2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT ASH PONDS A AND B WINYAH GENERATING STATION

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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 Ash Ponds A and B at the Winyah Generating Station (WGS). This 2021 Annual Report was prepared to comply with the United States Environmental Protection Agency (EPA) Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals (CCR) from Electric Utilities, Title 40 Code of Federal Regulations (CFR) Part 257, Subpart D dated April 17, 2015, (CCR Rule), specifically subsection § 257.90(e)(1) through (6).

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), Ash Ponds A and B continued to operate under an assessment monitoring program in accordance with § 257.95. As required by § 257.93(h)(2), statistically significant levels (SSLs) of arsenic, lithium, and molybdenum were identified in one or more downgradient wells. Therefore, an assessment of corrective measures and an evaluation of the nature and extent of contamination was initiated per §257.95(g)(3) on April 15, 2019 and completed on September 11, 2019. A public meeting was held on December 10, 2019 to discuss six remedial alternatives per § 257.96(e). A remedy has not yet been selected pursuant to § 257.97; however, semi-annual progress reports detailing progress in selecting the remedy were completed in March and September 2021 for these units. For the 2021 assessment monitoring events, SSLs of arsenic, lithium, and molybdenum were identified in monitoring wells WAP-9, WAP-17, WAP-18, WAP-19, and WAP-20. At the end of the current annual reporting period (December 31, 2021), Ash Ponds A and B remained in the assessment monitoring program.

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.

Ash Ponds A and B at WGS are existing surface impoundments and are subject to the groundwater monitoring and corrective action requirements set forth by the EPA in 40 CFR § 257.90 through § 257.98. This document satisfies the requirement under § 257.90(e) which requires the CCR Unit Owner/Operator to prepare an Annual Groundwater Monitoring and Corrective Action Report.

2.2 40 CFR § 257.90(e) - SUMMARY

Annual groundwater monitoring and corrective action report. For existing CCR landfills and existing CCR surface impoundments, no later than January 31, 2018, and annually thereafter, the owner or operator must prepare an annual groundwater monitoring and corrective action report. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key

actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1).

This Annual Report documents the activities completed in 2021 for Ash Ponds A & B 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 § 257.95, is provided in this report.

2.2.1 Status of the Groundwater Monitoring and Corrective Action Program

As required by § 257.93(h)(2), the statistical evaluation of the detected Appendix IV constituents identified SSLs exceeding groundwater protection standards (GWPS), specifically arsenic, lithium, and molybdenum at both Ash Pond A and Ash Pond B. Therefore, an assessment of corrective measures and an evaluation of the nature & extent of contamination was initiated per §257.95(g)(3). Additional groundwater sampling during the nature & extent evaluation showed that the extent of the SSLs is confined to the uppermost aquifer on-site and does not extend north and east of the Cooling Water Pond. This continues to be the case through 2021. An Assessment of Corrective Measures report (CMA) was completed on September 11, 2019 and is available on the publicly available CCR website. A public meeting was held on December 10, 2019 to discuss the six alternatives presented in the CMA for a remedy per § 257.96(e).

In 2021, the assessment monitoring program was continued. Consistent with previous results, arsenic, lithium, and molybdenum continue to be the only Appendix IV constituents present in groundwater at SSLs above the GWPS.

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 samples (February/March and August) in accordance with § 257.95(b) and § 257.95(d)(1) and recorded the concentrations in the facility's operating record as required by § 257.95(d)(1). Groundwater monitoring results are summarized in Table 1 and laboratory analytical reports are provided in Appendix B.
- Completed statistical evaluation to determine statistically significant exceedances of GWPS for Appendix IV in accordance with § 257.93(h)(2) (Appendix A).

- Installed replacement groundwater monitoring wells WAP-17, WAP-18, and WAP-22 after proper abandonment by a South Carolina Certified Well Driller. Well installation records are provided in Appendix C.
- Additional characterization of nature and extent § 257.95(g)(1).
- Completed two Semi-Annual Progress Reports on Remedy Selection § 257.97 (a), 257.105 (h)(12).
- Completed the delineation of the bottom of contaminated in-situ soil § 257.95(g)(1).

2.2.3 Problems Encountered

At Ash Pond A in 2021, landfill construction impacted three (3) monitoring wells: WAP-17, WAP-18, and WAP-22. WAP-17 is a downgradient monitoring well. The original WAP-17 was located on the dike crest of Ash Pond A which was impacted by widening the dike road to accommodate landfill construction traffic. Monitoring wells WAP-18 and WAP-22 were also impacted by construction equipment. The protective posts for these two adjacent wells on the dike crest of Ash Pond A were damaged. The integrity of the wells themselves may have also been impacted.

2.2.4 Actions to Resolve Problems

Monitoring well WAP-17 was properly abandoned and replaced by a South Carolina certified well driller in April 2021. The well was abandoned in place at its original location on the dike crest and replaced at the toe of the dike in the same vicinity as the original well. Monitoring wells WAP-18 and WAP-22 were properly abandoned and replaced by a South Carolina certified well driller in December 2021. The wells were abandoned in place in their original location on the dike crest and replaced at the toe of the dike in the same vicinity as the original wells.

2.2.5 Project Key Activities for Upcoming Year

Key activities to be completed in 2022 include the following:

- Utilize the existing groundwater model to evaluate how pond closure with the construction of the new landfill may affect groundwater flow direction. This will provide the ability to anticipate and proactively address any potential changes to the groundwater monitoring network for ongoing compliance.
- Conduct semi-annual groundwater monitoring consistent with § 257.98(a)(1) and § 257.95(d)(1).
- Statistical analysis of Assessment Monitoring analytical data to determine if SSLs of the detected Appendix IV constituents are present.
- Additional characterization of nature and extent as needed § 257.95(g)(1).
- Update the existing groundwater model to calibrate the model to existing conditions and examine the fate and transport characteristics of arsenic in groundwater.
- Semi-Annual Progress Report(s) as required by § 257.97(a), 257.105(h)(12), if needed.
- Selection of the remedy and preparation of Selection of Remedy Report including schedules for implementing and completing remedial activities § 257.97(d).
- Initiate Groundwater Remedial Activities within 90 days of selecting the remedy which includes a reevaluation of the current groundwater monitoring plan § 257.98(a).
- Develop the Corrective Action Groundwater Monitoring Program § 257.98(a)(1).

- Field implementation of the remedy with any associated additional groundwater monitoring activities, as appropriate.
- Prepare the 2022 annual report; place it in the record as required by § 257.105(h)(1), notify the state [§ 257.106(d)]; and post to website [§ 257.107(d)].

2.3 40 CFR § 257.90(e) - INFORMATION

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

2.3.1 40 CFR § 257.90(e)(1)

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

As required by § 257.90(e)(1), a map showing the locations of the CCR unit and associated upgradient and downgradient monitoring wells for Ash Ponds A and B are presented as Figure 1.

2.3.2 40 CFR § 257.90(e)(2)

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

At Ash Pond A in 2021, landfill construction impacted three (3) monitoring wells: WAP-17, WAP-18, and WAP-22. WAP-17 is a downgradient monitoring well installed in the uppermost aquifer. The original WAP-17 was located on the dike crest of Ash Pond A which was impacted by widening the dike road to accommodate landfill construction traffic. Monitoring well WAP-17 was properly abandoned and replaced by a South Carolina certified well driller in April 2021. The well was abandoned in place at its original location on the dike crest and replaced at the toe of the dike in the same vicinity as the original well. Well installation records are provided in Appendix C.

Monitoring wells WAP-18 and WAP-22 were also impacted by construction equipment. WAP-18 is a downgradient monitoring well installed in the uppermost aquifer and WAP-22 is a downgradient monitoring well that extends into the deeper portion of the aquifer to provide additional vertical extent information. The protective posts for these two adjacent wells on the dike crest of Ash Pond A were damaged. The integrity of the wells themselves may have also been impacted. Monitoring wells WAP-18 and WAP-22 were properly abandoned and replaced by a South Carolina certified well driller in December 2021. The wells were abandoned in place in their original location on the dike crest and replaced at the toe of the dike in the same vicinity as the original wells. Well installation records are provided in Appendix C.

2.3.3 40 CFR § 257.90(e)(3)

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

In accordance with § 257.95(b) and § 257.95(d)(1), two independent samples from each background and downgradient monitoring well were collected and analyzed. A summary table including the sample names, dates of sample collection, reason for sample collection, and monitoring data obtained for the

groundwater monitoring program for Ash Ponds A and B is presented in Table 1 of this report. In addition, and in accordance with § 257.95(d)(3), Table 1 includes the groundwater protection standards established under § 257.95(d)(2). Laboratory analytical results, along with field sampling forms, are also provided as Appendix B.

2.3.4 40 CFR § 257.90(e)(4)

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

The groundwater monitoring program remained in assessment monitoring for the duration of 2021. A summary of the evolution of the monitoring programs is provided in this section.

As required by § 257.93(h) a statistical analysis of the Appendix III constituents was completed by January 15, 2018. Baseline analytical data collected from background monitoring wells WBW-1 and WAP-1 were combined to develop Upper Tolerance Limits (UTLs). The UTLs for each Appendix III constituent were compared to the analytical results for the downgradient monitoring wells WAP-9, WAP-10, WAP-17, WAP-18, and WAP-19. Constituents with analytical results exceeding the UTLs were identified as SSIs over background for the respective Appendix III constituent. This statistical analysis determined that statistically significant increases of boron, calcium, chloride, fluoride, pH, sulfate, total and dissolved solids were present downgradient of Ash Ponds A and B. An evaluation of alternate sources was initiated and completed on April 13, 2018 as provided in § 257.94(e)(2). A source causing the SSI over background levels other than the CCR unit was not identified at that time and an Assessment Monitoring program was initiated on July 16, 2018.

The Assessment Monitoring program has been established to meet the requirements of 40 CFR § 257.95. As required by § 257.93(h)(2), the statistical evaluation of the detected Appendix IV constituents determined a statistically significant exceedance of groundwater protection standards, specifically for arsenic, lithium, and molybdenum at Ash Ponds A & B. Therefore, per §257.95(g)(3), an assessment of corrective measures and an evaluation of the nature and extent of contamination was initiated on April 15, 2019. The CMA report was created considering the presence and distribution of arsenic, lithium, and molybdenum, Ash Ponds A and B's configuration and operational history, hydrogeologic setting, and the results of the evaluation of the nature and extent of contamination available at the time of the CMA.

Based on the statistical evaluation for the 2021 data, no new SSLs were identified (see Appendix A). For both Ash Ponds A and B, arsenic, lithium, and molybdenum were identified as SSLs the February/March monitoring event. However, molybdenum was not identified as an SSL during the August monitoring events for either Ash Pond A or B.

2.3.5 40 CFR § 257.90(e)(5)

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

Actions completed in the interim between the public meeting and final remedy selection included: reclaiming CCR material from Ash Pond A for beneficial use and/or excavating for disposal in the on-site

Class 3 Landfill, delineating the bottom of ash, and delineating the bottom of any contaminated in-situ soil via laboratory analysis of soil borings. The delineations of the bottom of ash and vertical extent of soil impacts have provided additional information relevant to the selection of remedy process.

A planned activity for continuing the remedy selection process in 2022 includes updating the existing groundwater model. The groundwater model was prepared as part of the assessment of corrective measures process in 2019. The update to the model will include calibrating the model to existing conditions and providing a closer examination of the fate and transport of arsenic in groundwater. This will help demonstrate that monitored natural attenuation (MNA), which is part of the preferred remedy, will be successful.

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 Ash Ponds A and B 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 Mod	EPA 904.0	EPA 903.1 Mod	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																																				
WAP-1	Background	2/15/2021	AE96379		24	2.1	7.18	<0.10	24.6	67.5	4.2	<5.0	8.3	52.9	<0.50	<0.50	<5.0	1.5	<0.10	<1.0	<10	<0.2	<10	0.422	1.34	1.76	<10.0	<1.0	4.16	25.28	4.2	85	14.13	227	0	0.65
WAP-1	Background	7/20/2021	AF09050		26	2.2	8.76	<0.10	27.8	78.75	4.24	<5.0	<5.0	54.7	<0.50	<0.50	<5.0	1.6	<0.10	<1.0	<10	<0.2	<10	1.05	3.96	5.01	<10.0	<1.0	6.14	23.3	4.24	88	28.33	133	0.9	0.44
WAP-1	**total samples**				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	2
WBW-1	Background	2/15/2021	AE96412		<15	0.51	1.77	<0.10	6.41	32.5	4.2	<5.0	<5.0	9.7	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.453	1.24	1.69	<10.0	<1.0	3.32	28.65	4.2	28	14.41	339	0	0.72
WBW-1	Background	7/20/2021	AF09083		<15	1.2	4.62	<0.10	5.84	68.75	4.77	<5.0	<5.0	23.7	<0.50	<0.50	5	2.3	<0.10	<1.0	<10	<0.2	<10	0.602	0.024	0.626	<10.0	<1.0	18.27	13.7	4.77	42	24.72	121	0	0.69
WBW-1	**total samples**				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	2
Ash Pond A Wells																																				
WAP-9	Assessment	2/23/2021	AE96387			121	83.9	<0.10	172.3	716.2	5.68	<5.0	101	57.6	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	69	<0.2	<10	1.07	2.59	3.65	<10.0	<1.0	8.83	19.21	5.68	748	18.93	17	0	0.45
WAP-9	Assessment	8/2/2021	AF09058		4600	182	77.7	<0.10	197	941.2	5.97		84	76.2		<0.50	<5.0	<0.50	<0.10	<1.0	57		<10	1.27	2.19	3.46	<10.0		9.7	18.34	5.97	1160	28.14	-69	4.2	0.29
WAP-9	**total samples**				1	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2	2	2	2	2	2	2
WAP-17	Assessment	3/2/2021	AE96401		2800	136	45.3	0.32	348	812.5	5.88	<5.0	90.6	23	<0.50	<0.50	<5.0	<0.50	0.32	<1.0	160	<0.2	110	0.25	0.141	0.39	<10.0	<1.0	8.89	20.38	5.88	743	17.22	84	0	0.61
WAP-17	Duplicate	3/2/2021	AE96402		2900	136	47.1	0.29	359	693.8		<5.0	95.4	23.4	<0.50	<0.50	<5.0	<0.50	0.29	<1.0	150	<0.2	110	0.308	0.794	1.1	<10.0	<1.0								
WAP-17	Assessment	4/8/2021	AF00695		3300	180	66.6	<0.10	432	1015	6.22	<5.0	108	26.9	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	130	<0.20	59	0.172	3.85	4.02	<10.0	<1.0	6.98	19.9	6.22	1140	23.83	19	0	0.39
WAP-17	Duplicate	4/8/2021	AF00696		3300	188	65.8	<0.10	426	967.5		<5.0	110	28.4	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	120	<0.20	57	1.02	4.17	5.19	<10.0	<1.0								
WAP-17	Assessment	8/2/2021	AF09072		4100	247	198	<0.10	607	1321	5.82		89.5	52.9				<0.50	<0.10		12		12	0.811	2.23	3.04			6.24	20.64	5.82	1660	29.17	-49	12.7	0.39
WAP-17	Duplicate	8/2/2021	AF09073		3900	244	195	<0.10	600	1286			90.5	51.7				<0.50	<0.10		11		14	0.854	2.68	3.53										
WAP-17	**total samples**				6	6	6	6	6	6	3	4	6	6	4	4	4	6	6	4	6	4	6	6	6	6	4	4	3	3	3	3	3	3	3	3
WAP-18	Assessment	2/16/2021	AE96403		7500	324	27.5	1.39	692	1428	6.37	<5.0	442	91.5	<0.50	0.68	<5.0	0.85	1.39	<1.0	540	<0.2	2900	0.298	1.24	1.54	<10.0	<1.0	22.72	20.33	6.37	1610	21.07	87	2.7	0.76
WAP-18	Assessment	8/4/2021	AF09074		3500	335	92.1	2.51	750	1431	5.21		132	141				3.3	2.51		500		90	0.578	1.45	2.03			19.08	23.97	5.21	1680	24.05	166	8.4	0.56
WAP-18	**total samples**				2	2	2	2	2	2	2	1	2	2	1	1	1	2	2	1	2	1	2	2	2	2	1	1	2	2	2	2	2	2	2	2
WAP-19	Assessment	2/16/2021	AE96404		3500	325	64.8	0.17	800	1510	6.32	<5.0	120	39.6	<0.50	<0.50	<5.0	<0.50	0.17	<1.0	290	<0.2	41	0.355	1.83	2.18	<10.0	<1.0	20.45	22.94	6.32	1740	22.54	1	22	0.45
WAP-19	Assessment	8/3/2021	AF09075		4000	342	122	0.26	775	1582	6.37		147	51.2				<0.50	0.26		240		24	0.726	0.899	1.63			22.35	21.04	6.37	1910	23.64	-59	6.8	0.48
WAP-19	**total samples**				2	2	2	2	2	2	2	1	2	2	1	1	1	2	2	1	2	1	2	2	2	2	1	1	2	2	2	2	2	2	2	2
WAP-22	CMA/NE	2/16/2021	AE96407							6.58			<5.0								43		<10						23.42	19.95	6.58	2390	20.98	-62	0	0.79
WAP-22	CMA/NE	8/4/2021	AF09078							6.9			11.1								67		<10						22.33	21.04	6.9	1980	24.1	-140	6	0.47
WAP-22	**total samples**				0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	2	2	2	2	2	2
Ash Pond B Wells																																				
WAP-10	Assessment	2/17/2021	AE96388			515	753	<0.10	770	2889	6.38	<5.0	<5.0	298	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	26	<0.2	<10	2.88	2.96	5.83	<10.0	<1.0	4.36	21.75	6.38	3910	17.41	-46	36.6	0.54
WAP-10	Duplicate	2/17/2021	AE96389			476	745	<0.10	763	2912		<5.0	<5.0	305	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	25	<0.2	<10	1.63	1.53	3.16	<10.0	<1.0								
WAP-10	Assessment	8/2/2021	AF09059		8800	622	843	<0.10	843	3032	6.44		<5.0	291		<0.50	<5.0	<0.50	<0.10	<1.0	25		<10	3.81	-0.0936	3.81	<10.0		4.98	21.13	6.44	4000	24.72	-110	4.2	0.43
WAP-10	Duplicate	8/2/2021	AF09060		8700	618	800	<0.10	797	3544			<5.0	301		<0.50	<5.0	<0.50	<0.10	<1.0	25		<10	2.55	3.33	5.88	<10.0									
WAP-10	**total samples**				2	4	4	4	4	4	2	2	4	4	2	4	4	4	4	2	4	2	4	4	4	4	4	2	2	2	2	2	2	2	2	2
WAP-20	Assessment	2/16/2021	AE96405		570	54.2	8.53	0.65	96.3	340	5.84	<5.0	23.8	35.4	<0.50	<0.50	<5.0	<0.50	0.65	<1.0	290	<0.2	140	0.327	0.55	0.877	<10.0	<1.0	18.79	24.29	5.84	333	21.32	65	1.6	0.89
WAP-20	Assessment	8/10/2021	AF09076		1800	49.3	92.3	0.23	<2.0	452.5	6.24	<5.0	19	45.1	<0.50	<0.50	<5.0	<0.50	0.23	1.3	41	<0.2	21	0.54	1.62	2.16	<10.0	<1.0	21.78	21.3	6.24	784	25.19	-84	585	0.49
WAP-20	**total samples**				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	2	2
WAP-21	Assessment	2/17/2021	AE96406		2400	76.4	15.2	<0.10	68.5	403.8	6.2	<5.0	<5.0	20.4	<0.50	<0.50	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.646	1.48	2.13	<10.0	<1.0	18.86	24.2	6.2	479	17.82	35	0	0.57
WAP-21	Assessment	8/3/2021	AF09077		2200	76.3	11.5	<0.10	29.5	357.5	6.13		<5.0	28.4				<0.50	<0.10		<10		<10	0.436	4.54	4.98			21.46	21.6	6.13	455	23.67	-57	21	0.49
WAP-21	**total samples**				2	2	2	2	2	2	2	1	2	2	1	1	1	2	2	1	2	1	2	0	0	0	0	0	2	2	2	2	2	2	2	2
WAP-23	CMA/NE	2/17/2021	AE96408							6.73			<5.0								11		<10						20.2	23.03	6.73	937	18.91	-58	4.5	0.64
WAP-23	CMA/NE	8/3/2021	AF09079							6.61			<5.0								12		<10						21.83	21.4	6.61	1060	22.99	-102	12.8	0.39
WAP-23	**total samples**				0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	2	2	2	2	2	2
WAP-24	CMA/NE	3/2/2021	AE96409							7.59			<5.0								<10		<10						6.25	22.52	7.59	309	18.53	72	1.6	5.3
WAP-24	CMA/NE	8/2/2021	AF09080							7.53			<5.0								<10		<10						7.57	21.2	7.53	340	27.4	-166	6.3	0.41
WAP-24	**total samples**				0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	2	2	2	2	2	2
WAP-25	CMA/NE	3/4/2021	AE96410							6.93			<5.0								<10		<10						8.05	19.05	6.93	348	18.69	-115	0	0.63
WAP-25	CMA/NE	8/10/2021	AF09081							7.05			<5.0								<10		<10						7.92	19.18	7.05	345	23.55	-145	0	1.02
WAP-25	**total samples**				0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	2	2	2	2	2	2
WAP-26	CMA/NE	3/2/2021	AE96411							5.03			<5.0								<10		<10						6.52	21.04	5.03	191	17.86	74	3.1	0.72
WAP-26	CMA/NE	8/10/2021	AF09082							4.72			<5.0								<10		<10						7.49	20.07	4.72	184	27.54	103	0	0.51
WAP-26	**total samples**				0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	2	2	2	2	2	2

All groundwater samples collected from the monitoring wells for Assessment and CMA/NE 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 § 257.95.
2.The Corrective Measures Assessment/Nature & Extent (CMA/NE) wells were not sampled to comply with § 257.95(g)(iv) as the CCR Unit had already moved out of the CMA/NE monitoring program. These wells continue to provide additional insight to the nature & extent of the plume during corrective action. Moving forward, all CMA/NE wells will be sampled to comply with § 257.95(g)(iv) or § 257.98(a)(1).

