisture
Color
Acidity
Dielectric
IFT
Dissolved Gas
Used Oil
Flash point
Metals
PCB
FX
COFER

FedEX 8153 6791 5397 ~~0215~~ MAW 8/13/21

1 of 3

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Contract Lab Info: R/C Contract Lab Due Date (Lab Only): 8 / 25 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

1080871 cont

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 1080871	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	Li	Mo	Hg
AF09052	WAP-3 -10	7/29/21	1235	MDG/BRT	1	P	G	GW	2		X			
AF09071	WAP-16 -11	⊥	1538	⊥	|	|	|	|	|		X	X		
AF09064	WAP-13 -12	⊥	1129	⊥	|	|	|	|	|		X			
AF09062	WAP-12 -13	|	1354	|	|	|	|	|	|		X			
AF09063	WAP-12 DUP -14	⊥	1359	⊥	|	|	|	|	|		X			
AF09080	WAP-24 -15	8/2/21	1250	MDG/BRT	|	|	|	|	|			X	X	
AF09059	WAP-10 -16	|	1134	|	|	|	|	|	|		X	X	X	
AF09060	WAP-10 DUP -17	|	1139	|	|	|	|	|	|		X	X	X	
AF09058	WAP-9 -18	⊥	1339	⊥	|	|	|	|	|		X	X	X	
AF09072	WAP-17 -19	⊥	1512	⊥	⊥	⊥	⊥	⊥	⊥		X	X	X	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
sjbrown	35594	8/12/21	1500	FedEx			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FedEx				[signature]		8/13/21	0925
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 2.4 Initial: MA
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TPO4
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum (all below)
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
☐ Purity ($CaSO_4$)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
☐ LOI
☐ % Carbon
☐ Mineral Analysis
☐ Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Oil
Trans. Oil Qual.
% Moisture
Color
Acidity
Dielectric Str.
IFT
Dissolved Gas
Used Oil
Flashpoint
Metals Total
(As,Cd,Cr,Ni,Pb,Hg)
TX
COHR

8/13/21 MA
~~3 of 3~~ 2 of 3

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Contract Lab Info: R/C *Contract Lab Due Date (Lab Only):* 8 / 25 / 21 *Send report to* lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

1080871 cont

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 • Method # • Reporting limit • Misc. sample info • Any other notes	B	Li	Mo	Hg
AF09073	WAP-17 DUP -20	8/2/21	MDG/BRT	1517	1	P	G	GW	2		X	X	X	
AF09079	WAP-23 -21	8/3/21	1236	BRT/CWS								X	X	
AF09077	WAP-21 -22		1130								X	X	X	
AF09075	WAP-19 -23		1627								X	X	X	
AF09078	WAP-22 -24	8/4/21	1331	MDG/BRT								X	X	
AF09091	WLF-A2-6 -25		1502								X	X	X	X
AF09092	WLF-A2-6 DUP -26		1507								X	X	X	X
AF09074	WAP-18 -27		1216								X	X	X	
AF09084	WBW-A1-1 -28	8/5/21	1030	BRT/BWM							X	X	X	X
AF09090	WLF-A1-5 -29		1138								X	X	X	X

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	8/12/21	1500	FedEx			
FedEx				[signature]		8/13/21	0925

Sample Receiving (Internal Use Only)
TEMP (°C): 22.4 Initial: MA
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients: ☐ TOC ☐ DOC ☐ TP/TPO4 ☐ NH3-N ☐ F ☐ Cl ☐ NO2 ☐ Br ☐ NO3 ☐ SO4

MISC.: ☐ BTEX ☐ Napthalene ☐ THM/HAA ☐ VOC ☐ Oil & Grease ☐ E. Coli ☐ Total Coliform ☐ pH ☐ Dissolved As ☐ Dissolved Fe ☐ Rad 226 ☐ Rad 228 ☐ PCB

Gypsum: ☐ Wallboard Gypsum (all below) ☐ AIM ☐ TOC ☐ Total metals ☐ Soluble Metals ☐ Purity (CaSO4) ☐ % Moisture ☐ Sulfites ☐ pH ☐ Chlorides ☐ Particle Size ☐ Sulfur

Coal: ☐ Ultimate ☐ % Moisture ☐ Ash ☐ Sulfur ☐ BTUs ☐ Volatile Matter ☐ CHN
Other Tests: ☐ XRF Scan ☐ HGI ☐ Fineness ☐ Particulate Matter

Flyash: ☐ Ammonia ☐ LOI ☐ % Carbon ☐ Mineral Analysis ☐ Sieve ☐ % Moisture

NPDES: ☐ Oil & Grease ☐ As ☐ TSS

Oil: [illegible] Oil Qual. [illegible] Color ☐ Acidity [illegible] Strength [illegible] Dissolved Gases Used Oil: Flashpoint [illegible] (As, Cd, Cr, Ni, Pb) [illegible] TX COFLR

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Rogers & Callcott ENVIRONMENTAL

Sample Receipt Verification

Client: Santee Cooper | Date Received: 08/13/2021 | Work Order: 1080871

Carrier Name: Client (FedEx) UPS US Mail Courier Field Services Other: _____

Tracking Number: _____

Receipt Criteria	Yes	No	NA	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 (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_3PO_4	
H_2SO_4		NaOH	
HNO_3		Other	

Comments:

Were non-conformance issues noted at sample receipt? Yes or (No)

Non-Conformance issue other than noted above:

Completed by: MAW

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

March 26, 2021

Ms. Jeanette Gilmetti
Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina 29461

Re: ABS Lab Analytical
Work Order: 536093

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 26, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Julie Robinson

Julie Robinson
Project Manager

Purchase Order: 367074
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 536093 GEL Work Order: 536093

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Julie Robinson.