FIGURES

LEGEND

- BACKGROUND WELL
- ASH POND B MONITORING WELL
- PROPERTY BOUNDARY WELL

ASH POND A MONITORING WELL

- ABANDONED
- EXISTING
- REPLACEMENT
- CCR UNIT BOUNDARY
- PROPERTY BOUNDARY

NOTES

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

N

0 1,000 2,000

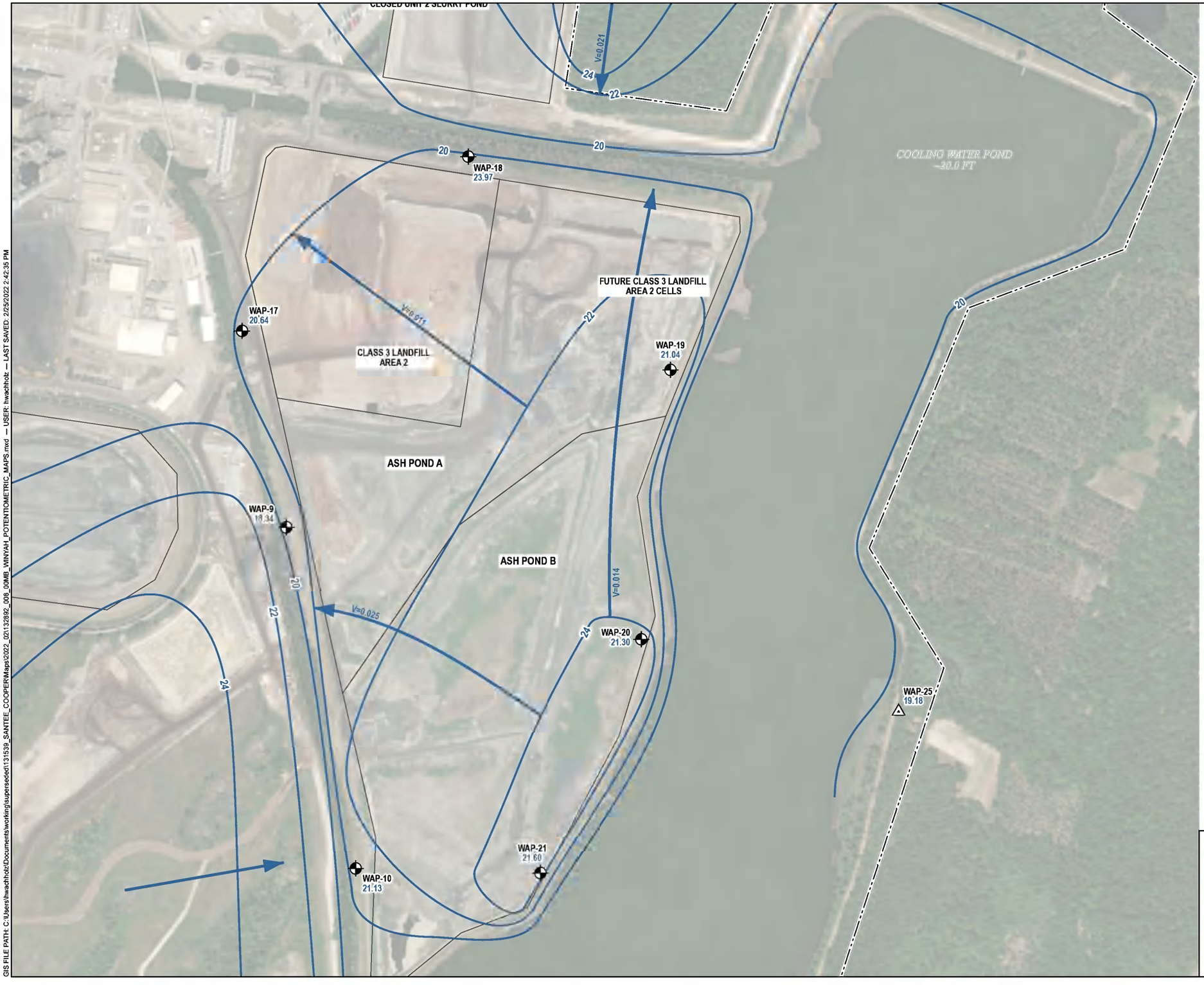
SCALE IN FEET

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

LOCATION OF ASH POND A & B GROUNDWATER MONITORING WELLS FOR CCR COMPLIANCE

JANUARY 2022

FIGURE 1



LEGEND

- CCR MONITORING WELL
- NATURE AND EXTENT 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 15, 2021 THROUGH MARCH 4, 2021

7. AERIAL IMAGERY SOURCE: ESRI

N

0 500 1,000
SCALE IN FEET

HALEY ALDRICH

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

POTENTIOMETRIC MAP
ASH PONDS A & B
FEBRUARY-MARCH 2021

FEBRUARY 2022

FIGURE 2

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

LEGEND

- CCR MONITORING WELL
- NATURE AND EXTENT 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 JULY 20, 2021 THROUGH AUGUST 10, 2021

7. GROUNDWATER FLOW VELOCITY WAS NOT CALCULATED FOR THE WGS ASH POND A & B JULY-AUGUST 2021 EVENT BECAUSE THE INTERPRETED POTENTIOMETRIC CONTOUR AND WELL DATA NEAR THE EDGE OF THE UNIT BOUNDARY WOULD NOT PRODUCE A VALUE REPRESENTATIVE OF THE FLOW CONDITIONS FOR THE ENTIRE UNIT, BUT RATHER A LOCALIZED VALUE FOR THE EDGE OF THE UNIT ONLY. SEE FIGURE 2 FOR REPRESENTATIVE UNIT GROUNDWATER VELOCITY CALCULATIONS FOR THE WGS ASH POND A & B UNIT.

8. AERIAL IMAGERY SOURCE: ESRI

N

0 500 1,000
SCALE IN FEET

HALEY ALDRICH

SANTEE COOPER
WINYAH GENERATING STATION
GEORGETOWN, SOUTH CAROLINA

POTENTIOMETRIC MAP
ASH PONDS A & B
JULY-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
Greenville, SC 29601
864.214.8750

TECHNICAL MEMORANDUM

July 28, 2021
File No. 132892-013

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data
Statistical Evaluation
Winyah Generating Station
Ash Pond A

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 Ash Pond A 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 semi-annual groundwater sampling events for the downgradient monitoring wells were compared to the GWPS established from the background dataset for the upgradient monitoring wells (WAP-1 and WBW-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 October 14, 2017. 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 most recent groundwater sampling event from each compliance well was compared to the corresponding GWPS to determine if a SSL existed.

STATISTICAL EVALUATION

An interwell evaluation, which compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data, was used. 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 February 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 (WAP-1 and WBW-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 February 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 previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Consistent with previous results, arsenic, lithium, and molybdenum continue to be the only Appendix IV constituents present in groundwater at SSLs above GWPS.

Closure by removal has been initiated at Ash Pond A and is anticipated to be completed in 2025. During closure activities, a short-term increase in the concentrations of Appendix IV SSLs is possible but these spikes in concentration should rapidly decrease once the closure is complete and equilibrium groundwater conditions are restored.

Tables:

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

TABLES

Winyah Ash Pond A

Assessment Monitoring Statistical Analysis Summary

Prepared: July 21, 2021

																		Inter-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*	February 2021 Concentration	Detect?	Upper Tolerance Limit (mg/L)	SSI	GWPS (Higher of MCL/RSL or Background Limit) (mg/L)	SSL
CCR Appendix-IV: Antimony, Total (mg/L)																									
WBW-1	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA			0.025		0.025	
WAP-01	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA							
WAP-09	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-L7	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-L8	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-L9	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
CCR Appendix-IV: Arsenic, Total (mg/L)																									
WBW-1	0/15	100%	0.003-0.005	0.00473	0.005	0.005		4.952E-07	0.0007037	0.1487	0.01	mg/L	N	0	0	NA	NA	NA	NA			0.008		0.010	
WAP-01	1/17	94%	0.003-0.005	0.00496	0.005	0.00566	0.0083	0.000001179	0.001086	0.219	0.01	mg/L	N	0	0	Yes	No	NA							
WAP-09	L7/17	0%	-	0.239	0.229	0.4112	0.42	0.008985	0.09479	0.3972	0.01	mg/L	Y	17	0	No	No	Decreasing	Normal	0.101	Y		Y		TRUE
WAP-17	L6/16	0%	-	0.134	0.12	0.21	0.24	0.001798	0.04241	0.3176	0.01	mg/L	Y	16	0	No	No	Decreasing	Normal	0.108	Y		Y		TRUE
WAP-L8	L5/15	0%	-	0.566	0.33	1.383	1.53	0.2009	0.4482	0.7913	0.01	mg/L	Y	15	0	No	No	Stable	Normal	0.442	Y		Y		TRUE
WAP-L9	L5/15	0%	-	0.104	0.0978	0.2385	0.256	0.004194	0.06476	0.6245	0.01	mg/L	Y	15	0	Yes	No	Stable	Normal	0.120	Y		Y		TRUE
CCR Appendix-IV: Barium, Total (mg/L)																									
WBW-1	L5/15	0%	-	0.0126	0.013	0.01565	0.016	0.000008808	0.002968	0.2348	2	mg/L	N	0	0	No	No	Decreasing	Non-parametric			0.094		2.0	
WAP-01	L7/17	0%	-	0.0314	0.025	0.0628	0.094	0.0005614	0.02369	0.7541	2	mg/L	N	0	0	No	No	Stable							
WAP-09	L8/18	0%	-	0.0757	0.06925	0.116	0.15	0.0004988	0.02233	0.2952	2	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.058	Y		N		FALSE
WAP-L7	L7/17	0%	-	0.0502	0.048	0.07624	0.1	0.00033	0.01817	0.362	2	mg/L	N	0	0	Yes	No	Decreasing	Normal	0.027	Y		N		FALSE
WAP-L8	L5/15	0%	-	0.0909	0.0915	0.1024	0.11	0.00008804	0.009383	0.1032	2	mg/L	N	0	0	Yes	No	Stable	Normal	0.092	Y		N		FALSE
WAP-L9	L5/15	0%	-	0.0529	0.051	0.08467	0.1	0.0003156	0.01776	0.3358	2	mg/L	N	0	0	No	No	Decreasing	Non-parametric	0.040	Y		N		FALSE
CCR Appendix-IV: Beryllium, Total (mg/L)																									
WBW-1	0/13	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA				0.0005		0.0	
WAP-01	0/13	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						
WAP-09	0/12	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		FALSE
WAP-L7	0/13	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		FALSE
WAP-L8	0/12	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		FALSE
WAP-L9	0/12	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		FALSE
CCR Appendix-IV: Cadmium, Total (mg/L)																									
WBW-1	0/14	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA				0.0005		0.0	
WAP-01	0/16	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						
WAP-09	0/16	100%	0.0005-0.002	0.000594	0.0005	0.000875		1.406E-07	0.000375	0.6316	0.005	mg/L	N	0	0	NA	NA	NA	NA	0.0005	N		N		FALSE
WAP-L7	0/13	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		FALSE
WAP-L8	1/12	92%	0.0005-0.0005	0.000515	0.0005	0.000581	0.00068	2.7E-09	0.00005196	0.1009	0.005	mg/L	N	0	0	NA	NA	NA	NA	0.00068	Y		Y		FALSE
WAP-L9	0/12	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		FALSE
CCR Appendix-IV: Chromium, Total (mg/L)																									
WBW-1	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.251E-20	1.118E-10	2.237E-08	0.1	mg/L	N	0	0	NA	NA	NA				0.005		0.1	
WAP-01	0/16	100%	0.005-0.005	0.005	0.005	0.005		7.228E-21	8.502E-11	0.000000017	0.1	mg/L	N	0	0	NA	NA	NA	NA						
WAP-09	0/16	100%	0.005-0.01	0.00531	0.005	0.00625		0.000001562	0.00125	0.2353	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-L7	0/13	100%	0.005-0.005	0.005	0.005	0.005		1.807E-20	1.344E-10	2.688E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-L8	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-L9	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
CCR Appendix-IV: Cobalt, Total (mg/L)																									
WBW-1	0/15	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA				0.0015		0.006	
WAP-01	2/15	87%	0.0005-0.0005	0.000573	0.0005	0.000863	0.0015	6.635E-08	0.0002576	0.4498	0.006	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/13	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		FALSE
WAP-L7	0/14	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		FALSE
WAP-L8	3/13	77%	0.0005-0.0005	0.000544	0.0005	0.000748	0.00085	1.096E-08	0.0001047	0.1925	0.006	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	0.00085	Y		N		FALSE
WAP-L9	0/13	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		FALSE
CCR Appendix-IV: Fluoride (mg/L)																									
WBW-1	1/16	94%	0.1-0.1	0.1	0.1	0.1	0.1	1.85E-18	1.36E-09	1.36E-08	4	mg/L	N	0	0	No	No	NA							
WAP-01	2/16	88%	0.1-0.1	0.104	0.1	0.1325	0.14	0.0001462	0.01209	0.1159	4	mg/L	N	0	0	No	No	NA	Non-parametric			0.140		4.0	
WAP-09	1/16	94%	0.1-0.1	0.101	0.1	0.1025	0.11	0.00000625	0.0025	0.02484	4	mg/L	N	0	0	No	No	NA	Non-parametric	0.100	N		N		FALSE
WAP-L7	L2/17	29%	0.1-0.1	0.158	0.14	0.264	0.32	0.004228	0.06502	0.4109	4	mg/L	N	0	0	No	No	Stable	Normal	0.100	N		N		FALSE
WAP-L8	L5/16	6%	0.1-0.1	1.15	1.27	1.91	2	0.2994	0.5472	0.4766	4	mg/L	N	0	0	No	No	Increasing	Non-parametric	1.390	Y		Y		FALSE
WAP-L9	L2/16	25%	0.1-0.1	0.211	0.17	0.415	0.58	0.01793	0.1339	0.6357	4	mg/L	N	0	0	No	No	Increasing	Non-parametric	0.170	Y		Y		FALSE
CCR Appendix-IV: Lead, Total (mg/L)																									
WBW-1	0/14	100%	0.001-0.01	0.00186	0.001	0.005125		0.000005786	0.002405	1.295	0.015	mg/L	N	0	0	NA	NA	NA				0.010		0.015	
WAP-01	4/16	75%	0.001-0.01	0.00205	0.001	0.00592	0.00456	0.000005406	0.002325	1.132	0.015	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric						
WAP-09	0/16	100%	0.001-0.0025	0.00125	0.001	0.0025		0.0000003	0.0005477	0.4382	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
WAP-L7	0/13	100%	0.001-0.0025	0.00123	0.001	0.0025		3.173E-07	0.0005633	0.4577	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
WAP-L8	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
WAP-19	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
CCR Appendix-IV: Lithium, Total (mg/L)																									
WBW-1	0/15	100%	0.01-0.01	0.01	0.01	0.01		3.098E-20	1.76E-10	1.76E-08	0.04	mg/L	N	0	0	NA	NA	NA				0.012		0.040	
WAP-01	1/15	93%	0.01-0.01	0.0101	0.01	0.01048	0.0116	1.707E-07	0.000413	0.04088	0.04	mg/L	N	0	0	No	No	Stable	Non-parametric						
WAP-09	L5/15	0%	-	0.0786	0.07	0.1181	0.13	0.0004207	0.02051	0.261	0.04	mg/L	Y	15	0	Yes	No	Decreasing	Normal	0.069	Y		Y		TRUE
WAP-L7	L6/16	0%	-	0.334	0.305	0.6187	0.825	0.02999	0.1732	0.5181	0.04	mg/L	Y	16	0	Yes	No	Decreasing	Normal	0.130	Y		Y		TRUE
WAP-L8	L5/15	0%	-	0.262	0.24	0.442	0.54	0.01243	0.1115	0.4256	0.04	mg/L	Y	15	0	No	No	Increasing	Normal	0.540	Y		Y		TRUE
WAP-L9	15/15	0%	-	0.263	0.26	0.3015	0.305	0.0007698	0.02774	0.1056	0.04	mg/L	Y	15	0	No	No	Stable	Normal	0.290	Y		Y		TRUE

Winyah Ash Pond A

Assessment Monitoring Statistical Analysis Summary

Prepared: July 21, 2021

CCR Appendix-IV: Mercury, Total (mg/L)																								
WBW-1	0/13	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		0.002	
WAP-01	0/13	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/12	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	0.00020	N		N		FALSE
WAP-17	0/13	100%	0.0002-0.00024	0.000203	0.0002	0.000216		1.23E-10	0.00001109	0.05463	0.002	mg/L	N	0	0	NA	NA	NA	NA	0.00020	N		N		FALSE
WAP-18	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	0.00020	N		N		FALSE
WAP-19	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	0.00020	N		N		FALSE
CCR Appendix-IV: Molybdenum, Total (mg/L)																								
WBW-1	0/15	100%	0.01-0.05	0.0127	0.01	0.022		0.0001067	0.01033	0.8154	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.050		0.1	
WAP-01	0/15	100%	0.01-0.01	0.01	0.01	0.01		3.09E-20	1.76E-10	1.76E-08	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-09	9/15	40%	0.01-0.01	0.0163	0.011	0.03106	0.034	0.00006608	0.008129	0.4989	0.1	mg/L	N	0	0	No	No	Decreasing	Non-parametric	0.010	N		N		FALSE
WAP-17	15/15	0%	-	0.0743	0.0492	0.182	0.35	0.006136	0.07833	1.055	0.1	mg/L	Y	2	0	Yes	No	Increasing	Non-parametric	0.059	Y		Y		FALSE
WAP-18	14/14	0%	-	0.44	0.1525	1.86	2.9	0.6279	0.7924	1.799	0.1	mg/L	Y	8	0	Yes	No	Increasing	Non-parametric	2.900	Y		Y		TRUE
WAP-19	13/14	7%	0.05-0.05	0.04	0.041	0.0557	0.057	0.000165	0.01284	0.3212	0.1	mg/L	N	0	0	No	No	Increasing	Normal	0.041	Y		N		FALSE
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																								
WBW-1	8/15	47%	0-4	3.07	4	4.302	4.33	2.396	1.548	0.5042	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric			5.97		5.97	
WAP-01	10/15	33%	4-4	3.43	4	5.809	5.97	2.591	1.61	0.4694	5	pCi/L	Y	2	0	No	No	Decreasing							
WAP-09	12/15	20%	4-4	3.6	4	5.102	5.34	1.735	1.317	0.3664	5	pCi/L	Y	1	0	No	No	Decreasing	Non-parametric	3.650	Y		N		FALSE
WAP-17	8/15	47%	4-4	3.02	4	4.726	5.51	3.158	1.777	0.5882	5	pCi/L	Y	1	0	Yes	No	Decreasing	Non-parametric	0.390	Y		N		FALSE
WAP-18	8/15	47%	4-4	3.31	4	4.299	4.46	1.518	1.232	0.3721	5	pCi/L	N	0	0	Yes	No	Decreasing	Non-parametric	1.540	Y		N		FALSE
WAP-19	6/15	60%	4-4	3.25	4	4.075	4.25	1.366	1.169	0.3592	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric	2.180	Y		N		FALSE
CCR Appendix-IV: Selenium, Total (mg/L)																								
WBW-1	0/14	100%	0.01-0.02	0.0114	0.01	0.02		0.00001319	0.003631	0.3177	0.05	mg/L	N	0	0	NA	NA	NA	NA			0.020		0.05	
WAP-01	0/16	100%	0.01-0.02	0.0112	0.01	0.02		0.00001167	0.003416	0.3036	0.05	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/17	100%	0.005-0.05	0.0132	0.01	0.026		0.0001029	0.01015	0.7666	0.05	mg/L	N	0	1	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-17	0/13	100%	0.01-0.02	0.0115	0.01	0.02		0.0000141	0.003755	0.3255	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-18	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-19	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
CCR Appendix-IV: Thallium, Total (mg/L)																								
WBW-1	0/13	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		0.002	
WAP-01	0/13	100%	0.0001-0.001	0.000931	0.001	0.001		6.23E-08	0.0002496	0.2682	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/12	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		FALSE
WAP-17	0/13	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		FALSE
WAP-18	0/12	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		FALSE
WAP-19	0/12	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		FALSE

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TECHNICAL MEMORANDUM

July 28, 2021
File No. 132892-013

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data
Statistical Evaluation
Winyah Generating Station
Ash Pond B

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 Ash Pond B 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 wells (WAP-1 and WBW-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 October 14, 2017. 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 most recent groundwater sampling event from each compliance well was compared to the corresponding GWPS to determine if a SSL existed.

STATISTICAL EVALUATION

An interwell evaluation, which compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data, was used. 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 February 2021 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 (WAP-1 and WBW-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 February 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 previous compliance sampling event and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Consistent with previous results arsenic, lithium and molybdenum continue to be the only Appendix IV constituents present in groundwater at SSLs above GWPS.

Closure by removal has been initiated at Ash Pond B and is anticipated to be completed in 2025. During closure activities, a short-term increase in the concentrations of Appendix IV SSLs is possible but these spikes in concentration should rapidly decrease once the closure is complete and equilibrium groundwater conditions are restored.

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Tables:

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

TABLES

Winyah Ash Pond B

Assessment Monitoring Statistical Analysis Summary

Prepared: July 15, 2021

																			Inter-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*	February 2021 Concentration	Detect?	Upper Tolerance Limit (mg/L)	SSI	GWPS (Higher of MCL/RSL or Background Limit) (mg/L)	SSL
CCR Appendix-IV: Antimony, Total (mg/L)																									
WBW-1	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA			0.025		0.025	
WAP-01	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA							
WAP-10	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-20	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-21	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.005	N		N		FALSE
CCR Appendix-IV: Arsenic, Total (mg/L)																									
WBW-1	0/15	100%	0.003-0.005	0.00473	0.005	0.005		4.952E-07	0.0007037	0.1487	0.01	mg/L	N	0	0	NA	NA	NA							
WAP-01	1/17	94%	0.003-0.005	0.00496	0.005	0.00566	0.0083	0.000001179	0.001086	0.219	0.01	mg/L	N	0	0	Yes	No	NA	NA			0.008		0.010	
WAP-10	10/17	41%	0.005-0.005	0.0296	0.0059	0.14	0.14	0.001983	0.04453	1.506	0.01	mg/L	Y	7	0	Yes	No	Decreasing	Non-parametric	0.005	N		N		FALSE
WAP-20	15/15	0%	-	0.0746	0.0663	0.1269	0.143	0.001235	0.03514	0.4708	0.01	mg/L	Y	15	0	No	No	Decreasing	Normal	0.024	Y		Y		TRUE
WAP-21	0/15	100%	0.003-0.005	0.00473	0.005	0.005		4.952E-07	0.0007037	0.1487	0.01	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
CCR Appendix-IV: Barium, Total (mg/L)																									
WBW-1	15/15	0%	-	0.0126	0.013	0.01565	0.016	0.000008808	0.002968	0.2348	2	mg/L	N	0	0	No	No	Decreasing							
WAP-01	17/17	0%	-	0.0314	0.025	0.0628	0.094	0.0005614	0.02369	0.7541	2	mg/L	N	0	0	No	No	Stable	Non-parametric			0.094		2.000	
WAP-10	17/17	0%	-	0.277	0.269	0.3432	0.396	0.001462	0.03824	0.1381	2	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.298	Y		Y		FALSE
WAP-20	15/15	0%	-	0.0463	0.0389	0.07708	0.088	0.0003485	0.01867	0.4033	2	mg/L	N	0	0	No	No	Decreasing	Normal	0.035	Y		N		FALSE
WAP-21	15/15	0%	-	0.0614	0.0592	0.122	0.15	0.001078	0.03283	0.5343	2	mg/L	N	0	0	Yes	No	Decreasing	Normal	0.020	Y		N		FALSE
CCR Appendix-IV: Beryllium, Total (mg/L)																									
WBW-1	0/13	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/13	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		0.004	
WAP-10	0/12	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		FALSE
WAP-20	0/12	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		FALSE
WAP-21	0/12	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		FALSE
CCR Appendix-IV: Cadmium, Total (mg/L)																									
WBW-1	0/14	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/16	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		0.005	
WAP-10	0/16	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		FALSE
WAP-20	0/12	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		FALSE
WAP-21	0/12	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		FALSE
CCR Appendix-IV: Chromium, Total (mg/L)																									
WBW-1	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.25LE-20	1.118E-10	2.237E-08	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/16	100%	0.005-0.005	0.005	0.005	0.005		7.228E-21	8.502E-11	0.000000017	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.0050		0.100	
WAP-10	0/16	100%	0.005-0.005	0.005	0.005	0.005		7.228E-21	8.502E-11	0.000000017	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-20	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-21	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
CCR Appendix-IV: Cobalt, Total (mg/L)																									
WBW-1	0/15	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA							
WAP-01	2/15	87%	0.0005-0.0005	0.000573	0.0005	0.000863	0.0015	6.635E-08	0.0002576	0.4498	0.006	mg/L	N	0	0	NA	NA	NA	NA			0.0015		0.006	
WAP-10	0/15	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		FALSE
WAP-20	13/15	13%	0.0005-0.001	0.00101	0.001	0.00152	0.0018	1.083E-07	0.0003291	0.325	0.006	mg/L	N	0	0	No	No	Decreasing	Normal	0.0005	N		N		FALSE
WAP-21	1/15	93%	0.0005-0.01	0.00115	0.0005	0.003553	0.00979	0.000005996	0.002449	2.124	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.0005	N		N		FALSE
CCR Appendix-IV: Fluoride (mg/L)																									
WBW-1	1/16	94%	0.1-0.1	0.1	0.1	0.1	0.1	1.85E-18	1.36E-09	1.36E-08	4	mg/L	N	0	0	No	No	NA							
WAP-01	2/16	88%	0.1-0.1	0.104	0.1	0.1325	0.14	0.0001462	0.01209	0.1159	4	mg/L	N	0	0	No	No	NA	Non-parametric			0.140		4.00	
WAP-10	2/16	88%	0.1-0.1	0.104	0.1	0.1275	0.15	0.0001729	0.01315	0.126	4	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.100	N		N		FALSE
WAP-20	16/16	0%	-	0.582	0.6	0.745	0.79	0.01697	0.1303	0.2236	4	mg/L	N	0	0	No	No	Increasing	Normal	0.650	Y		Y		FALSE
WAP-21	0/16	100%	0.1-0.1	0.1	0.1	0.1		1.85E-18	1.36E-09	1.36E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.100	N		N		FALSE
CCR Appendix-IV: Lead, Total (mg/L)																									
WBW-1	0/14	100%	0.001-0.01	0.00186	0.001	0.005125		0.000005786	0.002405	1.295	0.015	mg/L	N	0	0	NA	NA	NA							
WAP-01	4/16	75%	0.001-0.01	0.00205	0.001	0.00592	0.00456	0.000005406	0.002325	1.132	0.015	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric			0.0100		0.015	
WAP-10	0/16	100%	0.001-0.01	0.00175	0.001	0.004375		0.000005151	0.002258	1.29	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
WAP-20	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
WAP-21	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
CCR Appendix-IV: Lithium, Total (mg/L)																									
WBW-1	0/15	100%	0.01-0.01	0.01	0.01	0.01		3.098E-20	1.76E-10	1.76E-08	0.04	mg/L	N	0	0	NA	NA	NA							
WAP-01	1/15	93%	0.01-0.01	0.0101	0.01	0.01048	0.0116	1.707E-07	0.000413	0.04088	0.04	mg/L	N	0	0	No	No	Stable	Non-parametric			0.012		0.040	
WAP-10	15/15	0%	-	0.0261	0.023	0.03715	0.0466	0.00004966	0.007047	0.2704	0.04	mg/L	Y	1	0	Yes	No	Stable	Non-parametric	0.026	Y		Y		FALSE
WAP-20	15/15	0%	-	0.264	0.25	0.3668	0.406	0.004201	0.06482	0.2458	0.04	mg/L	Y	15	0	No	No	Stable	Normal	0.290	Y		Y		TRUE
WAP-21	0/15	100%	0.01-0.01	0.01	0.01	0.01		3.098E-20	1.76E-10	1.76E-08	0.04	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
CCR Appendix-IV: Mercury, Total (mg/L)																									
WBW-1	0/13	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/13	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		0.0020	
WAP-10	0/12	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		FALSE
WAP-20	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		FALSE
WAP-21	0/12	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		FALSE

Winyah Ash Pond B

Assessment Monitoring Statistical Analysis Summary

Prepared: July 15, 2021

CCR Appendix-IV: Molybdenum, Total (mg/L)																								
WBW-1	0/15	100%	0.01-0.05	0.0127	0.01	0.022		0.0001067	0.01033	0.8154	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.050		0.10	
WAP-01	0/15	100%	0.01-0.01	0.01	0.01	0.01		3.098E-20	1.76E-10	1.76E-08	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-10	0/15	100%	0.01-0.01	0.01	0.01	0.01		3.098E-20	1.76E-10	1.76E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-20	15/15	0%	-	0.155	0.136	0.3291	0.397	0.01018	0.1009	0.652	0.1	mg/L	Y	10	0	No	No	Stable	Normal	0.140	Y		Y		TRUE
WAP-21	0/15	100%	0.01-0.05	0.0127	0.01	0.022		0.0001067	0.01033	0.8154	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																								
WBW-1	8/15	47%	0-4	3.07	4	4.302	4.33	2.396	1.548	0.5042	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric			5.97		6.0	
WAP-01	10/15	33%	4-4	3.43	4	5.809	5.97	2.591	1.61	0.4694	5	pCi/L	Y	2	0	Yes	No	Decreasing							
WAP-10	15/15	0%	-	5.26	5.63	6.763	6.91	1.658	1.288	0.2446	5	pCi/L	Y	10	0	No	No	Stable	Normal	5.830	Y		N		FALSE
WAP-20	8/15	47%	4-4	3.15	4	4.352	4.38	1.965	1.402	0.4449	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric	0.877	Y		N		FALSE
WAP-21	11/15	27%	4-4	3.43	4	5.229	5.67	2.798	1.673	0.4884	5	pCi/L	Y	2	0	No	No	Decreasing	Normal	2.130	Y		N		FALSE
CCR Appendix-IV: Selenium, Total (mg/L)																								
WBW-1	0/14	100%	0.01-0.02	0.0114	0.01	0.02		0.00001319	0.003631	0.3177	0.05	mg/L	N	0	0	NA	NA	NA	NA			0.020		0.050	
WAP-01	0/16	100%	0.01-0.02	0.0112	0.01	0.02		0.00001167	0.003416	0.3036	0.05	mg/L	N	0	0	NA	NA	NA							
WAP-10	0/16	100%	0.01-0.02	0.0112	0.01	0.02		0.00001167	0.003416	0.3036	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-20	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-21	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
CCR Appendix-IV: Thallium, Total (mg/L)																								
WBW-1	0/13	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		0.002	
WAP-01	0/13	100%	0.0001-0.001	0.000931	0.001	0.001		6.23E-08	0.0002496	0.2682	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-10	0/12	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		FALSE
WAP-20	1/12	92%	0.001-0.001	0.00105	0.001	0.00127	0.0016	0.00000003	0.0001732	0.165	0.002	mg/L	N	0	0	No	No	NA	Non-parametric	0.001	N		N		FALSE
WAP-21	0/12	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		FALSE

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TECHNICAL MEMORANDUM

December 2, 2021
File No. 132892-013

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data
Statistical Evaluation
Winyah Generating Station
Ash Pond A

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 Ash Pond A 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 semi-annual groundwater sampling events for the downgradient monitoring wells were compared to the GWPS established from the background dataset for the upgradient monitoring wells (WAP-1 and WBW-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 October 14, 2017. 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 most recent groundwater sampling event from each compliance well was compared to the corresponding GWPS to determine if an SSL existed.

STATISTICAL EVALUATION

An interwell evaluation, which compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data, was used. 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 (WAP-1 and WBW-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 previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Consistent with previous results, arsenic and lithium continue to be the only Appendix IV constituents present in groundwater at SSLs above GWPS. Molybdenum, which was identified above GWPS during prior sampling events, was not detected at an SSL during the August 2021 sampling round. Groundwater trends will continue to be monitored in future sampling events.

Closure by removal has been initiated at Ash Pond A and is anticipated to be completed in 2025. During closure activities, a short-term increase in the concentrations of Appendix IV SSLs is possible but these spikes in concentration should rapidly decrease once the closure is complete and equilibrium groundwater conditions are restored.

Tables:

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

TABLES

Winyah Ash Pond A

Assessment Monitoring Statistical Analysis Summary

Prepared: October 29, 2021

																		Inter-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 Tolerance Limit (mg/L)	SSI	GWPS (Higher of MCL/RSL or Background Limit) (mg/L)	SSL
CCR Appendix-IV: Antimony, Total (mg/L)																									
WBW-1	0/14	100%	0.005-0.025	0.00643	0.005	0.012		0.00002857	0.005345	0.8315	0.006	mg/L	N	0	1	NA	NA	NA	NA			0.025		0.025	
WAP-01	0/14	100%	0.005-0.025	0.00643	0.005	0.012		0.00002857	0.005345	0.8315	0.006	mg/L	N	0	1	NA	NA	NA							
WAP-09	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
WAP-17	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
WAP-18	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
WAP-19	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Arsenic, Total (mg/L)																									
WBW-1	0/16	100%	0.003-0.005	0.00475	0.005	0.005		4.667E-07	0.0006831	0.1438	0.01	mg/L	N	0	0	NA	NA	NA	NA			0.008		0.010	
WAP-01	1/18	94%	0.003-0.005	0.00496	0.005	0.005495	0.0083	0.00000111	0.001053	0.2123	0.01	mg/L	N	0	0	Yes	No	NA							
WAP-09	19/19	0%	-	0.456	0.388	0.8192	0.84	0.017814	0.18876	0.835	0.01	mg/L	Y	20	0	No	No	Decreasing	Normal	0.084	Y		Y		TRUE
WAP-17	18/18	0%	-	0.26	0.228	0.408	0.48	0.003338	0.08172	0.6374	0.01	mg/L	Y	19	0	No	No	Decreasing	Normal	0.090	Y		Y		TRUE
WAP-18	16/16	0%	-	0.539	0.318	1.372	1.53	0.1993	0.4464	0.8278	0.01	mg/L	Y	16	0	No	No	Stable	Normal	0.132	Y		Y		TRUE
WAP-19	16/16	0%	-	0.106	0.0999	0.2373	0.256	0.004032	0.06349	0.5968	0.01	mg/L	Y	16	0	Yes	No	Stable	Normal	0.147	Y		Y		TRUE
CCR Appendix-IV: Barium, Total (mg/L)																									
WBW-1	16/16	0%	-	0.0133	0.01385	0.01792	0.0237	0.00001587	0.003983	0.2988	2	mg/L	N	0	0	No	No	Stable	Non-parametric			0.094		2.0	
WAP-01	18/18	0%	-	0.0327	0.03015	0.06085	0.094	0.0005585	0.02363	0.7224	2	mg/L	N	0	0	No	No	Increasing							
WAP-09	19/19	0%	-	0.0757	0.0697	0.114	0.15	0.0004711	0.0217	0.2868	2	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.076	Y		N		FALSE
WAP-17	18/18	0%	-	0.0503	0.04925	0.07475	0.1	0.000311	0.01763	0.3504	2	mg/L	N	0	0	Yes	No	Decreasing	Normal	0.053	Y		N		FALSE
WAP-18	16/16	0%	-	0.094	0.09175	0.1177	0.141	0.000239	0.01546	0.1644	2	mg/L	N	0	0	Yes	No	Stable	Normal	0.141	Y		Y		FALSE
WAP-19	16/16	0%	-	0.0528	0.0511	0.08358	0.1	0.0002947	0.01717	0.3251	2	mg/L	N	0	0	No	No	Decreasing	Non-parametric	0.051	Y		N		FALSE
CCR Appendix-IV: Beryllium, Total (mg/L)																									
WBW-1	0/14	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		0.0005	
WAP-01	0/14	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/12	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			N		FALSE
WAP-17	0/13	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			N		FALSE
WAP-18	0/12	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			N		FALSE
WAP-19	0/12	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			N		FALSE
CCR Appendix-IV: Cadmium, Total (mg/L)																									
WBW-1	0/15	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/17	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		0.005	
WAP-09	0/17	100%	0.0005-0.002	0.000588	0.0005	0.0008		1.324E-07	0.0003638	0.6185	0.005	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-17	0/13	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			N		FALSE
WAP-18	1/12	92%	0.0005-0.0005	0.000515	0.0005	0.000581	0.00068	2.7E-09	0.00005196	0.1009	0.005	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-19	0/12	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			N		FALSE
CCR Appendix-IV: Chromium, Total (mg/L)																									
WBW-1	1/15	93%	0.005-0.005	0.005	0.005	0.005	0.005	7.744E-21	8.8E-11	1.76E-08	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/17	100%	0.005-0.005	0.005	0.005	0.005		3.388E-21	5.821E-11	1.164E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.005		0.1	
WAP-09	0/17	100%	0.005-0.01	0.00529	0.005	0.006		0.0000001471	0.0001213	0.2291	0.1	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-17	0/13	100%	0.005-0.005	0.005	0.005	0.005		1.807E-20	1.344E-10	2.688E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-18	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-19	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Cobalt, Total (mg/L)																									
WBW-1	1/16	94%	0.0005-0.0005	0.000613	0.0005	0.00095	0.0023	2.025E-07	0.00045	0.7347	0.006	mg/L	N	0	0	NA	NA	NA				0.0023		0.006	
WAP-01	3/16	81%	0.0005-0.0005	0.000637	0.0005	0.001525	0.0016	1.279E-07	0.0003576	0.5615	0.006	mg/L	N	0	0	NA	NA	NA	NA						
WAP-09	0/14	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		FALSE
WAP-17	0/15	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		FALSE
WAP-18	4/14	71%	0.0005-0.0005	0.000741	0.0005	0.001707	0.0033	5.527E-07	0.0007434	1.004	0.006	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	0.00330	Y		Y		FALSE
WAP-19	0/14	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		FALSE
CCR Appendix-IV: Fluoride (mg/L)																									
WBW-1	1/17	94%	0.1-0.1	0.1	0.1	0.1	0.1	0	0	0	4	mg/L	N	0	0	No	No	NA							
WAP-01	2/17	88%	0.1-0.1	0.104	0.1	0.132	0.14	0.0001382	0.01176	0.1129	4	mg/L	N	0	0	No	No	NA	Non-parametric			0.140		4.0	
WAP-09	1/17	94%	0.1-0.1	0.101	0.1	0.102	0.11	0.000005882	0.002425	0.02411	4	mg/L	N	0	0	No	No	NA	Non-parametric	0.100	N		N		FALSE
WAP-17	12/18	33%	0.1-0.1	0.155	0.14	0.2605	0.32	0.004168	0.06456	0.4165	4	mg/L	N	0	0	No	No	Stable	Normal	0.100	N		N		FALSE
WAP-18	16/17	6%	0.1-0.1	1.23	1.34	2.102	2.51	0.3898	0.6243	0.5083	4	mg/L	N	0	0	No	No	Increasing	Non-parametric	2.510	Y		Y		FALSE
WAP-19	13/17	24%	0.1-0.1	0.214	0.17	0.404	0.58	0.01695	0.1302	0.6097	4	mg/L	N	0	0	No	No	Increasing	Non-parametric	0.260	Y		Y		FALSE
CCR Appendix-IV: Lead, Total (mg/L)																									
WBW-1	0/15	100%	0.001-0.01	0.0018	0.001	0.00475		0.0000005421	0.002328	1.294	0.015	mg/L	N	0	0	NA	NA	NA							
WAP-01	4/17	76%	0.001-0.01	0.00199	0.001	0.005648	0.00456	0.0000051134	0.002266	1.138	0.015	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric			0.010		0.015	
WAP-09	0/17	100%	0.001-0.0025	0.00124	0.001	0.0025		2.849E-07	0.0005338	0.4321	0.015	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-17	0/13	100%	0.001-0.0025	0.00123	0.001	0.0025		3.173E-07	0.0005633	0.4577	0.015	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-18	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-19	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Lithium, Total (mg/L)																									
WBW-1	0/16	100%	0.01-0.01	0.01	0.01	0.01		2.891E-20	1.7E-10	0.000000017	0.04	mg/L	N	0	0	NA	NA	NA							
WAP-01	1/16	94%	0.01-0.01	0.0101	0.01	0.0104	0.0116	0.00000016	0.0004	0.0396	0.04	mg/L	N	0	0	No	No	Stable	Non-parametric			0.012		0.040	
WAP-09	16/16	0%	-	0.0772	0.0695	0.1173	0.13	0.0004218	0.02054	0.2659	0.04	mg/L	Y	16	0	Yes	No	Decreasing	Normal	0.057	Y		Y		TRUE
WAP-17	17/17	0%	-	0.315	0.29	0.605	0.825	0.03422	0.185	0.5867	0.04	mg/L	Y	16	0	Yes	No	Decreasing	Normal	0.012	Y		Y		FALSE
WAP-18	16/16	0%	-	0.277	0.25	0.51	0.54	0.01514	0.1231	0.4445	0.04	mg/L	Y	16	0	No	No	Increasing	Normal	0.500	Y		Y		TRUE
WAP-19	16/16	0%	-	0.261	0.2575	0.3013	0.305	0.0007508	0.0274	0.1049	0.04	mg/L	Y	16	0	No	No	Stable	Normal	0.240	Y		Y		TRUE

Winyah Ash Pond A

Assessment Monitoring Statistical Analysis Summary

Prepared: October 29, 2021

CCR Appendix-IV: Mercury, Total (mg/L)																								
WBW-1	0/14	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		0.002	
WAP-01	0/14	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/12	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			N		FALSE
WAP-17	0/13	100%	0.0002-0.00024	0.000203	0.0002	0.000216		1.231E-10	0.00001109	0.05463	0.002	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-18	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	NS			N		FALSE
WAP-19	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	NS			N		FALSE
CCR Appendix-IV: Molybdenum, Total (mg/L)																								
WBW-1	0/16	100%	0.01-0.05	0.0125	0.01	0.02		0.0001	0.01	0.8	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.050		0.1	
WAP-01	0/16	100%	0.01-0.01	0.01	0.01	0.01		2.891E-20	1.7E-10	0.000000017	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-09	9/16	44%	0.01-0.01	0.0159	0.01095	0.03085	0.034	0.00006415	0.008009	0.5037	0.1	mg/L	N	0	0	No	No	Decreasing	Non-parametric	0.010	N		N		FALSE
WAP-17	16/16	0%	-	0.0704	0.0491	0.17	0.35	0.005969	0.07726	1.098	0.1	mg/L	Y	2	0	Yes	No	Increasing	Non-parametric	0.012	Y		N		FALSE
WAP-18	15/15	0%	-	0.417	0.14	1.78	2.9	0.5912	0.7689	1.844	0.1	mg/L	Y	8	0	Yes	No	Increasing	Non-parametric	0.090	Y		Y		FALSE
WAP-19	14/15	7%	0.05-0.05	0.0389	0.041	0.0556	0.057	0.0001702	0.01305	0.3352	0.1	mg/L	N	0	0	No	No	Increasing	Normal	0.024	Y		N		FALSE
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																								
WBW-1	9/16	44%	0-4	2.92	4	4.3	4.33	2.61	1.615	0.5537	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric			5.97		5.97	
WAP-01	11/16	31%	4-4	3.53	4	5.798	5.97	2.575	1.605	0.4548	5	pCi/L	Y	3	0	No	No	Decreasing							
WAP-09	13/16	19%	4-4	3.59	4	5.085	5.34	1.62	1.273	0.3549	5	pCi/L	Y	1	0	No	No	Decreasing	Non-parametric	3.460	Y		N		FALSE
WAP-17	9/16	44%	4-4	3.02	4	4.67	5.51	2.948	1.717	0.5681	5	pCi/L	Y	1	0	Yes	No	Decreasing	Non-parametric	3.040	Y		N		FALSE
WAP-18	9/16	44%	4-4	3.23	4	4.287	4.46	1.519	1.232	0.3815	5	pCi/L	N	0	0	Yes	No	Decreasing	Non-parametric	2.030	Y		N		FALSE
WAP-19	7/16	56%	4-4	3.15	4	4.063	4.25	1.439	1.2	0.3806	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric	1.630	Y		N		FALSE
CCR Appendix-IV: Selenium, Total (mg/L)																								
WBW-1	0/15	100%	0.01-0.02	0.0113	0.01	0.02		0.00001238	0.003519	0.3105	0.05	mg/L	N	0	0	NA	NA	NA	NA			0.020		0.05	
WAP-01	0/17	100%	0.01-0.02	0.0112	0.01	0.02		0.00001103	0.003321	0.2971	0.05	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/18	100%	0.005-0.05	0.0131	0.01	0.0245		0.00009747	0.009873	0.7562	0.05	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
WAP-17	0/13	100%	0.01-0.02	0.0115	0.01	0.02		0.0000141	0.003755	0.3255	0.05	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-18	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
WAP-19	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Thallium, Total (mg/L)																								
WBW-1	0/14	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		0.002	
WAP-01	0/14	100%	0.0001-0.001	0.000936	0.001	0.001		5.786E-08	0.0002405	0.2571	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-09	0/12	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			N		FALSE
WAP-17	0/13	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			N		FALSE
WAP-18	0/12	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			N		FALSE
WAP-19	0/12	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			N		FALSE

NS = Not Sampled

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TECHNICAL MEMORANDUM

December 2, 2021
File No. 132892-013

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data
Statistical Evaluation
Winyah Generating Station
Ash Pond B

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 Ash Pond B 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 wells (WAP-1 and WBW-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 October 14, 2017. 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 most recent groundwater sampling event from each compliance well was compared to the corresponding GWPS to determine if an SSL existed.