Reviewed by Julie Robinson

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 26. 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96385
Sample ID:	536093001
Matrix:	Ground Water
Collect Date:	24-FEB-21 11:02
Receive Date:	26-FEB-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.01	+/-0.828	1.31	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.66	+/-0.938			pCi/L		1	AEA	03/24/21	1133	2097459	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.647	+/-0.440	0.621	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 26. 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96381
Sample ID:	536093002
Matrix:	Ground Water
Collect Date:	24-FEB-21 13:18
Receive Date:	26-FEB-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	-0.123	+/-0.815	1.57	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.47	+/-0.999			pCi/L		1	AEA	03/24/21	1133	2097459	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.47	+/-0.578	0.661	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
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Certificate of Analysis

Report Date: March 26. 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96387
Sample ID:	536093003
Matrix:	Ground Water
Collect Date:	23-FEB-21 12:49
Receive Date:	26-FEB-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		2.59	+/-1.57	2.45	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.65	+/-1.63			pCi/L		1	AEA	03/24/21	1133	2097459	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.07	+/-0.422	0.364	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			81.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 26. 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96382
Sample ID:	536093004
Matrix:	Ground Water
Collect Date:	23-FEB-21 14:28
Receive Date:	26-FEB-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.524	+/-0.903	1.58	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.97	+/-1.03			pCi/L		1	AEA	03/24/21	1133	2097459	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.45	+/-0.495	0.421	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: March 26, 2021

Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina

Contact: **Ms. Jeanette Gilmetti**

Workorder: **536093**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2097455										
QC1204762520 536093004 DUP										
Radium-228	U	0.524	U	0.739	pCi/L	N/A			N/A LXB3	03/23/21 06:46
	Uncertainty	+/-0.903		+/-0.982						
QC1204762521 LCS										
Radium-228	54.3			46.4	pCi/L		85.4	(75%-125%)		03/23/21 06:46
	Uncertainty			+/-3.39						
QC1204762519 MB										
Radium-228			U	1.67	pCi/L					03/23/21 06:46
	Uncertainty			+/-1.34						
Rad Ra-226										
Batch 2097342										
QC1204762172 536093001 DUP										
Radium-226		0.647		0.747	pCi/L	14.4		(0% - 100%)	MXH8	03/04/21 09:12
	Uncertainty	+/-0.440		+/-0.426						
QC1204762176 LCS										
Radium-226	27.0			26.3	pCi/L		97.2	(75%-125%)		03/04/21 09:12
	Uncertainty			+/-2.38						
QC1204762171 MB										
Radium-226			U	0.222	pCi/L					03/04/21 09:12
	Uncertainty			+/-0.399						
QC1204762173 536093001 MS										
Radium-226	135	0.647		138	pCi/L		102	(75%-125%)		03/04/21 09:12
	Uncertainty	+/-0.440		+/-10.3						

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

QC Summary

Workorder: 536093

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 536093

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2097455

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
536093001	AE96385
536093002	AE96381
536093003	AE96387
536093004	AE96382
1204762519	Method Blank (MB)
1204762520	536093004(AE96382) Sample Duplicate (DUP)
1204762521	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2097342

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
536093001	AE96385
536093002	AE96381
536093003	AE96387
536093004	AE96382
1204762171	Method Blank (MB)
1204762172	536093001(AE96385) Sample Duplicate (DUP)
1204762173	536093001(AE96385) Matrix Spike (MS)
1204762176	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
The matrix spike and matrix spike duplicate, 1204762173 (AE96385MS), aliquots were reduced to conserve sample volume.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 3 / 28 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

536093

Chain of Custody

santee cooper®
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC	
AE96385	WAP-7	2/24/21	1102	DEW/ATH	2	P	G	GW	2		X	X	X	
AE96381	WAP-3	↓	1318	↓	2	↓	↓	↓	↓		X	X	X	
AE96387	WAP-9	2/23/21	1249	DEW/MDG	2	|	|	|	|		X	X	X	
AE96382	WAP-4	↓	1428	↓	2	↓	↓	↓	↓		X	X	X	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	2/26/21	0947	[signature]	GEL	2/26/21	0947
[signature]	GEL	2/26/21	1334	[signature]		2 26 21	1334

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

☐ METALS (all)

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TPO4
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum(*all below*)
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
☐ Purity (CaSO4)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
☐ LOI
☐ % Carbon
☐ Mineral Analysis
☐ Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Oil
☐ Trans. Oil Qual.
%Moisture
Color
Acidity
Dielectric Strength
IFT
Dissolved Gases
Used Oil
Flashpoint
Metals in oil (As,Cd,Cr,Ni,Pb Hg)
TX
GOFER

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP	SDG/AR/COC/Work Order: 536093
Received By: STACY BOONE	Date Received: FEBUARY 26 2021
Carrier and Tracking Number	*Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	Ncr	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 1 C
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-20 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) *Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 3/1/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 26 March 2021

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122020-34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

April 01, 2021

Ms. Jeanette Gilmetti
Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina 29461

Re: ABS Lab Analytical
Work Order: 536991

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 05, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Julie Robinson

Julie Robinson
Project Manager

Purchase Order: 367074
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 536991 GEL Work Order: 536991

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Julie Robinson.