STATISTICAL EVALUATION

An interwell evaluation, which compares the most recent values from downgradient compliance wells against a background dataset composed of upgradient well data, was used. 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 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 (WAP-1 and WBW-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 previous compliance sampling event and statistical evaluations, interwell comparisons were utilized for all downgradient wells and constituents. Consistent with previous results arsenic and lithium continue to be the only Appendix IV constituents present in groundwater at SSLs above GWPS. Molybdenum, which was detected above GWPS during prior sampling events, was not detected at an SSL during the August sampling round. Groundwater trends will continue to be monitored in future sampling events.

Closure by removal has been initiated at Ash Pond B and is anticipated to be completed in 2025. During closure activities, a short-term increase in the concentrations of Appendix IV SSLs is possible but these spikes in concentration should rapidly decrease once the closure is complete and equilibrium groundwater conditions are restored.

Tables:

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

TABLES

Winyah Ash Pond B

Assessment Monitoring Statistical Analysis Summary

Prepared: October 21st, 2021

																		Inter-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 Tolerance Limit (mg/L)	SSI	GWPS (Higher of MCL/RSL or Background Limit) (mg/L)	SSL
CCR Appendix-IV: Antimony, Total (mg/L)																									
WBW-1	0/14	100%	0.005-0.025	0.00643	0.005	0.012		0.00002857	0.005345	0.8315	0.006	mg/L	N	0	1	NA	NA	NA	NA			0.025		0.025	
WAP-01	0/14	100%	0.005-0.025	0.00643	0.005	0.012		0.00002857	0.005345	0.8315	0.006	mg/L	N	0	1	NA	NA	NA							
WAP-10	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
WAP-20	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.00003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
WAP-21	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.00003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Arsenic, Total (mg/L)																									
WBW-1	0/16	100%	0.003-0.005	0.00475	0.005	0.005		4.667E-07	0.0006831	0.1438	0.01	mg/L	N	0	0	NA	NA	NA							
WAP-01	1/18	94%	0.003-0.005	0.00496	0.005	0.005495	0.0083	0.00000111	0.001053	0.2123	0.01	mg/L	N	0	0	Yes	No	NA	NA			0.008		0.010	
WAP-10	10/18	44%	0.005-0.005	0.0282	0.0057	0.14	0.14	0.0019	0.04359	1.546	0.01	mg/L	Y	7	0	Yes	No	Decreasing	Non-parametric	0.005	N		N		FALSE
WAP-20	16/16	0%	-	0.0712	0.0649	0.1258	0.143	0.001346	0.03669	0.5156	0.01	mg/L	Y	16	0	No	No	Decreasing	Normal	0.019	Y		Y		TRUE
WAP-21	0/16	100%	0.003-0.005	0.00475	0.005	0.005		4.667E-07	0.0006831	0.1438	0.01	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
CCR Appendix-IV: Barium, Total (mg/L)																									
WBW-1	16/16	0%	-	0.0133	0.01385	0.01792	0.0237	0.00001587	0.003983	0.2988	2	mg/L	N	0	0	No	No	Stable	Non-parametric			0.094		2.000	
WAP-01	18/18	0%	-	0.0327	0.03015	0.06085	0.094	0.0005585	0.02363	0.7224	2	mg/L	N	0	0	No	No	Increasing							
WAP-10	18/18	0%	-	0.278	0.2695	0.3399	0.396	0.001387	0.03724	0.1341	2	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.291	Y		Y		FALSE
WAP-20	16/16	0%	-	0.0462	0.04145	0.0763	0.088	0.0003253	0.01804	0.3903	2	mg/L	N	0	0	No	No	Decreasing	Normal	0.045	Y		N		FALSE
WAP-21	16/16	0%	-	0.0594	0.0572	0.12	0.15	0.001074	0.03278	0.552	2	mg/L	N	0	0	Yes	No	Decreasing	Normal	0.028	Y		N		FALSE
CCR Appendix-IV: Beryllium, Total (mg/L)																									
WBW-1	0/14	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/14	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		0.004	
WAP-10	0/12	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			N		FALSE
WAP-20	0/13	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		FALSE
WAP-21	0/12	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			N		FALSE
CCR Appendix-IV: Cadmium, Total (mg/L)																									
WBW-1	0/15	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/17	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		0.005	
WAP-10	0/17	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		FALSE
WAP-20	0/13	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		FALSE
WAP-21	0/12	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			N		FALSE
CCR Appendix-IV: Chromium, Total (mg/L)																									
WBW-1	1/15	93%	0.005-0.005	0.005	0.005	0.005	0.005	7.744E-21	8.8E-11	1.76E-08	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/17	100%	0.005-0.005	0.005	0.005	0.005		3.388E-21	5.821E-11	1.164E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.0050		0.100	
WAP-10	0/17	100%	0.005-0.005	0.005	0.005	0.005		3.388E-21	5.821E-11	1.164E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-20	0/13	100%	0.005-0.005	0.005	0.005	0.005		1.807E-20	1.344E-10	2.688E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.005	N		N		FALSE
WAP-21	0/12	100%	0.005-0.005	0.005	0.005	0.005		1.478E-20	1.216E-10	2.432E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Cobalt, Total (mg/L)																									
WBW-1	1/16	94%	0.0005-0.0005	0.000613	0.0005	0.00095	0.0023	2.025E-07	0.00045	0.7347	0.006	mg/L	N	0	0	NA	NA	NA							
WAP-01	3/16	81%	0.0005-0.0005	0.000637	0.0005	0.001525	0.0016	1.279E-07	0.0003576	0.5615	0.006	mg/L	N	0	0	NA	NA	NA	NA			0.0023		0.006	
WAP-10	0/16	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		FALSE
WAP-20	13/16	19%	0.0005-0.001	0.000981	0.00097	0.0015	0.0018	1.175E-07	0.0003428	0.3496	0.006	mg/L	N	0	0	No	No	Decreasing	Normal	0.0005	N		N		FALSE
WAP-21	1/16	94%	0.0005-0.01	0.00111	0.0005	0.003092	0.00079	0.000005623	0.002371	2.133	0.006	mg/L	N	0	1	NA	NA	NA	NA	0.0005	N		N		FALSE
CCR Appendix-IV: Fluoride (mg/L)																									
WBW-1	1/17	94%	0.1-0.1	0.1	0.1	0.1	0.1	0	0	0	4	mg/L	N	0	0	No	No	NA	Non-parametric			0.140		4.00	
WAP-01	2/17	88%	0.1-0.1	0.104	0.1	0.132	0.14	0.0001382	0.01176	0.1129	4	mg/L	N	0	0	No	No	NA							
WAP-10	2/17	88%	0.1-0.1	0.104	0.1	0.126	0.15	0.0001632	0.01278	0.1227	4	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.100	N		N		FALSE
WAP-20	17/17	0%	-	0.562	0.58	0.742	0.79	0.02322	0.1524	0.2712	4	mg/L	N	0	0	No	No	Increasing	Normal	0.230	Y		Y		FALSE
WAP-21	0/17	100%	0.1-0.1	0.1	0.1	0.1		0	0	0	4	mg/L	N	0	0	NA	NA	NA	NA	0.100	N		N		FALSE
CCR Appendix-IV: Lead, Total (mg/L)																									
WBW-1	0/15	100%	0.001-0.01	0.0018	0.001	0.00475		0.000005421	0.002328	1.294	0.015	mg/L	N	0	0	NA	NA	NA							
WAP-01	4/17	76%	0.001-0.01	0.00199	0.001	0.005648	0.00456	0.000005134	0.002266	1.138	0.015	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric			0.0100		0.015	
WAP-10	0/17	100%	0.001-0.01	0.00171	0.001	0.004		0.000004814	0.002194	1.286	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	N		N		FALSE
WAP-20	1/13	92%	0.001-0.0025	0.00125	0.001	0.0025	0.0013	3.127E-07	0.0005592	0.446	0.015	mg/L	N	0	0	NA	NA	NA	NA	0.001	Y		N		FALSE
WAP-21	0/12	100%	0.001-0.0025	0.00125	0.001	0.0025		3.409E-07	0.0005839	0.4671	0.015	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Lithium, Total (mg/L)																									
WBW-1	0/16	100%	0.01-0.01	0.01	0.01	0.01		2.891E-20	1.7E-10	0.000000017	0.04	mg/L	N	0	0	NA	NA	NA							
WAP-01	1/16	94%	0.01-0.01	0.0101	0.01	0.0104	0.0116	0.000000106	0.0004	0.0396	0.04	mg/L	N	0	0	No	No	Stable	Non-parametric			0.012		0.040	
WAP-10	16/16	0%	-	0.026	0.02305	0.03647	0.0466	0.00004642	0.006813	0.2621	0.04	mg/L	Y	1	0	Yes	No	Stable	Non-parametric	0.025	Y		Y		FALSE
WAP-20	16/16	0%	-	0.25	0.245	0.364	0.406	0.007022	0.0838	0.3354	0.04	mg/L	Y	16	0	No	No	Stable	Normal	0.041	Y		Y		TRUE
WAP-21	0/16	100%	0.01-0.01	0.01	0.01	0.01		2.891E-20	1.7E-10	0.000000017	0.04	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
CCR Appendix-IV: Mercury, Total (mg/L)																									
WBW-1	0/14	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-01	0/14	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		0.0020	
WAP-10	0/12	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			N		FALSE
WAP-20	0/12	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		FALSE
WAP-21	0/12	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			N		FALSE

Winyah Ash Pond B

Assessment Monitoring Statistical Analysis Summary

Prepared: October 21st, 2021

CCR Appendix-IV: Molybdenum, Total (mg/L)																								
WBW-1	0/16	100%	0.01-0.05	0.0125	0.01	0.02		0.0001	0.01	0.8	0.1	mg/L	N	0	0	NA	NA	NA	NA			0.050		0.10	
WAP-01	0/16	100%	0.01-0.01	0.01	0.01	0.01		2.891E-20	1.7E-10	0.000000017	0.1	mg/L	N	0	0	NA	NA	NA							
WAP-10	0/16	100%	0.01-0.01	0.01	0.01	0.01		2.891E-20	1.7E-10	0.000000017	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-20	16/16	0%	-	0.146	0.133	0.3243	0.397	0.01061	0.103	0.704	0.1	mg/L	Y	10	0	No	No	Slable	Normal	0.021	Y		N		FALSE
WAP-21	0/16	100%	0.01-0.05	0.0125	0.01	0.02		0.0001	0.01	0.8	0.1	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
CCR Appendix-IV: Radium-226 & 228 (pCi/L)																								
WBW-1	9/16	44%	0-4	2.92	4	4.3	4.33	2.61	1.615	0.5537	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric			5.97		6.0	
WAP-01	11/16	31%	4-4	3.53	4	5.798	5.97	2.575	1.605	0.4548	5	pCi/L	Y	3	0	Yes	No	Decreasing							
WAP-10	16/16	0%	-	5.17	5.485	6.753	6.91	1.679	1.296	0.2505	5	pCi/L	Y	10	0	No	No	Slable	Normal	3.810	Y		N		FALSE
WAP-20	9/16	44%	4-4	3.09	4	4.35	4.38	1.895	1.377	0.4457	5	pCi/L	N	0	0	No	No	Decreasing	Non-parametric	2.160	Y		N		FALSE
WAP-21	12/16	25%	4-4	3.52	4	5.198	5.67	2.763	1.662	0.4719	5	pCi/L	Y	2	0	No	No	Decreasing	Normal	4.980	Y		N		FALSE
CCR Appendix-IV: Selenium, Total (mg/L)																								
WBW-1	0/15	100%	0.01-0.02	0.0113	0.01	0.02		0.00001238	0.003519	0.3105	0.05	mg/L	N	0	0	NA	NA	NA	NA			0.020		0.050	
WAP-01	0/17	100%	0.01-0.02	0.0112	0.01	0.02		0.00001103	0.003321	0.2971	0.05	mg/L	N	0	0	NA	NA	NA							
WAP-10	0/17	100%	0.01-0.02	0.0112	0.01	0.02		0.00001103	0.003321	0.2971	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-20	0/13	100%	0.01-0.02	0.0115	0.01	0.02		0.0000141	0.003755	0.3255	0.05	mg/L	N	0	0	NA	NA	NA	NA	0.010	N		N		FALSE
WAP-21	0/12	100%	0.01-0.02	0.0117	0.01	0.02		0.00001515	0.003892	0.3336	0.05	mg/L	N	0	0	NA	NA	NA	NA	NS			N		FALSE
CCR Appendix-IV: Thallium, Total (mg/L)																								
WBW-1	0/14	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA				0.001		0.002	
WAP-01	0/14	100%	0.0001-0.001	0.000936	0.001	0.001		5.786E-08	0.0002405	0.2571	0.002	mg/L	N	0	0	NA	NA	NA							
WAP-10	0/12	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			N		FALSE
WAP-20	1/13	92%	0.001-0.001	0.00105	0.001	0.00124	0.0016	2.769E-08	0.0001664	0.1591	0.002	mg/L	N	0	0	No	No	NA	Non-parametric	0.001	N		N		FALSE
WAP-21	0/12	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			N		FALSE

NS=Not Sampled

Appendix B – Laboratory Analytical Reports

santee cooper

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96379 **Location:** GW Well WAP-1 **Date:** 02/15/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-1 **Time:** 13:37

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	8.3	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Barium	52.9	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Boron	24.0	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	2.1	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Cobalt	1.5	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Iron	4930	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	<10	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	12/30/1999	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	0.422	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.34	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.76	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	7.18	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	24.6	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	67.50	mg/L	02/19/2021	KCWELLS	SM 2540C
pH	4.20	SU	02/15/2021	DEW/MDG	
Spec. Cond.	85.0	uS	02/15/2021	DEW/MDG	
Dissolved Oxygen	0.650	ppm	02/15/2021	DEW/MDG	
Oxidation Reduction Potential	227	mv	02/15/2021	DEW/MDG	SM2580
Temp	14.13	C	02/15/2021	DEW/MDG	
Turbidity	0	NTU	02/15/2021	DEW/MDG	
Depth	4.16	Feet	02/15/2021	DEW/MDG	
Elevation	25.28	Feet	03/08/2021	DEWEST	
Aluminum	1.6	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Magnesium	0.79	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 # AF09050 **Location:** GW Well WAP-1 **Date:** 07/20/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-1 **Time:** 12:28

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Barium	54.7	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Boron	26.0	ug/L	08/13/2021	R&C	EPA 6010D
Calcium	2.2	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Cobalt	1.6	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Iron	7890	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/09/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/10/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/10/2021	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	1.05	pCi/L	08/22/2021	GEL	EPA 903.1 Mod
Radium 228	3.96	pCi/L	08/17/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	5.01	pCi/L	08/24/2021	GEL	EPA 903.1 Mod
Chloride	8.76	mg/L	07/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	07/28/2021	KCWELLS	EPA 300.0
Sulfate	27.8	mg/L	07/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	78.75	mg/L	07/26/2021	KCWELLS	SM 2540C
pH	4.24	SU	07/20/2021	BRT/MDG	
Spec. Cond.	88	uS	07/20/2021	BRT/MDG	
Dissolved Oxygen	0.440	ppm	07/20/2021	BRT/MDG	
Oxidation Reduction Potential	133	mv	07/20/2021	BRT/MDG	SM2580
Temp	28.33	C	07/20/2021	BRT/MDG	
Turbidity	0.900	NTU	07/20/2021	BRT/MDG	
Depth	6.14	Feet	07/20/2021	BRT/MDG	
Elevation	23.30	Feet	08/18/2021	MDGOINGS	
Aluminum	1.1	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Magnesium	0.66	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Zinc	33.0	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 # AE96412 **Location:** GW Well WBW-1 **Date:** 02/15/2021 **Sample Collector:** MDG/DEW

Loc. Code WBW-1 **Time:** 12:21

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	9.7	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	0.51	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	<10	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	12/30/1999	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.453	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.24	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.69	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	1.77	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	6.41	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	32.50	mg/L	02/22/2021	KCWELLS	SM 2540C
pH	4.20	SU	02/15/2021	DEW/MDG	
Spec. Cond.	28.0	uS	02/15/2021	DEW/MDG	
Dissolved Oxygen	0.720	ppm	02/15/2021	DEW/MDG	
Oxidation Reduction Potential	339	mv	02/15/2021	DEW/MDG	SM2580
Temp	14.41	C	02/15/2021	DEW/MDG	
Turbidity	0	NTU	02/15/2021	DEW/MDG	
Depth	3.32	Feet	02/15/2021	DEW/MDG	
Elevation	28.65	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09083 **Location:** GW Well WBW-1 **Date:** 07/20/2021 **Sample Collector:** MDG/BRT

Loc. Code WBW-1 **Time:** 11:07

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	23.7	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	08/13/2021	R&C	EPA 6010D
Calcium	1.2	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	2.3	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Chromium	5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/09/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/10/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/10/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Radium 226	0.602	pCi/L	08/22/2021	GEL	EPA 903.1 Mod
Radium 228	0.0240	pCi/L	08/17/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.626	pCi/L	08/24/2021	GEL	EPA 903.1 Mod
Chloride	4.62	mg/L	07/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	07/28/2021	KCWELLS	EPA 300.0
Sulfate	5.84	mg/L	07/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	68.75	mg/L	07/26/2021	KCWELLS	SM 2540C
pH	4.77	SU	07/20/2021	BRT/MDG	
Spec. Cond.	42.0	uS	07/20/2021	BRT/MDG	
Dissolved Oxygen	0.690	ppm	07/20/2021	BRT/MDG	
Oxidation Reduction Potential	121	mv	07/20/2021	BRT/MDG	SM2580
Temp	24.72	C	07/20/2021	BRT/MDG	
Turbidity	0	NTU	07/20/2021	BRT/MDG	
Depth	18.27	Feet	07/20/2021	BRT/MDG	
Elevation	13.70	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96403 **Location:** GW Well WAP-18 **Date:** 02/16/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-18 **Time:** 11:33

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	442	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	91.5	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	7500	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	324	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	0.68	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	0.85	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	540	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	2900	ug/L	12/30/1999	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.298	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.24	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.54	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	27.5	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	1.39	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	692	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1428	mg/L	02/19/2021	KCWELLS	SM 2540C
pH	6.37	SU	02/16/2021	DEW/MDG	
Spec. Cond.	1610	uS	02/16/2021	DEW/MDG	
Dissolved Oxygen	0.760	ppm	02/16/2021	DEW/MDG	
Oxidation Reduction Potential	87.0	mv	02/16/2021	DEW/MDG	SM2580
Temp	21.07	C	02/16/2021	DEW/MDG	
Turbidity	2.70	NTU	02/16/2021	DEW/MDG	
Depth	22.72	Feet	02/16/2021	DEW/MDG	
Elevation	20.33	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 # AF09074 **Location:** GW Well WAP-18 **Date:** 08/04/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-18 **Time:** 12:16

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	132	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	141	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	3500	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	335	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	3.3	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	500	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	90.0	ug/L	08/19/2021	R&C	EPA 6010D
Radium 226	0.578	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Radium 228	1.45	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.03	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	92.1	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	2.51	mg/L	08/26/2021	KCWELLS	EPA 300.0
Sulfate	750	mg/L	08/26/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1431	mg/L	08/14/2021	SJBROWN	SM 2540C
pH	5.21	SU	08/04/2021	BRT/MDG	
Spec. Cond.	1680	uS	08/04/2021	BRT/MDG	
Dissolved Oxygen	0.560	ppm	08/04/2021	BRT/MDG	
Oxidation Reduction Potential	166	mv	08/04/2021	BRT/MDG	SM2580
Temp	24.05	C	08/04/2021	BRT/MDG	
Turbidity	8.40	NTU	08/04/2021	BRT/MDG	
Depth	19.08	Feet	08/04/2021	BRT/MDG	
Elevation	23.97	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96404 **Location:** GW Well WAP-19 **Date:** 02/16/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-19 **Time:** 14:25

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	120	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	39.6	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	3500	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	325	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	290	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	41.0	ug/L	12/30/1999	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.355	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.83	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.18	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	64.8	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	0.17	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	800	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1510	mg/L	02/19/2021	KCWELLS	SM 2540C
pH	6.32	SU	02/16/2021	DEW/MDG	
Spec. Cond.	1740	uS	02/16/2021	DEW/MDG	
Dissolved Oxygen	0.450	ppm	02/16/2021	DEW/MDG	
Oxidation Reduction Potential	1.00	mv	02/16/2021	DEW/MDG	SM2580
Temp	22.54	C	02/16/2021	DEW/MDG	
Turbidity	22.0	NTU	02/16/2021	DEW/MDG	
Depth	20.45	Feet	02/16/2021	DEW/MDG	
Elevation	22.94	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09075 **Location:** GW Well WAP-19 **Date:** 08/03/2021 **Sample Collector:** BRT/CWS

Loc. Code WAP-19 **Time:** 11:30

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	147	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	51.2	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	4000	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	342	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	240	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	24.0	ug/L	08/19/2021	R&C	EPA 6010D
Radium 226	0.726	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	0.899	pCi/L	09/07/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.63	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	122	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	0.26	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	775	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1582	mg/L	08/14/2021	SJBROWN	SM 2540C
pH	6.37	SU	08/03/2021	BRT/CS	
Spec. Cond.	1910	uS	08/03/2021	BRT/CS	
Dissolved Oxygen	0.480	ppm	08/03/2021	BRT/CS	
Oxidation Reduction Potential	-59.0	mv	08/03/2021	BRT/CS	SM2580
Temp	23.64	C	08/03/2021	BRT/CS	
Turbidity	6.80	NTU	08/03/2021	BRT/CS	
Depth	22.35	Feet	08/03/2021	BRT/CS	
Elevation	21.04	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96405 **Location:** GW Well WAP-20 **Date:** 02/16/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-20 **Time:** 15:30

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	23.8	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Barium	35.4	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Boron	570	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	54.2	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	290	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	140	ug/L	12/30/1999	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.327	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	0.550	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.877	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	8.53	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	0.65	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	96.3	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	340.0	mg/L	02/19/2021	KCWELLS	SM 2540C
pH	5.84	SU	02/16/2021	DEW/MDG	
Spec. Cond.	333	uS	02/16/2021	DEW/MDG	
Dissolved Oxygen	0.890	ppm	02/16/2021	DEW/MDG	
Oxidation Reduction Potential	65.0	mv	02/16/2021	DEW/MDG	SM2580
Temp	21.32	C	02/16/2021	DEW/MDG	
Turbidity	1.60	NTU	02/16/2021	DEW/MDG	
Depth	18.79	Feet	02/16/2021	DEW/MDG	
Elevation	24.29	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09076 **Location:** GW Well WAP-20 **Date:** 08/10/2021 **Sample Collector:** BSB/MDG

Loc. Code WAP-20 **Time:** 15:36

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	19.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	45.1	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	1800	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	49.3	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	41.0	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	21.0	ug/L	08/17/2021	R&C	EPA 6010D
Lead	1.3	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Radium 226	0.540	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	1.62	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.16	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	92.3	mg/L	08/17/2021	KCWELLS	EPA 300.0
Fluoride	0.23	mg/L	08/17/2021	KCWELLS	EPA 300.0
Sulfate	<2.0	mg/L	08/17/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	452.5	mg/L	08/18/2021	SJBROWN	SM 2540C
pH	6.24	SU	08/10/2021	BRT/CS	
Spec. Cond.	784	uS	08/10/2021	BRT/CS	
Dissolved Oxygen	0.490	ppm	08/10/2021	BRT/CS	
Oxidation Reduction Potential	-84.0	mv	08/10/2021	BRT/CS	SM2580
Temp	25.19	C	08/10/2021	BRT/CS	
Turbidity	585	NTU	08/10/2021	BRT/CS	
Depth	21.78	Feet	08/10/2021	BRT/CS	
Elevation	21.30	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96407 **Location:** GW Well WAP-22 **Date:** 02/16/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-22 **Time:** 13:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Lithium	43.0	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	02/23/2021	R&C	EPA 6010D
pH	6.58	SU	02/16/2021	DEW/MDG	
Spec. Cond.	2390	uS	02/16/2021	DEW/MDG	
Dissolved Oxygen	0.790	ppm	02/16/2021	DEW/MDG	
Oxidation Reduction Potential	-62.0	mv	02/16/2021	DEW/MDG	SM2580
Temp	20.98	C	02/16/2021	DEW/MDG	
Turbidity	0	NTU	02/16/2021	DEW/MDG	
Depth	23.42	Feet	02/16/2021	DEW/MDG	
Elevation	19.95	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 # AF09078 **Location:** GW Well WAP-22 **Date:** 08/04/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-22 **Time:** 13:31

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	11.1	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	67.0	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
pH	6.90	SU	08/04/2021	BRT/MDG	
Spec. Cond.	1980	uS	08/04/2021	BRT/MDG	
Dissolved Oxygen	0.470	ppm	08/04/2021	BRT/MDG	
Oxidation Reduction Potential	-140	mv	08/04/2021	BRT/MDG	SM2580
Temp	24.10	C	08/04/2021	BRT/MDG	
Turbidity	6.00	NTU	08/04/2021	BRT/MDG	
Depth	22.33	Feet	08/04/2021	BRT/MDG	
Elevation	21.04	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96388 **Location:** GW Well WAP-10 **Date:** 02/17/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-10 **Time:** 13:57

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Barium	298	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Calcium	515	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	23600	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	26.0	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	12/30/1999	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	2.88	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	2.96	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	5.83	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	753	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	770	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	2889	mg/L	02/22/2021	KCWELLS	SM 2540C
pH	6.38	SU	02/17/2021	DEW/BSB	
Spec. Cond.	3910	uS	02/17/2021	DEW/BSB	
Dissolved Oxygen	0.540	ppm	02/17/2021	DEW/BSB	
Oxidation Reduction Potential	-46.0	mv	02/17/2021	DEW/BSB	SM2580
Temp	17.41	C	02/17/2021	DEW/BSB	
Turbidity	36.6	NTU	02/17/2021	DEW/BSB	
Depth	4.36	Feet	02/17/2021	DEW/BSB	
Elevation	21.75	Feet	03/08/2021	DEWEST	
Aluminum	<0.10	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Magnesium	81.6	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96389 **Location:** GW Well WAP-10 **Date:** 02/17/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-10 Duplicate **Time:** 14:02

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Barium	305	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Calcium	476	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	24800	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	25.0	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	12/30/1999	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	1.63	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.53	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.16	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	745	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	763	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	2912	mg/L	02/22/2021	KCWELLS	SM 2540C
Aluminum	<0.10	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Magnesium	80.7	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 # AF09059 **Location:** GW Well WAP-10 **Date:** 08/02/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-10 **Time:** 11:34

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Barium	291	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Boron	8800	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	622	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	20400	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Lithium	25.0	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
Selenium	<10.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Radium 226	3.81	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	-0.0936	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.81	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	843	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	843	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	3032	mg/L	08/10/2021	SJBROWN	SM 2540C
pH	6.44	SU	08/02/2021	BRT/MDG	
Spec. Cond.	4000	uS	08/02/2021	BRT/MDG	
Dissolved Oxygen	0.430	ppm	08/02/2021	BRT/MDG	
Oxidation Reduction Potential	-110	mv	08/02/2021	BRT/MDG	SM2580
Temp	24.72	C	08/02/2021	BRT/MDG	
Turbidity	4.20	NTU	08/02/2021	BRT/MDG	
Depth	4.98	Feet	08/02/2021	BRT/MDG	
Elevation	21.13	Feet	08/18/2021	MDGOINGS	
Aluminum	<0.10	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Magnesium	85.6	mg/L	08/26/2021	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09060 **Location:** GW Well WAP-10 **Date:** 08/02/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-10 DUP **Time:** 11:39

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Barium	301	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Boron	8700	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	618	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	20400	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Lithium	25.0	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
Selenium	<10.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Radium 226	2.55	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	3.33	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	5.88	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	800	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	797	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	3544	mg/L	08/10/2021	SJBROWN	SM 2540C
Aluminum	<0.10	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Magnesium	80.7	mg/L	08/26/2021	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96406 **Location:** GW Well WAP-21 **Date:** 02/17/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-21 **Time:** 12:35

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Barium	20.4	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Boron	2400	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	76.4	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	<10	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	12/30/1999	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.646	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.48	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.13	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	15.2	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	68.5	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	403.8	mg/L	02/22/2021	KCWELLS	SM 2540C
pH	6.20	SU	02/17/2021	DEW/BSB	
Spec. Cond.	479	uS	02/17/2021	DEW/BSB	
Dissolved Oxygen	0.570	ppm	02/17/2021	DEW/BSB	
Oxidation Reduction Potential	35.0	mv	02/17/2021	DEW/BSB	SM2580
Temp	17.82	C	02/17/2021	DEW/BSB	
Turbidity	0	NTU	02/17/2021	DEW/BSB	
Depth	18.86	Feet	02/17/2021	DEW/BSB	
Elevation	24.20	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 # AF09077 **Location:** GW Well WAP-21 **Date:** 08/03/2021 **Sample Collector:** BRT/CWS

Loc. Code WAP-21 **Time:** 16:27

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	28.4	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	2200	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	76.3	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
Radium 226	0.436	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	4.54	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	4.98	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	11.5	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	29.5	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	357.5	mg/L	08/14/2021	SJBROWN	SM 2540C
pH	6.13	SU	08/03/2021	BRT/CS	
Spec. Cond.	455	uS	08/03/2021	BRT/CS	
Dissolved Oxygen	0.490	ppm	08/03/2021	BRT/CS	
Oxidation Reduction Potential	-57.0	mv	08/03/2021	BRT/CS	SM2580
Temp	23.67	C	08/03/2021	BRT/CS	
Turbidity	21.0	NTU	08/03/2021	BRT/CS	
Depth	21.46	Feet	08/03/2021	BRT/CS	
Elevation	21.60	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96408 **Location:** GW Well WAP-23 **Date:** 02/17/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-23 **Time:** 11:26

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Lithium	11.0	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	02/23/2021	R&C	EPA 6010D
pH	6.73	SU	02/17/2021	DEW/BSB	
Spec. Cond.	937	uS	02/17/2021	DEW/BSB	
Dissolved Oxygen	0.640	ppm	02/17/2021	DEW/BSB	
Oxidation Reduction Potential	-58.0	mv	02/17/2021	DEW/BSB	SM2580
Temp	18.91	C	02/17/2021	DEW/BSB	
Turbidity	4.50	NTU	02/17/2021	DEW/BSB	
Depth	20.20	Feet	02/17/2021	DEW/BSB	
Elevation	23.03	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 # AF09079 **Location:** GW Well WAP-23 **Date:** 08/03/2021 **Sample Collector:** BRT/CWS

Loc. Code WAP-23 **Time:** 12:36

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	12.0	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
pH	6.61	SU	08/03/2021	BRT/CS	
Spec. Cond.	1060	uS	08/03/2021	BRT/CS	
Dissolved Oxygen	0.390	ppm	08/03/2021	BRT/CS	
Oxidation Reduction Potential	-102	mv	08/03/2021	BRT/CS	SM2580
Temp	22.99	C	08/03/2021	BRT/CS	
Turbidity	12.8	NTU	08/03/2021	BRT/CS	
Depth	21.83	Feet	08/03/2021	BRT/CS	
Elevation	21.40	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96387 **Location:** GW Well WAP-9 **Date:** 02/23/2021 **Sample Collector:** MDG/DEW

Loc. Code WAP-9 **Time:** 12:49

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	101	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Barium	57.6	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Calcium	121	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	2450	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	03/08/2021	R&C	EPA 7470
Lithium	69.0	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	1.07	pCi/L	03/04/2021	GEL	EPA 903.1 Mod
Radium 228	2.59	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.65	pCi/L	03/24/2021	GEL	EPA 903.1 Mod
Chloride	83.9	mg/L	02/26/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/26/2021	KCWELLS	EPA 300.0
Sulfate	172.3	mg/L	02/26/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	716.2	mg/L	03/01/2021	KCWELLS	SM 2540C
pH	5.68	SU	02/23/2021	DEW/MDG	
Spec. Cond.	748	uS	02/23/2021	DEW/MDG	
Dissolved Oxygen	0.450	ppm	02/23/2021	DEW/MDG	
Oxidation Reduction Potential	17.0	mv	02/23/2021	DEW/MDG	SM2580
Temp	18.93	C	02/23/2021	DEW/MDG	
Turbidity	0	NTU	02/23/2021	DEW/MDG	
Depth	8.83	Feet	02/23/2021	DEW/MDG	
Elevation	19.21	Feet	03/08/2021	DEWEST	
Aluminum	0.48	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Magnesium	24.3	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 # AF09058 **Location:** GW Well WAP-9 **Date:** 08/02/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-9 **Time:** 13:39

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	84.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Barium	76.2	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Boron	4600	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	182	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	865	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Lithium	57.0	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
Selenium	<10.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Radium 226	1.27	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	2.19	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.46	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	77.7	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	197	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	941.2	mg/L	08/10/2021	SJBROWN	SM 2540C
pH	5.97	SU	08/02/2021	BRT/MDG	
Spec. Cond.	1160	uS	08/02/2021	BRT/MDG	
Dissolved Oxygen	0.290	ppm	08/02/2021	BRT/MDG	
Oxidation Reduction Potential	-69.0	mv	08/02/2021	BRT/MDG	SM2580
Temp	28.14	C	08/02/2021	BRT/MDG	
Turbidity	4.20	NTU	08/02/2021	BRT/MDG	
Depth	9.70	Feet	08/02/2021	BRT/MDG	
Elevation	18.34	Feet	08/18/2021	MDGOINGS	
Aluminum	0.36	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Magnesium	36.9	mg/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 # AE96401 **Location:** GW Well WAP-17 **Date:** 03/02/2021 **Sample Collector:** DEW/TG/DJ

Loc. Code WAP-17 **Time:** 10:48

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	90.6	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	23.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	2800.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	136	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	03/12/2021	R&C	EPA 7470
Lithium	160	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	110	ug/L	03/11/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.250	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.141	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.390	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	45.3	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	0.32	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	348	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	812.5	mg/L	03/05/2021	KCWELLS	SM 2540C
pH	5.88	SU	03/02/2021	DEW/DJ/TG	
Spec. Cond.	743	uS	03/02/2021	DEW/DJ/TG	
Dissolved Oxygen	0.610	ppm	03/02/2021	DEW/DJ/TG	
Oxidation Reduction Potential	84.0	mv	03/02/2021	DEW/DJ/TG	SM2580
Temp	17.22	C	03/02/2021	DEW/DJ/TG	
Turbidity	0	NTU	03/02/2021	DEW/DJ/TG	
Depth	8.89	Feet	03/02/2021	DEW/DJ/TG	
Elevation	20.38	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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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96402 **Location:** GW Well WAP-17 **Date:** 03/02/2021 **Sample Collector:** DEW/TG/DJ

Loc. Code WAP-17 Duplicate **Time:** 10:53

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	95.4	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	23.4	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	2900.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	136	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	03/12/2021	R&C	EPA 7470
Lithium	150	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	110	ug/L	03/11/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.308	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.794	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.10	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	47.1	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	0.29	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	359	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	693.8	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 # AF00695 **Location:** GW Well WAP-17 **Date:** 04/08/2021 **Sample Collector:** DEW/MDG

Loc. Code WAP-17 **Time:** 13:31

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	108	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Barium	26.9	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Boron	3300	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Calcium	180	mg/L	04/26/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	04/16/2021	ROGERSNCALLC	EPA 7470
Lithium	130	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	59	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Radium 226	0.172	pCi/L	04/22/2021	GEL	EPA 903.1 Mod
Radium 228	3.85	pCi/L	04/20/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	4.02	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Chloride	66.6	mg/L	04/20/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	04/20/2021	KCWELLS	EPA 300.0
Sulfate	432	mg/L	04/20/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1015	mg/L	04/16/2021	SJBROWN	SM 2540C
pH	6.22	SU	04/08/2021	DEW/MDG	
Spec. Cond.	1140	uS	04/08/2021	DEW/MDG	
Dissolved Oxygen	0.390	ppm	04/08/2021	DEW/MDG	
Oxidation Reduction Potential	19.0	mv	04/08/2021	DEW/MDG	SM2580
Temp	23.83	C	04/08/2021	DEW/MDG	
Turbidity	0	NTU	04/08/2021	DEW/MDG	
Depth	6.98	Feet	04/08/2021	DEW/MDG	
Elevation	19.90	Feet	04/22/2021	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 # AF00696 **Location:** GW Well WAP-17 **Date:** 04/08/2021 **Sample Collector:** DEW/MDG

Loc. Code WAP-17 DUP **Time:** 13:36

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	110	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Barium	28.4	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Boron	3300	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Calcium	188	mg/L	04/26/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	04/16/2021	ROGERSNCALLC	EPA 7470
Lithium	120	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	57	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Radium 226	1.02	pCi/L	04/22/2021	GEL	EPA 903.1 Mod
Radium 228	4.17	pCi/L	04/20/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	5.19	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Chloride	65.8	mg/L	04/20/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	04/20/2021	KCWELLS	EPA 300.0
Sulfate	426	mg/L	04/20/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	967.5	mg/L	04/16/2021	SJBROWN	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 # AF09072 **Location:** GW Well WAP-17 **Date:** 08/02/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-17 **Time:** 15:12

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	89.5	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	52.9	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	4100	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	247	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	12.0	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	12.0	ug/L	08/17/2021	R&C	EPA 6010D
Radium 226	0.811	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	2.23	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.04	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	198	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	607	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1321	mg/L	08/10/2021	SJBROWN	SM 2540C
pH	5.82	SU	08/02/2021	BRT/MDG	
Spec. Cond.	1660	uS	08/02/2021	BRT/MDG	
Dissolved Oxygen	0.390	ppm	08/02/2021	BRT/MDG	
Oxidation Reduction Potential	-49.0	mv	08/02/2021	BRT/MDG	SM2580
Temp	29.17	C	08/02/2021	BRT/MDG	
Turbidity	12.7	NTU	08/02/2021	BRT/MDG	
Depth	6.24	Feet	08/02/2021	BRT/MDG	
Elevation	20.64	Feet	08/20/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

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CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AF09073 **Location:** GW Well WAP-17 **Date:** 08/02/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-17 DUP **Time:** 15:17

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	90.5	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	51.7	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	3900	ug/L	08/17/2021	R&C	EPA 6010D
Calcium	244	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	11.0	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	14.0	ug/L	08/17/2021	R&C	EPA 6010D
Radium 226	0.854	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	2.68	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.53	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	195	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	600	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1286	mg/L	08/10/2021	SJBROWN	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

santee cooper

One Riverwood Drive
P.O. Box 2946101
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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96409 **Location:** GW Well WAP-24 **Date:** 03/02/2021 **Sample Collector:** DEW/TG/DJ

Loc. Code WAP-24 **Time:** 11:28

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	03/11/2021	R&C	EPA 6010D
pH	7.59	SU	03/02/2021	DEW/DJ/TG	
Spec. Cond.	309	uS	03/02/2021	DEW/DJ/TG	
Dissolved Oxygen	5.30	ppm	03/02/2021	DEW/DJ/TG	
Oxidation Reduction Potential	72.0	mv	03/02/2021	DEW/DJ/TG	SM2580
Temp	18.53	C	03/02/2021	DEW/DJ/TG	
Turbidity	1.60	NTU	03/02/2021	DEW/DJ/TG	
Depth	6.25	Feet	03/02/2021	DEW/DJ/TG	
Elevation	22.52	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 # AF09080 **Location:** GW Well WAP-24 **Date:** 08/02/2021 **Sample Collector:** MDG/BRT

Loc. Code WAP-24 **Time:** 12:50

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
pH	7.53	SU	08/02/2021	BRT/MDG	
Spec. Cond.	340	uS	08/02/2021	BRT/MDG	
Dissolved Oxygen	0.410	ppm	08/02/2021	BRT/MDG	
Oxidation Reduction Potential	-166	mv	08/02/2021	BRT/MDG	SM2580
Temp	27.40	C	08/02/2021	BRT/MDG	
Turbidity	6.30	NTU	08/02/2021	BRT/MDG	
Depth	7.57	Feet	08/02/2021	BRT/MDG	
Elevation	21.20	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96411 **Location:** GW Well WAP-26 **Date:** 03/02/2021 **Sample Collector:** DEW/TG/DJ

Loc. Code WAP-26 **Time:** 15:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	03/11/2021	R&C	EPA 6010D
pH	5.03	SU	03/02/2021	DEW/DJ/TG	
Spec. Cond.	191	uS	03/02/2021	DEW/DJ/TG	
Dissolved Oxygen	0.720	ppm	03/02/2021	DEW/DJ/TG	
Oxidation Reduction Potential	74.0	mv	03/02/2021	DEW/DJ/TG	SM2580
Temp	17.86	C	03/02/2021	DEW/DJ/TG	
Turbidity	3.10	NTU	03/02/2021	DEW/DJ/TG	
Depth	6.52	Feet	03/02/2021	DEW/DJ/TG	
Elevation	21.04	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 # AF09082 **Location:** GW Well WAP-26 **Date:** 08/10/2021 **Sample Collector:** BSB/MDG