Reviewed by Julie Robinson

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96394
Sample ID:	536991001
Matrix:	Ground Water
Collect Date:	25-FEB-21 11:10
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.40	+/-1.44	2.40	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.38	+/-1.47			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.982	+/-0.297	0.247	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			77.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96395
Sample ID:	536991002
Matrix:	Ground Water
Collect Date:	25-FEB-21 11:15
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		2.32	+/-1.30	1.98	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.58	+/-1.34			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.25	+/-0.336	0.211	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96399
Sample ID:	536991003
Matrix:	Ground Water
Collect Date:	25-FEB-21 15:40
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		2.01	+/-1.14	1.70	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		4.35	+/-1.24			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.34	+/-0.480	0.330	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96393
Sample ID:	536991004
Matrix:	Ground Water
Collect Date:	04-MAR-21 11:55
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.96	+/-0.969	1.35	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.36	+/-1.03			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.40	+/-0.352	0.170	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96391
Sample ID:	536991005
Matrix:	Ground Water
Collect Date:	04-MAR-21 13:09
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.53	+/-1.10	1.74	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.18	+/-1.17			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.65	+/-0.380	0.170	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96392
Sample ID:	536991006
Matrix:	Ground Water
Collect Date:	04-MAR-21 13:14
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		3.31	+/-1.12	1.34	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		4.72	+/-1.18			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.42	+/-0.355	0.234	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96400
Sample ID:	536991007
Matrix:	Ground Water
Collect Date:	04-MAR-21 14:27
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.524	+/-0.852	1.49	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.01	+/-0.937			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.49	+/-0.390	0.197	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AE96414	Project:	SOOP00119
Sample ID:	536991008	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	02-MAR-21 12:53		
Receive Date:	05-MAR-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.48	+/-1.33	2.18	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.10	+/-1.35			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.624	+/-0.254	0.191	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96419
Sample ID:	536991009
Matrix:	Ground Water
Collect Date:	02-MAR-21 14:01
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.552	+/-1.19	2.08	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.52	+/-1.22			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.970	+/-0.283	0.158	1.00	pCi/L			MXH8	04/01/21	1211	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96401
Sample ID:	536991010
Matrix:	Ground Water
Collect Date:	02-MAR-21 10:48
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.141	+/-0.941	1.73	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.390	+/-0.955			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.250	+/-0.160	0.174	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96402
Sample ID:	536991011
Matrix:	Ground Water
Collect Date:	02-MAR-21 10:53
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.794	+/-0.929	1.56	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.10	+/-0.947			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.308	+/-0.183	0.210	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96413
Sample ID:	536991012
Matrix:	Ground Water
Collect Date:	01-MAR-21 10:05
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.271	+/-0.926	1.67	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.24	+/-0.972			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.972	+/-0.297	0.173	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96417
Sample ID:	536991013
Matrix:	Ground Water
Collect Date:	01-MAR-21 11:10
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	-0.953	+/-0.818	1.75	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.139	+/-0.830			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.139	+/-0.140	0.220	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96418
Sample ID:	536991014
Matrix:	Ground Water
Collect Date:	01-MAR-21 11:15
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.63	+/-1.60	2.65	3.00	pCi/L			LXB3	03/23/21	0802	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.15	+/-1.61			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.518	+/-0.221	0.172	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96416
Sample ID:	536991015
Matrix:	Ground Water
Collect Date:	01-MAR-21 12:31
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.271	+/-1.13	2.03	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.965	+/-1.16			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.694	+/-0.264	0.222	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			90.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: April 1, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical
Client Sample ID:	AE96415
Sample ID:	536991016
Matrix:	Ground Water
Collect Date:	01-MAR-21 13:48
Receive Date:	05-MAR-21
Collector:	Client
Project:	SOOP00119
Client ID:	SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.32	+/-0.912	1.40	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.23	+/-0.964			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.908	+/-0.311	0.264	1.00	pCi/L			MXH8	04/01/21	0945	2100100	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			83.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: April 1, 2021

Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina

Contact: **Ms. Jeanette Gilmetti**

Workorder: **536991**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2097455										
QC1204762520 536093004 DUP										
Radium-228	U	0.524	U	0.739	pCi/L	N/A			N/A LXB3	03/23/21 06:46
	Uncertainty	+/-0.903		+/-0.982						
QC1204762521 LCS										
Radium-228	54.3			46.4	pCi/L		85.4	(75%-125%)		03/23/21 06:46
	Uncertainty			+/-3.39						
QC1204762519 MB										
Radium-228			U	1.67	pCi/L					03/23/21 06:46
	Uncertainty			+/-1.34						
Rad Ra-226										
Batch 2100100										
QC1204767958 536991001 DUP										
Radium-226		0.982		1.56	pCi/L	45.6*		(0%-20%)	MXH8	04/01/21 10:33
	Uncertainty	+/-0.297		+/-0.385						
QC1204767960 LCS										
Radium-226	27.0			22.3	pCi/L		82.4	(75%-125%)		04/01/21 10:33
	Uncertainty			+/-1.38						
QC1204767957 MB										
Radium-226			U	0.186	pCi/L					04/01/21 10:33
	Uncertainty			+/-0.227						
QC1204767959 536991001 MS										
Radium-226	27.0	0.982		21.3	pCi/L		75	(75%-125%)		04/01/21 10:33
	Uncertainty	+/-0.297		+/-1.36						

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

QC Summary

Workorder: 536991

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 536991

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2097455

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
536991001	AE96394
536991002	AE96395
536991003	AE96399
536991004	AE96393
536991005	AE96391
536991006	AE96392
536991007	AE96400
536991008	AE96414
536991009	AE96419
536991010	AE96401
536991011	AE96402
536991012	AE96413
536991013	AE96417
536991014	AE96418
536991015	AE96416
536991016	AE96415
1204762519	Method Blank (MB)
1204762520	536093004(AE96382) Sample Duplicate (DUP)
1204762521	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Sample 536991014 (AE96418) was recounted to verify sample results. Recount is reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15

Analytical Batch: 2100100

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
536991001	AE96394
536991002	AE96395
536991003	AE96399
536991004	AE96393
536991005	AE96391
536991006	AE96392
536991007	AE96400
536991008	AE96414
536991009	AE96419
536991010	AE96401
536991011	AE96402
536991012	AE96413
536991013	AE96417
536991014	AE96418
536991015	AE96416
536991016	AE96415
1204767957	Method Blank (MB)
1204767958	536991001(AE96394) Sample Duplicate (DUP)
1204767959	536991001(AE96394) Matrix Spike (MS)
1204767960	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Duplication Criteria between QC Sample and Duplicate Sample
The Sample and the Duplicate, (See Below), did not meet the relative percent difference requirement; however, they do meet the relative error ratio requirement with the value listed below.

Sample	Analyte	Value
1204767958 (AE96394DUP)	Radium-226	RPD 45.6* (0.00%-20.00%) RER 1.82 (0-3)

Technical Information

Recounts
Sample 536991009 (AE96419) was recounted to verify sample results. Recount is reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 4 / 2 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

536991

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC
AE96394	WAP-14	2/25/21	1110	DEW/MDG	2	P	G	GW	2		X	X	X
AE96395	WAP-14 DUP	"	1115	"	"	"	"	"	"		"	"	"
AE96399	WAP-15	"	1540	"	"	"	"	"	"		"	"	"
AE96393	WAP-13	3/4/21	1155	DEW/ML	"	"	"	"	"		"	"	"
AE96391	WAP-12	"	1309	"	"	"	"	"	"		"	"	"
AE96392	WAP-12 DUP	"	1314	"	"	"	"	"	"		"	"	"
AE96400	WAP-16	"	1427	"	"	"	"	"	"		"	"	"
AE96414	WLF-A1-1	3/2/21	1253	DEW/TG/DJ	"	"	"	"	"		"	"	"
AE96419	WLF-A1-5	"	1401	"	"	"	"	"	"		"	"	"

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	3/5/21	0959		GEL	3/5/21	0959
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
	GEL	3-5-21	1345	M. Johnson	GEL	3-5-21	1345
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

Sample Receiving (Internal Use Only)
TEMP (°C): 20 Initial: MS
Correct pH: (Yes) No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)		
☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TPO4
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum(*all below*)
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
☐ Purity (CaSO4)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
☐ LOI
☐ % Carbon
☐ Mineral Analysis
☐ Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Oil
Trans. Oil Qual
%Moisture
Color
Acidity
Dielectric Strength
IFT
Dissolved Gases
Used Oil
Flashpoint
Metals in oil
(As,Cd,Cr,Ni,Pb)
PCB
TN
COFLR

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-None 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 4 / 2 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC	
AE96401	WAP-17	3/2/21	1048	DEW TG/DJ	2	P	G	GW	2		X	X	X	
AE96402	WAP-17 DUP	〃	1053	〃	〃	〃	〃	〃	〃		〃	〃	〃	
AE96413	WBW-A1-1	3/1/12	1005	DEW ML	〃	〃	〃	〃	〃		〃	〃	〃	
AE96417	WLF-A1-4	〃	1110	〃	〃	〃	〃	〃	〃		〃	〃	〃	
AE96418	WLF-A1-4 DUP	〃	1115	〃	〃	〃	〃	〃	〃		〃	〃	〃	
AE96416	WLF-A1-3	〃	1231	〃	〃	〃	〃	〃	〃		〃	〃	〃	
AE96415	WLF-A1-2	〃	1348	〃	〃	〃	〃	〃	〃		〃	〃	〃	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	35594	3/5/21	0959	[signature]	GEL	3/5/21	0959
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
[signature]	1661	3-5-21	1345	M. Stone	GEL	3-5-21	1345
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 20 Initial: MS
Correct pH: (Yes) No
Preservative Lot#:
Date/Time/Init for preservative:

☐ METALS (all)		
☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TPO4
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum(*all below*)
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
☐ Purity (CaSO4)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ Ultimate
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
☐ LOI
☐ % Carbon
☐ Mineral Analysis
☐ Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Oil
Trans. Oil Qual.
%Moisture
Color
Acidity
Dielectric Strength
IFT
Dissolved Gases
Used Oil
Flashpoint
Metals in oil (As,Cd,Cr,Ni,Pb)
HGI
TX
GOF/LR

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=None 2=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SGDP	**SDG/AR/COC/Work Order:** 536991
Received By: MLS	**Date Received:** 3-5-21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other

Suspected Hazard Information	**Yes**	**No**	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	**Yes**	**NA**	**No**	**Comments/Qualifiers (Required for Non-Conforming Items)**
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*			✓	Preservation Method: Wet Ice Ice Packs Dry ice (None) Other: *all temperatures are recorded in Celsius **TEMP:** 26°C
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR3-18 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials CD Date 3/8/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 01 April 2021

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122020-34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

September 07, 2021

Ms. Jeanette Gilmetti
Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina 29461

Re: ABS Lab Analytical
Work Order: 552374

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 10, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Nina Gampe for
Julie Robinson
Project Manager

Purchase Order: 367074
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 552374 GEL Work Order: 552374

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Julie Robinson.