Loc. Code WAP-26 **Time:** 11:46

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
pH	4.72	SU	08/10/2021	MDG/BSB	
Spec. Cond.	184	uS	08/10/2021	MDG/BSB	
Dissolved Oxygen	0.510	ppm	08/10/2021	MDG/BSB	
Oxidation Reduction Potential	103	mv	08/10/2021	MDG/BSB	SM2580
Temp	27.54	C	08/10/2021	MDG/BSB	
Turbidity	0	NTU	08/10/2021	MDG/BSB	
Depth	7.49	Feet	08/10/2021	MDG/BSB	
Elevation	20.07	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

Linda Williams - Supervisor Analytical Services

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SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AE96410 **Location:** GW Well WAP-25 **Date:** 03/04/2021 **Sample Collector:** DEW/ML

Loc. Code WAP-25 **Time:** 10:36

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/26/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	03/11/2021	R&C	EPA 6010D
pH	6.93	SU	03/04/2021	DEW/ML	
Spec. Cond.	348	uS	03/04/2021	DEW/ML	
Dissolved Oxygen	0.630	ppm	03/04/2021	DEW/ML	
Oxidation Reduction Potential	-115	mv	03/04/2021	DEW/ML	SM2580
Temp	18.69	C	03/04/2021	DEW/ML	
Turbidity	0	NTU	03/04/2021	DEW/ML	
Depth	8.05	Feet	03/04/2021	DEW/ML	
Elevation	19.05	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 # AF09081 **Location:** GW Well WAP-25 **Date:** 08/10/2021 **Sample Collector:** BSB/MDG

Loc. Code WAP-25 **Time:** 13:32

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Lithium	<10	ug/L	08/17/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/17/2021	R&C	EPA 6010D
pH	7.05	SU	08/10/2021	MDG/BSB	
Spec. Cond.	345	uS	08/10/2021	MDG/BSB	
Dissolved Oxygen	1.02	ppm	08/10/2021	MDG/BSB	
Oxidation Reduction Potential	-145	mv	08/10/2021	MDG/BSB	SM2580
Temp	23.55	C	08/10/2021	MDG/BSB	
Turbidity	0	NTU	08/10/2021	MDG/BSB	
Depth	7.92	Feet	08/10/2021	MDG/BSB	
Elevation	19.18	Feet	08/18/2021	MDGOINGS	

Comments:

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

Analysis Validated: Linda Williams

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 1021082 02/19/2021 10:20

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 February 19, 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 Karen Upshur, your Project Manager, at kupshur@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Report Approved By:

Karen Upshur
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: 1021082
Received: 02/19/2021 10:20

Sample Number	Sample Description	Matrix	Sampled	Type
1021082-01	AE96379 WAP-1	Ground Water	02/15/21 13:37	Grab
1021082-02	AE96380 WAP-2	Ground Water	02/15/21 14:40	Grab
1021082-03	AE96412 WBW-1	Ground Water	02/15/21 12:21	Grab
1021082-04	AE96403 WAP-18	Ground Water	02/16/21 11:33	Grab
1021082-05	AE96404 WAP-19	Ground Water	02/16/21 14:25	Grab
1021082-06	AE96405 WAP-20	Ground Water	02/16/21 15:30	Grab
1021082-07	AE96407 WAP-22	Ground Water	02/16/21 13:13	Grab
1021082-08	AE96388 WAP-10	Ground Water	02/17/21 13:57	Grab
1021082-09	AE96389 WAP-10 DUP	Ground Water	02/17/21 14:02	Grab
1021082-10	AE96406 WAP-21	Ground Water	02/17/21 12:35	Grab
1021082-11	AE96408 WAP-23	Ground Water	02/17/21 11:26	Grab

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

Sample Data

Sample Number 1021082-01
Sample Description AE96379 WAP-1 collected on 02/15/21 13:37

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 11:43	EPA 7470A		MLR	B1B1040
Boron	**24**	15	ug/L	1.00	02/23/21 19:06	EPA 6010D		MLR	B1B1006
Lithium	ND	10	ug/L	1.00	02/23/21 19:06	EPA 6010D		MLR	B1B1006
Molybdenum	ND	10	ug/L	1.00	02/23/21 19:06	EPA 6010D		MLR	B1B1006

Sample Number 1021082-02
Sample Description AE96380 WAP-2 collected on 02/15/21 14:40

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 11:23	EPA 7470A	S7	MLR	B1B1040
Lithium	**13**	10	ug/L	1.00	02/23/21 20:20	EPA 6010D		MLR	B1B1006
Molybdenum	ND	10	ug/L	1.00	02/23/21 20:20	EPA 6010D		MLR	B1B1006

Sample Number 1021082-03
Sample Description AE96412 WBW-1 collected on 02/15/21 12:21

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 11:45	EPA 7470A		MLR	B1B1040
Boron	ND	15	ug/L	1.00	02/23/21 19:26	EPA 6010D		MLR	B1B1006
Lithium	ND	10	ug/L	1.00	02/23/21 19:26	EPA 6010D		MLR	B1B1006
Molybdenum	ND	10	ug/L	1.00	02/23/21 19:26	EPA 6010D		MLR	B1B1006

Sample Number 1021082-04
Sample Description AE96403 WAP-18 collected on 02/16/21 11:33

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 11:54	EPA 7470A		MLR	B1B1040
Boron	**7500**	15	ug/L	1.00	02/23/21 20:03	EPA 6010D		MLR	B1B1006
Lithium	**540**	10	ug/L	1.00	02/23/21 20:03	EPA 6010D		MLR	B1B1006
Molybdenum	**2900**	10	ug/L	1.00	02/23/21 20:03	EPA 6010D		MLR	B1B1006

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

Sample Number 1021082-05
Sample Description AE96404 WAP-19 collected on 02/16/21 14:25

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 11:57	EPA 7470A		MLR	B1B1040
Boron	**3500**	15	ug/L	1.00	02/23/21 20:07	EPA 6010D		MLR	B1B1006
Lithium	**290**	10	ug/L	1.00	02/23/21 20:07	EPA 6010D		MLR	B1B1006
Molybdenum	**41**	10	ug/L	1.00	02/23/21 20:07	EPA 6010D		MLR	B1B1006

Sample Number 1021082-06
Sample Description AE96405 WAP-20 collected on 02/16/21 15:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 12:00	EPA 7470A		MLR	B1B1040
Boron	**570**	15	ug/L	1.00	02/23/21 20:11	EPA 6010D		MLR	B1B1006
Lithium	**290**	10	ug/L	1.00	02/23/21 20:11	EPA 6010D		MLR	B1B1006
Molybdenum	**140**	10	ug/L	1.00	02/23/21 20:11	EPA 6010D		MLR	B1B1006

Sample Number 1021082-07
Sample Description AE96407 WAP-22 collected on 02/16/21 13:13

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**43**	10	ug/L	1.00	02/23/21 20:33	EPA 6010D		MLR	B1B1006

Sample Number 1021082-08
Sample Description AE96388 WAP-10 collected on 02/17/21 13:57

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 12:02	EPA 7470A	S7	MLR	B1B1040
Lithium	**26**	10	ug/L	1.00	02/23/21 20:24	EPA 6010D		MLR	B1B1006
Molybdenum	ND	10	ug/L	1.00	02/23/21 20:24	EPA 6010D		MLR	B1B1006

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

Sample Number 1021082-09
Sample Description AE96389 WAP-10 DUP collected on 02/17/21 14:02

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 12:05	EPA 7470A	S7	MLR	B1B1040
Lithium	**25**	10	ug/L	1.00	02/23/21 20:28	EPA 6010D		MLR	B1B1006
Molybdenum	ND	10	ug/L	1.00	02/23/21 20:28	EPA 6010D		MLR	B1B1006

Sample Number 1021082-10
Sample Description AE96406 WAP-21 collected on 02/17/21 12:35

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	02/23/21 12:08	EPA 7470A		MLR	B1B1040
Boron	**2400**	15	ug/L	1.00	02/23/21 20:15	EPA 6010D		MLR	B1B1006
Lithium	ND	10	ug/L	1.00	02/23/21 20:15	EPA 6010D		MLR	B1B1006
Molybdenum	ND	10	ug/L	1.00	02/23/21 20:15	EPA 6010D		MLR	B1B1006

Sample Number 1021082-11
Sample Description AE96408 WAP-23 collected on 02/17/21 11:26

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**11**	10	ug/L	1.00	02/23/21 20:37	EPA 6010D		MLR	B1B1006

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1B1006 - EPA 3005A										
Blank (B1B1006-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1B1006-BS1)										
Boron	250	15	ug/L	250		98	80-120			
Lithium	255	10	ug/L	250		102	80-120			
Molybdenum	240	10	ug/L	250		97	80-120			
LCS Dup (B1B1006-BSD1)										
Boron	250	15	ug/L	250		99	80-120	0.8	20	
Lithium	257	10	ug/L	250		103	80-120	0.7	20	
Molybdenum	250	10	ug/L	250		99	80-120	2	20	
Matrix Spike (B1B1006-MS1)	**Source: 1021082-01**									
Boron	250	15	ug/L	250	24	92	75-125			
Lithium	253	10	ug/L	250	ND	101	75-125			
Molybdenum	230	10	ug/L	250	ND	93	75-125			
Matrix Spike (B1B1006-MS2)	**Source: 1021082-03**									
Boron	260	15	ug/L	250	ND	97	75-125			
Lithium	262	10	ug/L	250	ND	105	75-125			
Molybdenum	240	10	ug/L	250	ND	97	75-125			
Matrix Spike Dup (B1B1006-MSD1)	**Source: 1021082-01**									
Boron	270	15	ug/L	250	24	99	75-125	6	20	
Lithium	268	10	ug/L	250	ND	107	75-125	6	20	
Molybdenum	250	10	ug/L	250	ND	99	75-125	6	20	
Matrix Spike Dup (B1B1006-MSD2)	**Source: 1021082-03**									
Boron	260	15	ug/L	250	ND	98	75-125	0.4	20	
Lithium	264	10	ug/L	250	ND	105	75-125	0.5	20	
Molybdenum	240	10	ug/L	250	ND	98	75-125	1	20	

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1B1040 - EPA 7470A										
Blank (B1B1040-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1B1040-BS1)										
Mercury	5.0	0.20	ug/L	5.00		101	80-120			
LCS Dup (B1B1040-BSD1)										
Mercury	4.9	0.20	ug/L	5.00		98	80-120	2	20	
Matrix Spike (B1B1040-MS2)	**Source: 1021082-02**									
Mercury	4.1	0.20	ug/L	5.00	ND	82	75-125			S7
Matrix Spike Dup (B1B1040-MSD2)	**Source: 1021082-02**									
Mercury	4.1	0.20	ug/L	5.00	ND	82	75-125	0.6	20	S7

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

Sample Preparation Data

Parameter	Batch	Sample ID	Prepared	Analyst
EPA 3005A ICP Digestion				
EPA 3005A	B1B1006	1021082-01	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-02	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-03	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-04	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-05	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-06	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-07	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-08	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-09	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-10	02/22/2021 10:53	MTH
EPA 3005A	B1B1006	1021082-11	02/22/2021 10:53	MTH
EPA 7470A Mercury Digestion				
EPA 7470A	B1B1040	1021082-01	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-02	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-03	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-04	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-05	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-06	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-08	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-09	02/22/2021 16:38	MLR
EPA 7470A	B1B1040	1021082-10	02/22/2021 16:38	MLR

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1021082
Moncks Corner, SC 29461		Reported:	02/26/21 13:41

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): 2 / 26 / 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.GW1 / 36500

Rerun request for any flagged QC Yes No

1021082

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
AE96379	WAP-1	2/15/21	1337	MDG/DFN	1	P	G	GW	2	-01	X	X	X	X
AE96380	WAP-2	2/15/21	1440	|	|	|	|	|	|	-02		X	X	X
AE96412	WBW-1	2/15/21	1221	|	|	|	|	|	|	-03	X	X	X	X
AE96403	WAP-18	2/16/21	1133	|	|	|	|	|	|	-04	X	X	X	X
AE96404	WAP-19	|	1425	|	|	|	|	|	|	-05	X	X	X	X
AE96405	WAP-20	|	1530	|	|	|	|	|	|	-06	X	X	X	X
AE96407	WAP-22	2/16/21	1313	|	|	|	|	|	|	-07		X		

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	2/18/21	1400	FEDEX			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FEDEX				GC		2/19/21	1020
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 9.6 **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.
[illegible]
Used Oil
[illegible]
☐ 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)

Contract Lab Info: R/C   Contract Lab Due Date (Lab Only): 2 / 26 / 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

1021082

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
AE96388	WAP-10	2/17/21	1357	DEW/BSB	1	P	G	GW	2	-08		X	X	X
AE96389	WAP-10 DUP	↓	1402	↓	↓					-09		X	X	X
AE96406	WAP-21	2/17/21	1235							-10	X	X	X	X
AE96408	WAP-23	↓	1126	↓	↓	↓	↓	↓	↓	-11		X		

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	2/18/21	1400				
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 9.6 **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 Quality
☐ 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)

Rogers & Callcott ENVIRONMENTAL

Sample Receipt Verification

Client: Santee Cooper Date Received: 2/24/21 Work Order: 1021247

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

Tracking Number: 816240672635

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 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

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: 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

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 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

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			

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 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

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
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/MPE						-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 TPLH
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
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

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

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

Rogers & Callcott ENVIRONMENTAL

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				[illegible]		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: 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	B	Li	Mo	F
AE96409	WAP-24	3/2/21	1128	DEW DJ	1	P	G	GW	2	-10		X	X	
AE96411	WAP-26	⊥	1513	⊥	⊥	⊥	⊥	⊥	2	-11		X	X	
AE96410	WAP-25	3/4/21	1036	DEW ML	1	⊥	⊥	⊥	2	-12		X	X	
AE96393	WAP-13	|	1155	|	|	|	|	|	|	-13	X	X	X	X
AE96391	WAP-12	|	1309	|	|	|	|	|	|	-14	X	X	X	X
AE96392	WAP-12 DUP	|	1314	|	|	|	|	|	|	-15	X	X	X	X
AE96400	WAP-16	|	1427	|	⊥	|	|	⊥	⊥	-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.
% Moisture
Color
Acidity
Dielectric Strength
IFT
Dissolved Gases
Used Oil
Flashpoint
Metals in oil
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)

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 1040743 04/14/2021 09:20

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 April 14, 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

Lauren Hollister
Project Manager

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: 1040743
Received: 04/14/2021 09:20

Sample Number	Sample Description	Matrix	Sampled	Type
1040743-01	AF00633 CGYP-4	Ground Water	04/07/21 11:06	Grab
1040743-02	AF00629 CGYP-1	Ground Water	04/07/21 12:16	Grab
1040743-03	AF00630 CGYP-2	Ground Water	04/07/21 13:16	Grab
1040743-04	AF00631 CGYP-2 DUP	Ground Water	04/07/21 13:21	Grab
1040743-05	AF00632 CGYP-3	Ground Water	04/07/21 14:20	Grab
1040743-06	AF00634 CGYP-5	Ground Water	04/07/21 15:09	Grab
1040743-07	AF00635 CGYP-6	Ground Water	04/07/21 16:02	Grab
1040743-08	AF00697 CCMAP-4	Ground Water	04/08/21 10:32	Grab
1040743-09	AF00698 CCMAP-4 DUP	Ground Water	04/08/21 10:37	Grab
1040743-10	AF00693 WLF-A2-6	Ground Water	04/08/21 15:27	Grab
1040743-11	AF00694 WLF-A2-6 DUP	Ground Water	04/08/21 15:32	Grab
1040743-12	AF00695 WAP-17	Ground Water	04/08/21 13:31	Grab
1040743-13	AF00696 WAP-17 DUP	Ground Water	04/08/21 13:36	Grab

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Sample Data

Sample Number 1040743-01
Sample Description AF00633 CGYP-4 collected on 04/07/21 11:06

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:12	EPA 7470A		MLR	B1D0679
Boron	**7600**	75	ug/L	5.00	04/16/21 14:48	EPA 6010D		MLR	B1D0837
Lithium	**58**	10	ug/L	1.00	04/16/21 15:58	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 15:58	EPA 6010D		MLR	B1D0590

Sample Number 1040743-02
Sample Description AF00629 CGYP-1 collected on 04/07/21 12:16

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:24	EPA 7470A		MLR	B1D0679
Boron	**11000**	75	ug/L	5.00	04/16/21 14:52	EPA 6010D		MLR	B1D0837
Lithium	**20**	20	ug/L	2.00	04/21/21 16:28	EPA 6010D	X	MLR	B1D0590
Molybdenum	ND	20	ug/L	2.00	04/21/21 16:28	EPA 6010D	X	MLR	B1D0590

Sample Number 1040743-03
Sample Description AF00630 CGYP-2 collected on 04/07/21 13:16

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:35	EPA 7470A		MLR	B1D0679
Boron	**850**	75	ug/L	5.00	04/16/21 12:53	EPA 6010D		MLR	B1D0837
Lithium	**14**	10	ug/L	1.00	04/16/21 13:12	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 13:12	EPA 6010D		MLR	B1D0590

Sample Number 1040743-04
Sample Description AF00631 CGYP-2 DUP collected on 04/07/21 13:21

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:38	EPA 7470A		MLR	B1D0679
Boron	**890**	75	ug/L	5.00	04/16/21 14:56	EPA 6010D		MLR	B1D0837
Lithium	**15**	10	ug/L	1.00	04/16/21 16:29	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 16:29	EPA 6010D		MLR	B1D0590

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Sample Number 1040743-05
Sample Description AF00632 CGYP-3 collected on 04/07/21 14:20

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	**0.21**	0.20	ug/L	1.00	04/16/21 10:46	EPA 7470A		MLR	B1D0679
Boron	**23000**	75	ug/L	5.00	04/16/21 15:00	EPA 6010D		MLR	B1D0837
Lithium	**94**	10	ug/L	1.00	04/16/21 16:33	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 16:33	EPA 6010D		MLR	B1D0590

Sample Number 1040743-06
Sample Description AF00634 CGYP-5 collected on 04/07/21 15:09

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:49	EPA 7470A		MLR	B1D0679
Boron	**3100**	75	ug/L	5.00	04/16/21 15:03	EPA 6010D		MLR	B1D0837
Lithium	**60**	10	ug/L	1.00	04/16/21 16:36	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 16:36	EPA 6010D		MLR	B1D0590

Sample Number 1040743-07
Sample Description AF00635 CGYP-6 collected on 04/07/21 16:02

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:52	EPA 7470A		MLR	B1D0679
Boron	**7000**	75	ug/L	5.00	04/16/21 15:07	EPA 6010D		MLR	B1D0837
Lithium	**140**	10	ug/L	1.00	04/16/21 16:40	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 16:40	EPA 6010D		MLR	B1D0590

Sample Number 1040743-08
Sample Description AF00697 CCMAP-4 collected on 04/08/21 10:32

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	04/16/21 15:49	EPA 6010D		MLR	B1D0590

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Sample Number 1040743-09
Sample Description AF00698 CCMAP-4 DUP collected on 04/08/21 10:37

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	04/16/21 15:54	EPA 6010D		MLR	B1D0590

Sample Number 1040743-10
Sample Description AF00693 WLF-A2-6 collected on 04/08/21 15:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:54	EPA 7470A		MLR	B1D0679
Boron	**310**	75	ug/L	5.00	04/16/21 15:11	EPA 6010D		MLR	B1D0837
Lithium	**24**	10	ug/L	1.00	04/16/21 16:44	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 16:44	EPA 6010D		MLR	B1D0590

Sample Number 1040743-11
Sample Description AF00694 WLF-A2-6 DUP collected on 04/08/21 15:32

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 10:57	EPA 7470A		MLR	B1D0679
Boron	**280**	75	ug/L	5.00	04/16/21 15:38	EPA 6010D		MLR	B1D0837
Lithium	**32**	10	ug/L	1.00	04/16/21 16:48	EPA 6010D		MLR	B1D0590
Molybdenum	ND	10	ug/L	1.00	04/16/21 16:48	EPA 6010D		MLR	B1D0590

Sample Number 1040743-12
Sample Description AF00695 WAP-17 collected on 04/08/21 13:31

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 11:00	EPA 7470A		MLR	B1D0679
Boron	**3300**	75	ug/L	5.00	04/16/21 13:35	EPA 6010D		MLR	B1D0837
Lithium	**130**	10	ug/L	1.00	04/16/21 14:01	EPA 6010D		MLR	B1D0590
Molybdenum	**59**	10	ug/L	1.00	04/16/21 14:01	EPA 6010D		MLR	B1D0590

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Sample Number 1040743-13
Sample Description AF00696 WAP-17 DUP collected on 04/08/21 13:36

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	04/16/21 11:03	EPA 7470A		MLR	B1D0679
Boron	**3300**	75	ug/L	5.00	04/16/21 15:42	EPA 6010D		MLR	B1D0837
Lithium	**120**	10	ug/L	1.00	04/16/21 16:52	EPA 6010D		MLR	B1D0590
Molybdenum	**57**	10	ug/L	1.00	04/16/21 16:52	EPA 6010D		MLR	B1D0590