Reviewed by _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 7, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09074	Project:	SOOP00119
Sample ID:	552374001	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	04-AUG-21 12:16		
Receive Date:	10-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.45	+/-0.960	1.47	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.03	+/-1.00			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.578	+/-0.282	0.323	1.00	pCi/L			LXP1	08/31/21	0839	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 7, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09084	Project:	SOOP00119
Sample ID:	552374002	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	05-AUG-21 10:30		
Receive Date:	10-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.339	+/-1.37	2.43	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.74	+/-1.44			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.40	+/-0.432	0.305	1.00	pCi/L			LXP1	08/31/21	0839	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 7, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09090	Project:	SOOP00119
Sample ID:	552374003	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	05-AUG-21 11:38		
Receive Date:	10-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	0.981	+/-0.872	1.40	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.91	+/-0.932			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.929	+/-0.326	0.215	1.00	pCi/L			LXP1	08/31/21	0943	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			81.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 7, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09085	Project:	SOOP00119
Sample ID:	552374004	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	05-AUG-21 12:46		
Receive Date:	10-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.13	+/-1.34	2.26	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.61	+/-1.36			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.479	+/-0.237	0.241	1.00	pCi/L			LXP1	08/31/21	0943	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.7	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: September 7, 2021

Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina

Contact: **Ms. Jeanette Gilmetti**

Workorder: **552374**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch 2164572											
QC1204892026 552374004 DUP											
Radium-228	U	1.13	U	1.03	pCi/L	N/A		N/A	JXC9	09/02/21	10:49
	Uncertainty	+/-1.34		+/-0.908							
QC1204892027 LCS											
Radium-228	50.7			61.9	pCi/L		122	(75%-125%)		09/02/21	10:49
	Uncertainty			+/-3.51							
QC1204892025 MB											
Radium-228			U	1.44	pCi/L					09/02/21	10:49
	Uncertainty			+/-1.13							
Rad Ra-226											
Batch 2161142											
QC1204885222 552374001 DUP											
Radium-226		0.578		0.506	pCi/L	13.2		(0% - 100%)	LXP1	08/31/21	11:22
	Uncertainty	+/-0.282		+/-0.258							
QC1204885224 LCS											
Radium-226	53.2			46.3	pCi/L		86.9	(75%-125%)		08/31/21	11:22
	Uncertainty			+/-2.20							
QC1204885221 MB											
Radium-226			U	0.143	pCi/L					08/31/21	11:22
	Uncertainty			+/-0.199							
QC1204885223 552374001 MS											
Radium-226	131	0.578		124	pCi/L		94.6	(75%-125%)		08/31/21	11:22
	Uncertainty	+/-0.282		+/-8.24							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

QC Summary

Workorder: 552374

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 552374

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2164572

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
552374001	AF09074
552374002	AF09084
552374003	AF09090
552374004	AF09085
1204892025	Method Blank (MB)
1204892026	552374004(AF09085) Sample Duplicate (DUP)
1204892027	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples were re-eluted and recounted due to low recovery. The recounts are reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2161142

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
552374001	AF09074
552374002	AF09084
552374003	AF09090
552374004	AF09085
1204885221	Method Blank (MB)
1204885222	552374001(AF09074) Sample Duplicate (DUP)
1204885223	552374001(AF09074) Matrix Spike (MS)

1204885224 Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
The matrix spike, 1204885223 (AF09074MS), aliquot was reduced to conserve sample volume.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Contract Lab Info: GEL Contract Lab Due Date (Lab Only): 9 / 9 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

552374

santee cooper
Santee Coope
One Riverwood Driv
Moncks Corner, SC 2946
Phone: (843)761-8000 Ext. 514
Fax: (843)761-417

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 • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC	
AF09074	WAP-18	8/4/21	1216	MDG/BRT	2	P	G	GW	2		X	X	X	
AF09084	WBW-A1-1	8/5/21	1030	BRT/CWS	|	|	|	|	|		|	|	|	
AF09090	WLF-A1-5	|	1138	|	|	|	|	|	|		|	|	|	
AF09085	WLF-A1-1	|	1246	|	|	|	|	|	|		|	|	|	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	8/10/21	1055	[signature]	GEL	8/10/21	1055
[signature]	GEL	8/10/21	1633	[signature]	GEL	8/10/21	1633

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

☐ METALS (all)

☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients
☐ TOC
☐ DOC
☐ TP/TPO4
☐ NH3-N
☐ F
☐ Cl
☐ NO2
☐ Br
☐ NO3
☐ SO4

MISC.
☐ BTEX
☐ Napthalene
☐ THM/HAA
☐ VOC
☐ Oil & Grease
☐ E. Coli
☐ Total Coliform
☐ pH
☐ Dissolved As
☐ Dissolved Fe
☐ Rad 226
☐ Rad 228
☐ PCB

Gypsum
☐ Wallboard Gypsum *(all below)*
☐ AIM
☐ TOC
☐ Total metals
☐ Soluble Metals
Purity (CaSO4)
☐ % Moisture
☐ Sulfites
☐ pH
☐ Chlorides
☐ Particle Size
☐ Sulfur

Coal
☐ **Ultimate**
☐ % Moisture
☐ Ash
☐ Sulfur
☐ BTUs
☐ Volatile Matter
☐ CHN
Other Tests:
☐ XRF Scan
☐ HGI
☐ Fineness
☐ Particulate Matter

Flyash
☐ Ammonia
☐ LOI
☐ % Carbon
☐ Mineral Analysis
☐ Sieve
☐ % Moisture

NPDES
☐ Oil & Grease
☐ As
☐ TSS

Oil
Trans. Oil Qual.
☐ % Moisture
☐ Color
☐ Acidity
Dielectric Strength
☐ IFT
☐ Dissolved Gases
Used Oil
☐ Flashpoint
☐ Metals in oil (As,Cd,Cr,Ni,Pb,Hg)
☐ TX
COFER

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=HNO_3 3=H_2SO_4 4=HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP	SDG/AR/COC/Work Order: 552374
Received By: BE	Date Received: 8/10/21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services (Courier) Other

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		\	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		\	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		\	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): ___ (CPM) mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		\	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		\	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	\			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	\			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	\			Preservation Method: (Wet Ice) Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 5
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR2-21 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	\			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	\			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			\	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	\			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	\			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	\			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	\			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	\			
13	COC form is properly signed in relinquished/received sections?	\			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials GTB Date 8/12/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 07 September 2021

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

September 13, 2021

Ms. Jeanette Gilmetti
Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina 29461

Re: ABS Lab Analytical
Work Order: 552785

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 13, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4289.

Sincerely,

Julie Robinson

Julie Robinson
Project Manager

Purchase Order: 367074
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report
for

SOOP001 Santee Cooper

Client SDG: 552785 GEL Work Order: 552785

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Julie Robinson.

Reviewed by Julie Robinson

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09056	Project:	SOOP00119
Sample ID:	552785001	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	10-AUG-21 15:00		
Receive Date:	13-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		3.70	+/-1.59	2.37	3.00	pCi/L			JXC9	09/02/21	1049	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		4.82	+/-1.63			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.12	+/-0.365	0.321	1.00	pCi/L			LXP1	08/31/21	1050	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09076	Project:	SOOP00119
Sample ID:	552785002	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	10-AUG-21 15:36		
Receive Date:	13-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.62	+/-1.03	1.58	3.00	pCi/L			JXC9	09/02/21	1049	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.16	+/-1.08			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.539	+/-0.311	0.390	1.00	pCi/L			LXP1	08/31/21	1050	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09086	Project:	SOOP00119
Sample ID:	552785003	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	11-AUG-21 13:35		
Receive Date:	13-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		2.43	+/-1.39	2.14	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.68	+/-1.44			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.26	+/-0.389	0.229	1.00	pCi/L			LXP1	08/31/21	1122	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			85.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09087	Project:	SOOP00119
Sample ID:	552785004	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	11-AUG-21 12:05		
Receive Date:	13-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228		1.87	+/-1.14	1.75	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.17	+/-1.20			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.30	+/-0.380	0.212	1.00	pCi/L			LXP1	08/31/21	1122	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09088	Project:	SOOP00119
Sample ID:	552785005	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	11-AUG-21 11:07		
Receive Date:	13-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	2.00	+/-1.29	2.02	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.62	+/-1.33			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.626	+/-0.324	0.417	1.00	pCi/L			LXP1	08/31/21	1122	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			81.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper
Address :	P.O. Box 2946101 OCO3 Moncks Corner, South Carolina 29461
Contact:	Ms. Jeanette Gilmetti
Project:	ABS Lab Analytical

Client Sample ID:	AF09089	Project:	SOOP00119
Sample ID:	552785006	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	11-AUG-21 11:12		
Receive Date:	13-AUG-21		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting													
GFPC, Ra228, Liquid "As Received"													
Radium-228	U	1.40	+/-1.05	1.66	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.60	+/-1.06			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.205	+/-0.174	0.245	1.00	pCi/L			LXP1	08/31/21	1122	2161142	3

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	
3	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

QC Summary

Report Date: September 13, 2021

Santee Cooper
P.O. Box 2946101
OCO3
Moncks Corner, South Carolina

Contact: **Ms. Jeanette Gilmetti**

Workorder: **552785**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch 2164572											
QC1204892026 552374004 DUP											
Radium-228	U	1.13	U	1.03	pCi/L	N/A		N/A	JXC9	09/02/21	10:49
	Uncertainty	+/-1.34		+/-0.908							
QC1204892027 LCS											
Radium-228	50.7			61.9	pCi/L		122	(75%-125%)		09/02/21	10:49
	Uncertainty			+/-3.51							
QC1204892025 MB											
Radium-228			U	1.44	pCi/L					09/02/21	10:49
	Uncertainty			+/-1.13							
Rad Ra-226											
Batch 2161142											
QC1204885222 552374001 DUP											
Radium-226		0.578		0.506	pCi/L	13.2		(0% - 100%)	LXP1	08/31/21	11:22
	Uncertainty	+/-0.282		+/-0.258							
QC1204885224 LCS											
Radium-226	53.2			46.3	pCi/L		86.9	(75%-125%)		08/31/21	11:22
	Uncertainty			+/-2.20							
QC1204885221 MB											
Radium-226			U	0.143	pCi/L					08/31/21	11:22
	Uncertainty			+/-0.199							
QC1204885223 552374001 MS											
Radium-226	131	0.578		124	pCi/L		94.6	(75%-125%)		08/31/21	11:22
	Uncertainty	+/-0.282		+/-8.24							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

QC Summary

Workorder: 552785

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Radiochemistry
Technical Case Narrative
Santee Cooper
SDG #: 552785

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2164572

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
552785001	AF09056
552785002	AF09076
552785003	AF09086
552785004	AF09087
552785005	AF09088
552785006	AF09089
1204892025	Method Blank (MB)
1204892026	552374004(AF09085) Sample Duplicate (DUP)
1204892027	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples were re-eluted and recounted due to low recovery. The recounts are reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2161142

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
552785001	AF09056
552785002	AF09076
552785003	AF09086
552785004	AF09087
552785005	AF09088

552785006	AF09089
1204885221	Method Blank (MB)
1204885222	552374001(AF09074) Sample Duplicate (DUP)
1204885223	552374001(AF09074) Matrix Spike (MS)
1204885224	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
The matrix spike, 1204885223 (AF09074MS), aliquot was reduced to conserve sample volume.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Contract Lab Info: GEL   Contract Lab Due Date (Lab Only): 9 / 10 / 21   Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

552785

santee cooper
Santee Cooper
One Riverwood Drive
Moncks Corner, SC 29461
Phone: (843)761-8000 Ext. 5148
Fax: (843)761-4175