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1D0590 - EPA 3005A										
Blank (B1D0590-BLK1)										
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1D0590-BS1)										
Lithium	256	10	ug/L	250		102	80-120			
Molybdenum	300	10	ug/L	250		120	80-120			
LCS Dup (B1D0590-BSD1)										
Lithium	266	10	ug/L	250		107	80-120	4	20	
Molybdenum	260	10	ug/L	250		105	80-120	14	20	
Matrix Spike (B1D0590-MS1)	**Source: 1040743-03**									
Lithium	260	10	ug/L	250	14	98	75-125			
Molybdenum	200	10	ug/L	250	ND	81	75-125			
Matrix Spike (B1D0590-MS2)	**Source: 1040743-12**									
Lithium	421	10	ug/L	250	126	118	75-125			
Molybdenum	310	10	ug/L	250	59	100	75-125			
Matrix Spike Dup (B1D0590-MSD1)	**Source: 1040743-03**									
Lithium	263	10	ug/L	250	14	100	75-125	1	20	
Molybdenum	210	10	ug/L	250	ND	83	75-125	2	20	
Matrix Spike Dup (B1D0590-MSD2)	**Source: 1040743-12**									
Lithium	412	10	ug/L	250	126	114	75-125	2	20	
Molybdenum	310	10	ug/L	250	59	98	75-125	0.9	20	
Post Spike (B1D0590-PS1)	**Source: 1040743-03**									
Lithium	501	10	ug/L	500	14	97	75-125			
Molybdenum	430	10	ug/L	500	ND	86	75-125			
Post Spike (B1D0590-PS2)	**Source: 1040743-12**									
Lithium	691	10	ug/L	500	126	113	75-125			
Molybdenum	570	10	ug/L	500	59	102	75-125			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1D0679 - EPA 7470A										
Blank (B1D0679-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1D0679-BS1)										
Mercury	5.0	0.20	ug/L	5.00		101	80-120			
LCS Dup (B1D0679-BSD1)										
Mercury	5.0	0.20	ug/L	5.00		100	80-120	1	20	
Matrix Spike (B1D0679-MS1)	**Source: 1040743-01**									
Mercury	4.3	0.20	ug/L	5.00	ND	84	75-125			
Matrix Spike (B1D0679-MS2)	**Source: 1040743-02**									
Mercury	4.7	0.20	ug/L	5.00	ND	92	75-125			
Matrix Spike Dup (B1D0679-MSD1)	**Source: 1040743-01**									
Mercury	4.3	0.20	ug/L	5.00	ND	83	75-125	0.9	20	
Matrix Spike Dup (B1D0679-MSD2)	**Source: 1040743-02**									
Mercury	4.7	0.20	ug/L	5.00	ND	93	75-125	0.7	20	
Post Spike (B1D0679-PS1)	**Source: 1040743-01**									
Mercury	3.4		ug/L	4.00	ND	82	80-120			
Post Spike (B1D0679-PS2)	**Source: 1040743-02**									
Mercury	3.6		ug/L	4.00	ND	88	80-120			
Post Spike (B1D0679-PS3)	**Source: 1040743-03**									
Mercury	3.2		ug/L	4.00	ND	81	80-120			
Post Spike (B1D0679-PS4)	**Source: 1040743-04**									
Mercury	3.2		ug/L	4.00	ND	80	80-120			
Post Spike (B1D0679-PS5)	**Source: 1040743-05**									
Mercury	3.8		ug/L	4.00	0.21	89	80-120			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1D0679 - EPA 7470A										
Post Spike (B1D0679-PS6)	**Source: 1040743-06**									
Mercury	3.5		ug/L	4.00	ND	86	80-120			
Post Spike (B1D0679-PS7)	**Source: 1040743-07**									
Mercury	3.6		ug/L	4.00	ND	89	80-120			
Post Spike (B1D0679-PS8)	**Source: 1040743-10**									
Mercury	3.9		ug/L	4.00	ND	98	80-120			
Post Spike (B1D0679-PS9)	**Source: 1040743-11**									
Mercury	3.8		ug/L	4.00	ND	96	80-120			
Post Spike (B1D0679-PSA)	**Source: 1040743-12**									
Mercury	3.7		ug/L	4.00	ND	91	80-120			
Post Spike (B1D0679-PSB)	**Source: 1040743-13**									
Mercury	3.8		ug/L	4.00	ND	93	80-120			
Batch B1D0837 - EPA 3005A										
Blank (B1D0837-BLK1)										
Boron	ND	15	ug/L							
LCS (B1D0837-BS1)										
Boron	210	15	ug/L	250		82	80-120			
LCS Dup (B1D0837-BSD1)										
Boron	240	15	ug/L	250		95	80-120	14	20	
Matrix Spike (B1D0837-MS1)	**Source: 1040743-03**									
Boron	1800	75	ug/L	1250	850	80	75-125			
Matrix Spike (B1D0837-MS2)	**Source: 1040743-12**									
Boron	4600	75	ug/L	1250	3300	105	75-125			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1D0837 - EPA 3005A										
Matrix Spike Dup (B1D0837-MSD1)	**Source: 1040743-03**									
Boron	2000	75	ug/L	1250	850	93	75-125	8	20	
Matrix Spike Dup (B1D0837-MSD2)	**Source: 1040743-12**									
Boron	4600	75	ug/L	1250	3300	102	75-125	0.9	20	
Post Spike (B1D0837-PS1)	**Source: 1040743-03**									
Boron	3200	75	ug/L	2500	850	95	75-125			
Post Spike (B1D0837-PS2)	**Source: 1040743-12**									
Boron	5900	75	ug/L	2500	3300	105	75-125			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Sample Preparation Data

Parameter	Batch	Sample ID	Prepared	Analyst
EPA 3005A ICP Digestion				
EPA 3005A	B1D0590	1040743-01	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-01	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-02	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-02	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-03	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-03	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-04	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-04	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-05	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-05	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-06	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-06	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-07	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-07	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-08	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-09	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-10	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-10	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-11	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-11	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-12	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-12	04/14/2021 13:25	MTH
EPA 3005A	B1D0590	1040743-13	04/14/2021 13:25	MTH
EPA 3005A	B1D0837	1040743-13	04/14/2021 13:25	MTH
EPA 7470A Mercury Digestion				
EPA 7470A	B1D0679	1040743-01	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-02	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-03	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-04	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-05	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-06	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-07	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-10	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-11	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-12	04/15/2021 13:11	ELN
EPA 7470A	B1D0679	1040743-13	04/15/2021 13:11	ELN

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1040743
Moncks Corner, SC 29461		Reported:	04/22/21 14:29

Data Qualifiers and Definitions

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

Contract Lab Info: R/C *Contract Lab Due Date (Lab Only):* 4 / 20 / 21 *Send report to* lcwillia@santeecooper.com & sibrown@santeecooper.com

Chain of Custody

104743

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

104743

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
1	AF00633	CGYP-4	4/7/21	1106	DEW/MG	1	P	G	GW	2	B, Li, Mo – 6010 -01	X	X	X	X
2	AF00629	CGYP-1	|	1216	|	|	|	|	|	|	Hg 7470A -02	|	|	|	|
3	AF00630	CGYP-2	|	1316	|	|	|	|	|	|	-03	|	|	|	|
4	AF00631	CGYP-2 DUP	|	1321	|	|	|	|	|	|	-04	|	|	|	|
5	AF00632	CGYP-3	|	1420	|	|	|	|	|	|	-05	|	|	|	|
6	AF00634	CGYP-5	|	1509	|	|	|	|	|	|	-06	|	|	|	|
7	AF00635	CGYP-6	⊥	1602	|	|	|	|	|	|	-07	⊥	⊥	⊥	⊥
08	AF00697	CCMAP-4	4/8/21	1032	|	|	|	|	|	|	-08		X		
09	AF00698	CCMAP-4 DUP	⊥	1037	⊥	⊥	⊥	⊥	⊥	⊥	-09		X		

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SBrown	35594	4/12/21	1200	FedEx		4/12/21	1200
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FedEx		4/14/21	0920	Nelson Rose		4/14/21	0920
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 19.2 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
Fuel 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: R/C Contract Lab Due Date (Lab Only): 4 / 20 / 21 Send report to lcwillia@santeecooper.com & sibrown@santeecooper.com

Chain of Custody

1040743

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 / JM02.09.901 / 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
AF00693	WLF-A2-6	4/8/21	1527	DEW/MG	1	P	G	GW	2	B, Li, Mo 6010 -10	X	X	X	X
AF00694	WLF-A2-6 DUP	"	1532	"	"	"	"	"	"	Hg 7470A -11	"	"	"	"
AF00695	WAP-17	"	1331	"	"	"	"	"	"	-12	"	"	"	"
AF00696	WAP-17 DUP	"	1336	"	"	"	"	"	"	-13	"	"	"	"

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SBrown	35594	4/12/21	1200	Fedex		4/12/21	1200
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
Fedex		4/14/21	0920	Nicholas Rose		4/14/21	0920
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

Sample Receiving (Internal Use Only)
TEMP (°C): 19.2 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

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: 4/14/21 | Work Order: 1040743

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

Tracking Number: 804037735696

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: KRU

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 1080231 08/03/2021 09:15

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 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

Lauren Hollister
Project Manager

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: 1080231
Received: 08/03/2021 09:15

Sample Number	Sample Description	Matrix	Sampled	Type
1080231-01	AF09053 WAP-4	Ground Water	07/19/21 11:24	Grab
1080231-02	AF09070 WAP-15	Ground Water	07/19/21 10:30	Grab
1080231-03	AF09065 WAP-14	Ground Water	07/19/21 14:22	Grab
1080231-04	AF09066 WAP-14 DUP	Ground Water	07/19/21 14:27	Grab
1080231-05	AF09067 WAP-14A	Ground Water	07/19/21 13:46	Grab
1080231-06	AF09069 WAP-14C	Ground Water	07/19/21 15:39	Grab
1080231-07	AF09068 WAP-14B	Ground Water	07/19/21 16:34	Grab
1080231-08	AF09050 WAP-1	Ground Water	07/20/21 12:28	Grab
1080231-09	AF09051 WAP-2	Ground Water	07/20/21 13:28	Grab
1080231-10	AF09083 WBW-1	Ground Water	07/20/21 11:07	Grab

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080231
Moncks Corner, SC 29461		Reported:	08/19/21 22:26

Sample Data

Sample Number 1080231-01
Sample Description AF09053 WAP-4 collected on 07/19/21 11:24

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**180**	15	ug/L	1.00	08/10/21 16:10	EPA 6010D		MLR	B1H0147
Lithium	ND	10	ug/L	1.00	08/10/21 16:10	EPA 6010D		MLR	B1H0147

Sample Number 1080231-02
Sample Description AF09070 WAP-15 collected on 07/19/21 10:30

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**1000**	15	ug/L	1.00	08/10/21 16:13	EPA 6010D		MLR	B1H0147
Lithium	ND	10	ug/L	1.00	08/10/21 16:13	EPA 6010D		MLR	B1H0147

Sample Number 1080231-03
Sample Description AF09065 WAP-14 collected on 07/19/21 14:22

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**8600**	75	ug/L	5.00	08/10/21 14:56	EPA 6010D		MLR	B1H0147
Lithium	ND	10	ug/L	1.00	08/10/21 16:17	EPA 6010D		MLR	B1H0147

Sample Number 1080231-04
Sample Description AF09066 WAP-14 DUP collected on 07/19/21 14:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**8700**	75	ug/L	5.00	08/10/21 14:59	EPA 6010D		MLR	B1H0147
Lithium	ND	10	ug/L	1.00	08/10/21 16:32	EPA 6010D		MLR	B1H0147

Sample Number 1080231-05
Sample Description AF09067 WAP-14A collected on 07/19/21 13:46

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**40**	10	ug/L	1.00	08/10/21 18:40	EPA 6010D	S1	MLR	B1H0482

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080231
Moncks Corner, SC 29461		Reported:	08/19/21 22:26

Sample Number 1080231-06
Sample Description AF09069 WAP-14C collected on 07/19/21 15:39

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**13**	10	ug/L	1.00	08/10/21 15:24	EPA 6010D		MLR	B1H0147

Sample Number 1080231-07
Sample Description AF09068 WAP-14B collected on 07/19/21 16:34

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	**15**	10	ug/L	1.00	08/10/21 15:28	EPA 6010D		MLR	B1H0147

Sample Number 1080231-08
Sample Description AF09050 WAP-1 collected on 07/20/21 12:28

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/09/21 11:58	EPA 7470A		NAR	B1H0392
Boron	**26**	15	ug/L	1.00	08/13/21 00:00	EPA 6010D		MLR	B1H0147
Lithium	ND	10	ug/L	1.00	08/10/21 15:31	EPA 6010D		MLR	B1H0147
Molybdenum	ND	10	ug/L	1.00	08/10/21 15:31	EPA 6010D		MLR	B1H0147

Sample Number 1080231-09
Sample Description AF09051 WAP-2 collected on 07/20/21 13:28

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	**8300**	75	ug/L	5.00	08/10/21 14:21	EPA 6010D		MLR	B1H0147

Sample Number 1080231-10
Sample Description AF09083 WBW-1 collected on 07/20/21 11:07

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/09/21 12:09	EPA 7470A		NAR	B1H0392
Boron	ND	15	ug/L	1.00	08/13/21 00:00	EPA 6010D		MLR	B1H0147
Lithium	ND	10	ug/L	1.00	08/10/21 15:49	EPA 6010D		MLR	B1H0147
Molybdenum	ND	10	ug/L	1.00	08/10/21 15:49	EPA 6010D		MLR	B1H0147

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080231
Moncks Corner, SC 29461		Reported:	08/19/21 22:26

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1H0147 - EPA 3005A										
Blank (B1H0147-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1H0147-BS1)										
Boron	500	15	ug/L	500		99	80-120			
Lithium	519	10	ug/L	500		104	80-120			
Molybdenum	490	10	ug/L	500		99	80-120			
Matrix Spike (B1H0147-MS1)	**Source: 1080231-05RE1**									
Boron	7200	75	ug/L	500	6500	142	75-125			S5
Lithium	637	50	ug/L	500	ND	120	75-125			
Molybdenum	520	50	ug/L	500	ND	105	75-125			
Matrix Spike Dup (B1H0147-MSD1)	**Source: 1080231-05RE1**									
Boron	7300	75	ug/L	500	6500	145	75-125	0.2	20	S5
Lithium	634	50	ug/L	500	ND	120	75-125	0.5	20	
Molybdenum	520	50	ug/L	500	ND	104	75-125	0.5	20	
Post Spike (B1H0147-PS1)	**Source: 1080231-05RE1**									
Boron	9100	75	ug/L	2500	6500	102	75-125			
Lithium	2890	50	ug/L	2500	ND	114	75-125			
Molybdenum	2600	50	ug/L	2500	ND	104	75-125			
Batch B1H0392 - EPA 7470A										
Blank (B1H0392-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1H0392-BS1)										
Mercury	5.1	0.20	ug/L	5.00		102	80-120			
Matrix Spike (B1H0392-MS1)	**Source: 1080231-08**									
Mercury	4.9	0.20	ug/L	5.00	ND	97	75-125			

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080231
Moncks Corner, SC 29461		Reported:	08/19/21 22:26

Total Metals
Quality Control Summary

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1H0392 - EPA 7470A										
Matrix Spike Dup (B1H0392-MSD1)	**Source: 1080231-08**									
Mercury	4.9	0.20	ug/L	5.00	ND	97	75-125	0.3	20	
Post Spike (B1H0392-PS1)	**Source: 1080231-08**									
Mercury	3.8		ug/L	4.00	ND	95	80-120			
Batch B1H0482 - EPA 3005A										
Blank (B1H0482-BLK1)										
Lithium	ND	10	ug/L							
LCS (B1H0482-BS1)										
Lithium	499	10	ug/L	500		100	80-120			
Matrix Spike (B1H0482-MS1)	**Source: 1080231-05**									
Lithium	715	10	ug/L	500	40	135	75-125			S1
Matrix Spike Dup (B1H0482-MSD1)	**Source: 1080231-05**									
Lithium	717	10	ug/L	500	40	135	75-125	0.4	20	S1
Post Spike (B1H0482-PS1)	**Source: 1080231-05**									
Lithium	0.703		mg/L	0.500	ND	133	75-125			S1

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080231
Moncks Corner, SC 29461		Reported:	08/19/21 22:26

Sample Preparation Data

Parameter	Batch	Sample ID	Prepared	Analyst
EPA 3005A ICP Digestion				
EPA 3005A	B1H0147	1080231-01	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-02	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-03	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-04	08/04/2021 09:25	CAL
EPA 3005A	B1H0482	1080231-05	08/10/2021 13:03	MTH
EPA 3005A	B1H0147	1080231-06	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-07	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-08	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-09	08/04/2021 09:25	CAL
EPA 3005A	B1H0147	1080231-10	08/04/2021 09:25	CAL
EPA 7470A Mercury Digestion				
EPA 7470A	B1H0392	1080231-08	08/09/2021 09:14	NAR
EPA 7470A	B1H0392	1080231-10	08/09/2021 09:14	NAR

Rogers & Callcott ENVIRONMENTAL

Santee Cooper		Project:	Ground Water
1 Riverwood Dr.		Work Order:	1080231
Moncks Corner, SC 29461		Reported:	08/19/21 22:26

Data Qualifiers and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported
RPD	Relative Percent Difference
S1	The matrix spike and / or the matrix spike duplicate sample recovery was not within control limits due to matrix interference. The Laboratory Control Sample (LCS) was within control limits.
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 / 10 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

1080231

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 / JM02.09.601 / 36500

Rerun request for any flagged QC Yes No

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	B	J	Mo	Hg
AF09053	WAP-4	7/19/21	1124	BRT/CWS	1	P	G	GW	2		X	X		
AF09070	WAP-15	"	1030	"	1	"	"	"	"		X	X		
AF09065	WAP-14	"	1422	"	1	"	"	"	"		X	X		
AF09066	WAP-14 DUP	"	1427	"	1	"	"	"	"		X	X		
AF09067	WAP-14A	"	1846	"	1	"	"	"	"			X		
AF09069	WAP-14C	"	1539	"	1	"	"	"	"			X		
AF09068	WAP-14B	"	1634	"	1	"	"	"	"			X		
AF09050	WAP-1	7/20/21	1228	MDG/BRT	1	"	"	"	"		X	X	X	X
AF09051	WAP-2	7/20/21	1328	"	1	"	"	"	"		X			
AF09083	WBW-1	7/20/21	1107	"	1	"	"	"	"		X	X	X	X

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	85594	8/2/21	1530	FedEX			
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
FedEX		8.3.21	0915	[signature]		8.3.21	0915
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

Sample Receiving (Internal Use Only)
TEMP (°C): 24.4 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 scan (As,Cd,Cr,Ni,Pb Hg)
☐ TN
☐ 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)

Rogers & Callcott ENVIRONMENTAL

Sample Receipt Verification

Client: Santee Cooper | Date Received: 08/03/2021 | Work Order: 1080231

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: CSG

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.

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

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

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-A1-1 -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-A1-2 -06	8/11/21	1335	MDG/CWS							X	X	X	X
AF09087	WLF-A1-3 -07	|	1205	|							X	X	X	X
AF09088	WLF-A1-4 -08	|	1107	|							X	X	X	X
AF09089	WLF-A1-4 DUP -09	⊥	1112	⊥							X	X	X	X

MM 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: MM
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 ~~0245~~ MM 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:** MP
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 Str.
IFT
Dissolved Gas
Used Oil
Flashpoint
Metals Panel (As/Cd/Cr/Ni/Pb/Hg)
TX
COHR

8/13/21 MP
~~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	1517	MDG/BRT	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: Trans. Oil Qual. Color ☐ Acidity Dielectric Strength PF Dissolved Gases Used Oil: Flashpoint Metals of (As, Cd, Cr, Ni, Pb) Hg TX GOFLR

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 19, 2021

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

Re: ABS Lab Analytical
Work Order: 535320

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 19, 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: 535320 GEL Work Order: 535320

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 19, 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:	AE96403
Sample ID:	535320001
Matrix:	Ground Water
Collect Date:	16-FEB-21 11:33
Receive Date:	19-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	1.24	+/-1.16	1.91	3.00	pCi/L			LXB3	03/03/21	0619	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.54	+/-1.21			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.298	+/-0.323	0.523	1.00	pCi/L			MXH8	03/12/21	0841	2094556	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"			81.9	(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 19, 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:	AE96404	Project:	SOOP00119
Sample ID:	535320002	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	16-FEB-21 14:25		
Receive Date:	19-FEB-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	1.83	+/-1.32	2.10	3.00	pCi/L			LXB3	03/03/21	0619	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.18	+/-1.37			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.355	+/-0.371	0.604	1.00	pCi/L			MXH8	03/12/21	0841	2094556	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	(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: March 19, 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:	AE96405	Project:	SOOP00119
Sample ID:	535320003	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	16-FEB-21 15:30		
Receive Date:	19-FEB-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	0.550	+/-0.938	1.64	3.00	pCi/L			LXB3	03/03/21	0619	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.877	+/-1.00			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.327	+/-0.358	0.588	1.00	pCi/L			MXH8	03/12/21	0841	2094556	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

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Certificate of Analysis

Report Date: March 19, 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:	AE96379	Project:	SOOP00119
Sample ID:	535320004	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	15-FEB-21 13:37		
Receive Date:	19-FEB-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	1.34	+/-1.01	1.58	3.00	pCi/L			LXB3	03/03/21	0620	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.76	+/-1.06			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.422	+/-0.332	0.450	1.00	pCi/L			MXH8	03/12/21	0841	2094556	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"			85.1	(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: March 19, 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:	AE96380	Project:	SOOP00119
Sample ID:	535320005	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	15-FEB-21 14:40		
Receive Date:	19-FEB-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		3.43	+/-1.39	1.92	3.00	pCi/L			LXB3	03/03/21	0620	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		8.50	+/-1.77			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		5.07	+/-1.09	0.817	1.00	pCi/L			MXH8	03/12/21	0841	2094556	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"			85.9	(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: March 19, 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:	AE96412	Project:	SOOP00119
Sample ID:	535320006	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	15-FEB-21 12:21		
Receive Date:	19-FEB-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	1.24	+/-0.858	1.30	3.00	pCi/L			LXB3	03/03/21	0620	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.69	+/-0.929			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.453	+/-0.356	0.482	1.00	pCi/L			MXH8	03/12/21	0915	2094556	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"			84.5	(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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Certificate of Analysis

Report Date: March 19, 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:	AE96388
Sample ID:	535320007
Matrix:	Ground Water
Collect Date:	17-FEB-21 13:57
Receive Date:	19-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		2.96	+/-1.42	2.12	3.00	pCi/L			LXB3	03/03/21	0620	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		5.83	+/-1.59			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.88	+/-0.701	0.492	1.00	pCi/L			MXH8	03/12/21	0915	2094556	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"			83.3	(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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Certificate of Analysis

Report Date: March 19, 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:	AE96389
Sample ID:	535320008
Matrix:	Ground Water
Collect Date:	17-FEB-21 14:02
Receive Date:	19-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	1.53	+/-1.24	1.99	3.00	pCi/L			LXB3	03/03/21	0620	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.16	+/-1.37			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.63	+/-0.584	0.600	1.00	pCi/L			MXH8	03/12/21	0915	2094556	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"			82.6	(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: March 19, 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:	AE96406
Sample ID:	535320009
Matrix:	Ground Water
Collect Date:	17-FEB-21 12:35
Receive Date:	19-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	1.48	+/-1.05	1.63	3.00	pCi/L			LXB3	03/03/21	0620	2094595	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.13	+/-1.11			pCi/L		1	AEA	03/16/21	0416	2094594	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.646	+/-0.377	0.381	1.00	pCi/L			MXH8	03/12/21	0915	2094556	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"			85.3	(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

QC Summary

Report Date: March 19, 2021

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

Contact: **Ms. Jeanette Gilmetti**

Workorder: **535320**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2094595										
QC1204757495 535320004 DUP										
Radium-228	U	1.34	U	0.520	pCi/L	N/A		N/A	LXB3	03/03/21 06:19
	Uncertainty	+/-1.01		+/-0.847						
QC1204757496 LCS										
Radium-228	54.7			61.6	pCi/L		113	(75%-125%)		03/03/21 06:19
	Uncertainty			+/-3.92						
QC1204757494 MB										
Radium-228				1.50	pCi/L					03/03/21 06:19
	Uncertainty			+/-0.829						
Rad Ra-226										
Batch 2094556										
QC1204757382 535320001 DUP										
Radium-226	U	0.298		0.575	pCi/L	63.6		(0% - 100%)	MXH8	03/12/21 09:53
	Uncertainty	+/-0.323		+/-0.378						
QC1204757384 LCS										
Radium-226	27.0			26.8	pCi/L		99.1	(75%-125%)		03/12/21 09:53
	Uncertainty			+/-2.12						
QC1204757381 MB										
Radium-226				0.778	pCi/L					03/12/21 09:52
	Uncertainty			+/-0.479						
QC1204757383 535320001 MS										
Radium-226	27.0 U	0.298		24.9	pCi/L		92.2	(75%-125%)		03/12/21 09:53
	Uncertainty	+/-0.323		+/-2.01						

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: 535320

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 #: 535320

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2094595

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

GEL Sample ID#	Client Sample Identification
535320001	AE96403
535320002	AE96404
535320003	AE96405
535320004	AE96379
535320005	AE96380
535320006	AE96412
535320007	AE96388
535320008	AE96389
535320009	AE96406
1204757494	Method Blank (MB)
1204757495	535320004(AE96379) Sample Duplicate (DUP)
1204757496	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

Method Blank Criteria
The blank result (See Below) is greater than the MDC but less than the required detection limit.