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 • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC	
AF09056	WAP-7	8/10/21	1500	MDG/BSB	2	P	G	GW	2		X	X	X	
AF09076	WAP-20	⟂	1536	⟂	⟂	⟂	⟂	⟂	⟂		⟂	⟂	⟂	
AF09086	WLF-A1-2	8/11/21	1335	MDG/CWS	⟂	⟂	⟂	⟂	⟂		⟂	⟂	⟂	
AF09087	WLF-A1-3	⟂	1205	⟂	⟂	⟂	⟂	⟂	⟂		⟂	⟂	⟂	
AF09088	WLF-A1-4	⟂	1107	⟂	⟂	⟂	⟂	⟂	⟂		⟂	⟂	⟂	
AF09089	WLF-A1-4 DUP	⟂	1112	⟂	⟂	⟂	⟂	⟂	⟂		⟂	⟂	⟂	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	8/13/21	1105	K. Sift	GEL	8/13/21	1105
K. Sift		8/13/21	1321	[signature]	GEL	8/13/21	13:21

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

☐ METALS (all)		
☐ Ag	☐ Cu	☐ Sb
☐ Al	☐ Fe	☐ Se
☐ As	☐ K	☐ Sn
☐ B	☐ Li	☐ Sr
☐ Ba	☐ Mg	☐ Ti
☐ Be	☐ Mn	☐ Tl
☐ Ca	☐ Mo	☐ V
☐ Cd	☐ Na	☐ Zn
☐ Co	☐ Ni	☐ Hg
☐ Cr	☐ Pb	☐ CrVI

Nutrients: ☐ TOC ☐ DOC ☐ TP/TPO4 ☐ NH3-N ☐ F ☐ Cl ☐ NO2 ☐ Br ☐ NO3 ☐ SO4

MISC.: ☐ BTEX ☐ Napthalene ☐ THM/HAA ☐ VOC ☐ Oil & Grease ☐ E. Coli ☐ Total Coliform ☐ pH ☐ Dissolved As ☐ Dissolved Fe ☐ Rad 226 ☐ Rad 228 ☐ PCB

Gypsum: ☐ Wallboard Gypsum(all below) ☐ AIM ☐ TOC ☐ Total metals ☐ Soluble Metals ☐ Purity (CaSO4) ☐ % Moisture ☐ Sulfites ☐ pH ☐ Chlorides ☐ Particle Size ☐ Sulfur

Coal: ☐ Ultimate ☐ % Moisture ☐ Ash ☐ Sulfur ☐ BTUs ☐ Volatile Matter ☐ CHN
Other Tests: ☐ XRF Scan ☐ HGI ☐ Fineness ☐ Particulate Matter

Flyash: ☐ Ammonia ☐ LOI ☐ % Carbon ☐ Mineral Analysis ☐ Sieve ☐ % Moisture

NPDES: ☐ Oil & Grease ☐ As ☐ TSS

Oil: ☐ Trans. Oil Qual. %Moisture Color Acidity Dielectric Strength IFT Dissolved Gases ☐ Used Oil Flashpoint Metals in oil (As,Cd,Cr,Ni,Pb,Hg) TX GOFER

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=HNO_3 3=H_2SO_4 4-HCl 5=$Na_2S_2O_3$ 6-Other (Specify)

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP	SDG/AR/COC/Work Order: 552785
Received By: BE / NRG	Date Received: 8/13/21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other GEL COURIER

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): ____ CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 2 - Refrig 5 - Freezer
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR2-21 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials GB Date 8/16/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 13 September 2021

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019-165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Field Data Sheets

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

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond Background Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WBW-A1-1	28.14	5.77	10-20	3/1/2021	1005	23.09
Drawdown:	5.98		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)
942	20.93	4.49	139	436	9.8	1.8
947	21.01	4.47	80	329	0	0.74
952	21.15	4.51	74	308	2.2	0.69
957	21.25	4.54	69	298	5.5	0.62
1002	21.75	4.58	65	294	0	0.59
1005	22.11	4.6	62	288	0	0.58

Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond Background Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WBW-A1-1	28.14	6.08	10-20	8/5/2021	1030	23.09
Drawdown:	6.22		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	22.24	4.34	101	239	6.9	1.89
1010	22.45	4.3	92	255	7.6	1
1015	22.76	4.29	82	274	5.3	0.69
1020	22.81	4.32	75	280	4.5	0.58
1025	22.83	4.33	71	284	4.7	0.62
1030	22.84	4.35	67	287	4.6	0.61

Comments/Conditions:

Samples were collected by Ben Taylor and Brad McCray

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 7	29.94	9.41	15- 35	2/24/2021	1102	26.72

Drawdown: 9.5 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)
1037	18.35	5.48	131	425	13.5	5.15
1042	18.74	5.59	132	426	21.4	3.54
1047	19.02	5.61	135	426	16.8	3.44
1052	19.21	5.62	137	425	11	3.29
1057	19.46	5.64	137	424	8.6	3.19
1102	19.63	5.7	136	423	6	3.08

Comments/Conditions: Screen interval didn't match total depth measured

Samples were collected by Trey West and Aaron Hill

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP-7	29.94	9.24	15- 35	8/10/2021	1500	26.72
Drawdown:	9.36		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)
1435	30.13	5.64	147	969	8.6	7.48
1440	29.77	5.62	156	965	3.9	1.95
1445	29.54	5.62	164	957	0	1.69
1450	29.36	5.61	172	952	0	1.54
1455	29.51	5.61	176	948	0	1.48
1500	29.47	5.62	179	946	0	1.41

Comments/Conditions:

Samples were collected by Melanie Goings and Brian Brase.

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-1	41.35	16.75	23-33	3/2/2021	1253	35.82
Drawdown:	16.33		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)
1225	18.83	5.98	70	1390	11.3	5.07
1230	18.51	5.88	74	1400	8	2.54
1235	18.27	5.82	76	1410	2.7	1.18
1240	18.59	5.79	73	1410	1.9	0.95
1245	18.47	5.79	71	1410	2.5	0.83
1250	18.45	5.79	69	1410	1.6	0.77
1253	18.25	5.79	67	1420	0.5	0.73

Comments/Conditions:

Samples were collected by Trey West, Damien Johnson, Thomas Guerry

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-1	41.35	17.26	23-33	8/5/2021	1246	35.83
Drawdown:	17.46		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)
1209	23.44	6.47	-49	2270	1.4	2.8
1214	22.92	6.39	-49	2350	0.5	0.69
1219	22.71	6.35	-50	2210	0.3	0.52
1224	22.56	6.22	-46	1830	0.6	0.46
1229	22.98	6.17	-44	1770	0.5	0.47
1234	23.62	6.16	-43	1760	6	0.52
1237	23.6	6.15	-42	1750	11.7	0.53
1240	23.07	6.14	-42	1730	2.7	0.45
1243	22.89	6.14	-42	1720	0.5	0.43
1246	22.84	6.14	-44	1700	0.4	0.41

Comments/Conditions:

Samples were collected by Ben Taylor and Brad McCray

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-2	29.21	3.91	12'-20'	3/1/2021	1348	24.63
Drawdown:	4.16		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)
1317	20.56	5.45	188	177	23	3.37
1322	18.95	5.4	163	171	11.9	1.02
1327	18.5	5.16	133	157	5.6	0.76
1332	18.44	5.09	116	154	3.8	0.63
1337	18.41	5.07	110	152	1.7	0.59
1342	18.27	5.06	93	150	0	0.51
1345	18.27	5.06	90	150	0	0.51
1348	18.26	5.06	83	150	0	0.49

Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-2	29.21	5.71	12'-20'	8/11/2021	1335	24.65
Drawdown:	5.97		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)
1310	28.8	4.3	15	127	0	0.86
1315	28.79	4.26	1	125	0	0.53
1320	28.36	4.36	-13	125	0	0.38
1325	27.89	4.39	-19	127	0	0.36
1330	27.55	4.42	-24	130	0	0.34
1335	27.61	4.45	-28	129	0	0.32

Comments/Conditions:

Samples were collected by Melanie Goings and Connor Smalling

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-3	28.31	4.13	10'-20'	3/1/2021	1231	22.78
Drawdown:	4.33		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)
1206	21.75	4.45	85	169	0	4.78
1211	21.31	4.44	93	173	0	1.14
1216	20.79	4.42	97	174	0	0.74
1221	20.68	4.42	98	174	0	0.65
1226	20.73	4.42	97	173	0	0.6
1231	20.49	4.42	96	173	0	0.6

Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-3	28.31	5.38	10'-20'	8/11/2021	1205	22.78
Drawdown:	5.56		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)
1140	26.9	3.74	132	160	0.1	1.31
1145	27.57	4.21	57	157	0	0.48
1150	27.72	4.24	36	165	0	0.42
1155	27.84	4.25	20	167	0	0.37
1200	28.2	4.26	11	167	0	0.37
1205	28.68	4.29	2	165	0	0.37

Comments/Conditions:

Samples were collected by Melanie Goings and Connor Smalling

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-4	28.24	3.98	12'-22'	3/1/2021	1110	22.53
Drawdown:	4.28		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)
1042	23.7	6.02	96	236	0	2.22
1047	22.03	5.99	67	241	0	0.7
1052	21.46	6.02	61	245	0	0.64
1057	20.86	6.07	47	256	0	0.56
1102	20.92	6.15	37	270	0	0.5
1107	20.87	6.18	33	273	0	0.5
1110	20.77	6.22	27	278	0	0.52

Comments/Conditions: Duplicate taken at 1115

Samples were collected by Trey West and Marvin Lewis

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-4	28.24	5.42	12'-22'	8/11/2021	1107	22.53
Drawdown:	5.75		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)
1027	22.61	5.78	29	272	1.7	9.37
1032	23.26	5.86	2	288	2.9	1.19
1037	23.57	5.93	-25	281	2.7	1.59
1042	23.58	5.96	-32	287	0	0.74
1047	23.8	5.99	-43	292	4.2	0.78
1052	23.86	6.01	-48	294	7.9	0.73
1055	23.99	6.06	-58	299	0	0.64
1058	24.09	6.08	-63	302	0	0.61
1101	24.19	6.1	-69	306	1	0.59
1104	24.26	6.12	-74	309	0	0.57
1107	24.32	6.15	-79	315	0	0.54

Comments/Conditions: Duplicate taken at 1112

Samples were collected by Melanie Goings and Connor Smalling

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-5	37.64	16.22	23'-33'	3/2/2021	1401	35.93
Drawdown:	17.12		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)
1330	18.55	6.88	69	1470	7.6	3.12
1335	17.4	6.89	65	1480	2.6	1.11
1340	17.21	6.88	64	1470	0	0.79
1345	17.31	6.87	62	1470	0.5	0.77
1350	17.5	6.85	56	1470	2.1	0.65
1355	17.54	6.82	49	1460	1.8	0.62
1358	17.42	6.82	45	1470	1.4	0.58
1401	17.41	6.81	42	1460	0.5	0.55

Comments/Conditions:

Samples were collected by Trey West, Damien Johnson, Thomas Guerry

Winyah Generating Station
Class 3 Landfill (Area 1) and Closed Unit 2 Slurry Pond CCR
Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WLF-A1-5	37.64	16.19	23'-33'	8/5/2021	1138	35.93
Drawdown:	17.58		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)
1113	23.56	6.6	-114	1540	3.2	1.52
1118	23.43	6.78	-131	1550	0	0.72
1123	23.24	6.81	-133	1560	0	0.55
1128	23.2	6.82	-133	1580	0	0.49
1133	23.2	6.82	-130	1590	0	0.45
1138	23.08	6.82	-126	1600	0	0.44

Comments/Conditions:

Samples were collected by Ben Taylor and Brad McCray