Sample	Analyte	Value
1204757494 (MB)	Radium-228	Result: 1.50 pCi/L > MDA: 1.14 pCi/L <= RDL: 3.00 pCi/L

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2094556

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

GEL Sample ID#	Client Sample Identification
535320001	AE96403
535320002	AE96404
535320003	AE96405
535320004	AE96379
535320005	AE96380
535320006	AE96412
535320007	AE96388
535320008	AE96389
535320009	AE96406
1204757381	Method Blank (MB)
1204757382	535320001(AE96403) Sample Duplicate (DUP)
1204757383	535320001(AE96403) Matrix Spike (MS)
1204757384	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

Method Blank Criteria
The blank result (See Below) is greater than the MDC but less than the required detection limit.

Sample	Analyte	Value
1204757381 (MB)	Radium-226	Result: 0.778 pCi/L > MDA: 0.662 pCi/L <= RDL: 1.00 pCi/L

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 / 19 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody 535320

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 / JM02.09.901 / 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
AE96403	WAP-18	2/16/21	1133	MDE/DBW	2	P	G	GW	2		X	X	X
AE96404	WAP-19	"	1425	"	"	"	"	"	"		"	"	"
AE96405	WAP-20	"	1530	"	"	"	"	"	"		"	"	"
AE96379	WAP-1	2/15/21	1337	MDE/DBW	"	"	"	"	"		"	"	"
AE96380	WAP-2	"	1440	"	"	"	"	"	"		"	"	"
AE96412	WBW-1	2/15/21	1221	"	"	"	"	"	"		"	"	"
AE96388	WAP-10	2/17/21	1357	DBW/BSB	2	"	"	"	"		"	"	"
AE96389	WAP-10 DUP	"	1402	"	"	"	"	"	"		"	"	"
AE96406	WAP-21	"	1235	"	"	"	"	"	"		"	"	"

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	35594	2/19/21	0845	[signature]	GEL	2/19/21	0954
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	661	2/19/21	1621	[signature]	GEL	2/19/21	11:21
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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)
TN
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

JR

Client: SOOP

SDG/AR/COC/Work Order: 535320

Received By: Tve

Date Received: 2/19/21

Circle Applicable: FedEx Express FedEx Ground UPS Field Services (Courier) Other

Carrier and Tracking Number

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: 16°C
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR3-19 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 NPG Date 2/22/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 19 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

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
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:	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

5360093

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	1	1318	1	2	1	1	1	1		X	X	X	
AE96387	WAP-9	2/23/21	1249	DEW/MDG	2	1	1	1	1		X	X	X	
AE96382	WAP-4	1	1428	1	2	1	1	1	1		X	X	X	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	2/26/21	0947		GEL	2/26/21	0947
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
	GEL	2.26.21	1334			2 26 21	1334
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

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)
TN
GOF/GR

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	Nr	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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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:	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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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:	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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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:	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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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:	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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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:	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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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:	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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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:	AE96414
Sample ID:	536991008
Matrix:	Ground Water
Collect Date:	02-MAR-21 12:53
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	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

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:	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

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:	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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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:	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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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:	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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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:	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

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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

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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

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

5360991

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, Fe)
TN
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)

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 I R

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=NaOH 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: SCOP	**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

May 05, 2021

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

Re: ABS Lab Analytical
Work Order: 540416

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 09, 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: 540416 GEL Work Order: 540416

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: May 5, 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:	AF00693
Sample ID:	540416001
Matrix:	Ground Water
Collect Date:	08-APR-21 15:27
Receive Date:	09-APR-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	1.02	+/-1.44	2.48	3.00	pCi/L			LXB3	04/20/21	1021	2114215	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.26	+/-1.46			pCi/L		1	AEA	05/05/21	0724	2117539	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.244	+/-0.234	0.374	1.00	pCi/L			LXP1	04/22/21	0947	2114169	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"			58.8	(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: May 5, 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:	AF00694
Sample ID:	540416002
Matrix:	Ground Water
Collect Date:	08-APR-21 15:32
Receive Date:	09-APR-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	0.897	+/-1.47	2.55	3.00	pCi/L			LXB3	04/20/21	1021	2114215	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.11	+/-1.48			pCi/L		1	AEA	05/05/21	0724	2117539	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.214	+/-0.154	0.182	1.00	pCi/L			LXP1	04/22/21	0947	2114169	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"			59.5	(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: May 5, 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:	AF00695
Sample ID:	540416003
Matrix:	Ground Water
Collect Date:	08-APR-21 13:31
Receive Date:	09-APR-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		3.85	+/-1.62	2.15	3.00	pCi/L			LXB3	04/20/21	1021	2114215	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		4.02	+/-1.63			pCi/L		1	AEA	05/05/21	0724	2117539	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.172	+/-0.207	0.348	1.00	pCi/L			LXP1	04/22/21	1020	2114169	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"			54.2	(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

Certificate of Analysis

Report Date: May 5, 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:	AF00696
Sample ID:	540416004
Matrix:	Ground Water
Collect Date:	08-APR-21 13:36
Receive Date:	09-APR-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		4.17	+/-1.91	3.00	3.00	pCi/L			LXB3	04/20/21	1204	2114215	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		5.19	+/-1.94			pCi/L		1	AEA	05/05/21	0724	2117539	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.02	+/-0.323	0.292	1.00	pCi/L			LXP1	04/22/21	1020	2114169	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"			59.8	(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

QC Summary

Report Date: May 5, 2021

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

Contact: **Ms. Jeanette Gilmetti**

Workorder: **540416**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch 2114215											
QC1204793535 540415006 DUP											
Radium-228	U	2.33		4.22	pCi/L	57.7		(0% - 100%)	LXB3	04/20/21	10:21
	Uncertainty	+/-1.60		+/-1.79							
QC1204793536 LCS											
Radium-228	53.8			52.3	pCi/L		97.2	(75%-125%)		04/20/21	10:24
	Uncertainty			+/-3.29							
QC1204793534 MB											
Radium-228			U	-1.71	pCi/L					04/20/21	10:20
	Uncertainty			+/-1.16							
Rad Ra-226											
Batch 2114169											
QC1204793424 540415001 DUP											
Radium-226		0.713		0.672	pCi/L	5.99		(0% - 100%)	LXP1	04/22/21	10:20
	Uncertainty	+/-0.274		+/-0.268							
QC1204793426 LCS											
Radium-226	27.0			22.8	pCi/L		84.3	(75%-125%)		04/22/21	10:20
	Uncertainty			+/-1.49							
QC1204793423 MB											
Radium-226			U	0.133	pCi/L					04/22/21	10:20
	Uncertainty			+/-0.184							
QC1204793425 540415001 MS											
Radium-226	135	0.713		105	pCi/L		77.2	(75%-125%)		04/22/21	10:20
	Uncertainty	+/-0.274		+/-6.54							

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: 540416

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 #: 540416

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2114215

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

GEL Sample ID#	Client Sample Identification
540416001	AF00693
540416002	AF00694
540416003	AF00695
540416004	AF00696
1204793534	Method Blank (MB)
1204793535	540415006(AF00634) Sample Duplicate (DUP)
1204793536	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.

Preparation Information

Homogenous Matrix
Samples 540416 were yellow in appearance but clear. They did have a mild odor to them. 540416001 (AF00693), 540416002 (AF00694), 540416003 (AF00695) and 540416004 (AF00696).

Technical Information

Recounts
Sample 540416004 (AF00696) was recounted due to high MDC. The recount is reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2114169

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

GEL Sample ID#	Client Sample Identification
540416001	AF00693

540416002	AF00694
540416003	AF00695
540416004	AF00696
1204793423	Method Blank (MB)
1204793424	540415001(AF00633) Sample Duplicate (DUP)
1204793425	540415001(AF00633) Matrix Spike (MS)
1204793426	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, 1204793425 (AF00633MS), 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): 5 / 7 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody 540416

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 / JM02.09.601 / 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	
AF00693	WLF-A2-6	4/8/21	1527	DEW/MDG	2	P	G	GW	2		X	X	X	
AF00694	WLF-A2-6 DUP	"	1532	"	"	"	"	"	"		"	"	"	
AF00695	WAP-17	"	1331	"	"	"	"	"	"		"	"	"	
AF00696	WAP-17 DUP	"	1336	"	"	"	"	"	"		"	"	"	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	35594	4/9/21	1015	[signature]	GEL	4/9/21	1015
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	GEL	4/9/21	1324	[signature]	GEL	4 9 21	1324
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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)
TA
☐ 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 Codes: 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: 540416
Received By: STACY BOONE	Date Received: 9-APRIL-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: 13 c
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #:_____ 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 4/12/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 05 May 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

August 26, 2021

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

Re: ABS Lab Analytical
Work Order: 551182

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 30, 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: 551182 GEL Work Order: 551182

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: August 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:	AF09053
Sample ID:	551182001
Matrix:	Ground Water
Collect Date:	19-JUL-21 11:24
Receive Date:	30-JUL-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	-1.03	+/-0.843	1.84	3.00	pCi/L			JXC9	08/17/21	0929	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.40	+/-0.962			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.40	+/-0.463	0.290	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			79	(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: August 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:	AF09070
Sample ID:	551182002
Matrix:	Ground Water
Collect Date:	19-JUL-21 10:30
Receive Date:	30-JUL-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	-0.396	+/-0.781	1.60	3.00	pCi/L			JXC9	08/17/21	0930	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.983	+/-0.867			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.983	+/-0.378	0.351	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			82.8	(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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Certificate of Analysis

Report Date: August 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:	AF09065
Sample ID:	551182003
Matrix:	Ground Water
Collect Date:	19-JUL-21 14:22
Receive Date:	30-JUL-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	0.453	+/-0.984	1.74	3.00	pCi/L			JXC9	08/17/21	0930	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.67	+/-1.08			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.21	+/-0.439	0.415	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			81.1	(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: August 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:	AF09066
Sample ID:	551182004
Matrix:	Ground Water
Collect Date:	19-JUL-21 14:27
Receive Date:	30-JUL-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	2.67	+/-1.80	2.77	3.00	pCi/L			JXC9	08/17/21	0930	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.81	+/-1.85			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.15	+/-0.418	0.373	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			44.8	(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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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: August 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:	AF09050	Project:	SOOP00119
Sample ID:	551182005	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	20-JUL-21 12:28		
Receive Date:	30-JUL-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		3.96	+/-1.44	1.96	3.00	pCi/L			JXC9	08/17/21	0930	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		5.01	+/-1.51			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.05	+/-0.475	0.559	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			85.5	(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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Certificate of Analysis

Report Date: August 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:	AF09051	Project:	SOOP00119
Sample ID:	551182006	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	20-JUL-21 13:28		
Receive Date:	30-JUL-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		2.80	+/-0.988	1.18	3.00	pCi/L			JXC9	08/17/21	0930	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		7.52	+/-1.28			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		4.72	+/-0.810	0.505	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			90.5	(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: August 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:	AF09083
Sample ID:	551182007
Matrix:	Ground Water
Collect Date:	20-JUL-21 11:07
Receive Date:	30-JUL-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	0.0240	+/-1.24	2.26	3.00	pCi/L			JXC9	08/17/21	0929	2157720	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.626	+/-1.29			pCi/L		1	AEA	08/24/21	1422	2157718	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.602	+/-0.361	0.463	1.00	pCi/L			LXP1	08/22/21	0714	2157760	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"			83.9	(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: August 26, 2021

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

Contact: **Ms. Jeanette Gilmetti**

Workorder: **551182**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2157720										
QC1204877893 551609004 DUP										
Radium-228	U	1.13	U	0.433	pCi/L	N/A		N/A	JXC9	08/17/21 09:29
	Uncertainty	+/-1.19		+/-0.901						
QC1204877894 LCS										
Radium-228	51.5			45.9	pCi/L		89.2	(75%-125%)		08/17/21 11:13
	Uncertainty			+/-3.67						
QC1204877892 MB										
Radium-228			U	-0.0456	pCi/L					08/17/21 09:28
	Uncertainty			+/-0.829						
Rad Ra-226										
Batch 2157760										
QC1204878006 551182006 DUP										
Radium-226		4.72		5.09	pCi/L	7.59		(0%-20%)	LXP1	08/22/21 07:49
	Uncertainty	+/-0.810		+/-0.873						
QC1204878008 LCS										
Radium-226	27.0			24.8	pCi/L		91.9	(75%-125%)		08/22/21 07:49
	Uncertainty			+/-2.01						
QC1204878005 MB										
Radium-226			U	0.126	pCi/L					08/22/21 07:49
	Uncertainty			+/-0.195						
QC1204878007 551182006 MS										
Radium-226	135	4.72		130	pCi/L		92.8	(75%-125%)		08/22/21 07:49
	Uncertainty	+/-0.810		+/-9.30						

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: 551182

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 #: 551182

Product: **GFPC, Ra228, Liquid**
Analytical Method: EPA 904.0/SW846 9320 Modified
Analytical Procedure: GL-RAD-A-063 REV# 5
Analytical Batch: 2157720

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

GEL Sample ID#	Client Sample Identification
551182001	AF09053
551182002	AF09070
551182003	AF09065
551182004	AF09066
551182005	AF09050
551182006	AF09051
551182007	AF09083
1204877892	Method Blank (MB)
1204877893	551609004(AF09052) Sample Duplicate (DUP)
1204877894	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 1204877894 (LCS) was recounted due to low recovery. The recount is reported.

Product: **Lucas Cell, Ra226, Liquid**
Analytical Method: EPA 903.1 Modified
Analytical Procedure: GL-RAD-A-008 REV# 15
Analytical Batch: 2157760

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

GEL Sample ID#	Client Sample Identification
551182001	AF09053
551182002	AF09070
551182003	AF09065
551182004	AF09066

551182005	AF09050
551182006	AF09051
551182007	AF09083
1204878005	Method Blank (MB)
1204878006	551182006(AF09051) Sample Duplicate (DUP)
1204878007	551182006(AF09051) Matrix Spike (MS)
1204878008	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, 1204878007 (AF09051MS), 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): 8 / 27 / 21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

551182

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	
AF09053	WAP-4	7/19/21	1124	ERT/CWS	2	P	G	GW	2		X	X	X	
AF09070	WAP-15	7/19/21	1030											
AF09065	WAP-14		1422											
AF09066	WAP-14 DUP		1427											
AF09050	WAP-1	7/20/21	1228	MDG/ERT										
AF09051	WAP-2		1328											
AF09083	WBW-1		1107											

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	7/30/21	1230		GEL	7/30/21	1230
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
	GEL	7/30/21	1327				

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
☐ DOC
☐ 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 Quali.
% Moisture
Color
Acidity
Dielectric Strength
IFT
Dissolved Gases
Used Oil
Discharge
Metals in oil
(As, Cd, Cr, Ni, Pb)
Flash
TSS
COPPER

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

DS 7/30/21

SAMPLE RECEIPT & REVIEW FORM

Client: BLT SOOP	**SDG/AR/COC/Work Order:** 551182
Received By: DS	**Date Received:** 7-30-2021
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	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: 22.6
4	Daily check performed and passed on IR temperature gun?	/			Temperature Device Serial #: IR5-21 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 NRG Date 8/2/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 26 August 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 08, 2021

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

Re: ABS Lab Analytical
Work Order: 552377

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,

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: 552377 GEL Work Order: 552377

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 8, 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:	AF09059	Project:	SOOP00119
Sample ID:	552377001	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	02-AUG-21 11:34		
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	-0.0936	+/-1.10	2.05	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.81	+/-1.27			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		3.81	+/-0.640	0.211	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"			80.9	(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 8, 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:	AF09060	Project:	SOOP00119
Sample ID:	552377002	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	02-AUG-21 11:39		
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		3.33	+/-1.32	1.80	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		5.88	+/-1.42			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		2.55	+/-0.515	0.203	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"			79.3	(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: September 8, 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:	AF09058	Project:	SOOP00119
Sample ID:	552377003	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	02-AUG-21 13:39		
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		2.19	+/-1.03	1.46	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.46	+/-1.11			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.27	+/-0.407	0.404	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"			92.4	(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 8, 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:	AF09072	Project:	SOOP00119
Sample ID:	552377004	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	02-AUG-21 15:12		
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		2.23	+/-1.09	1.56	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		3.04	+/-1.13			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.811	+/-0.311	0.222	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"			87.1	(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 8, 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:	AF09073	Project:	SOOP00119
Sample ID:	552377005	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	02-AUG-21 15:17		
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		2.68	+/-1.11	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		3.53	+/-1.15			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.854	+/-0.314	0.300	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"			82.5	(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 8, 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:	AF09077	Project:	SOOP00119
Sample ID:	552377006	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	03-AUG-21 11:30		
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		4.54	+/-1.48	1.95	3.00	pCi/L			JXC9	09/02/21	1050	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		4.98	+/-1.49			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.436	+/-0.230	0.246	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"			88.5	(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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Certificate of Analysis

Report Date: September 8, 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:	AF09075	Project:	SOOP00119
Sample ID:	552377007	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	03-AUG-21 16:27		
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	0.899	+/-0.975	1.62	3.00	pCi/L			JXC9	09/07/21	1059	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		1.63	+/-1.01			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.726	+/-0.279	0.199	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"			79.6	(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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Certificate of Analysis

Report Date: September 8, 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:	AF09091	Project:	SOOP00119
Sample ID:	552377008	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	04-AUG-21 15:02		
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		1.70	+/-0.884	1.22	3.00	pCi/L			JXC9	09/02/21	1051	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		2.08	+/-0.918			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		0.379	+/-0.248	0.339	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"			84.8	(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 8, 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:	AF09092	Project:	SOOP00119
Sample ID:	552377009	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	04-AUG-21 15:07		
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	0.755	+/-1.33	2.30	3.00	pCi/L			JXC9	09/02/21	1049	2164572	1
Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		0.899	+/-1.35			pCi/L		1	AEA	09/07/21	1410	2166495	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226	U	0.144	+/-0.218	0.386	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"			88.4	(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: September 8, 2021

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

Contact: **Ms. Jeanette Gilmetti**

Workorder: **552377**

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: 552377

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 #: 552377

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
552377001	AF09059
552377002	AF09060
552377003	AF09058
552377004	AF09072
552377005	AF09073
552377006	AF09077
552377007	AF09075
552377008	AF09091
552377009	AF09092
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
552377001	AF09059
552377002	AF09060

552377003	AF09058
552377004	AF09072
552377005	AF09073
552377006	AF09077
552377007	AF09075
552377008	AF09091
552377009	AF09092
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): 8/9/21 Send report to lcwillia@santeecooper.com & sjbrown@santeecooper.com

Chain of Custody

552377

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:	Date Results Needed by:	Project/Task/Unit #:	Rerun request for any flagged QC
LCWILLIA @santeecooper.com	/ /	121567 / JM02.09.G01 / 36500	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	
AF09059	WAP-10	8/2/21	1134	MDG/BRT	2	P	G	GW	2		X	X	X	
AF09060	WAP-10 DUP	"	1139	"	"	"	"	"	"		"	"	"	
AF09058	WAP-9	"	1339	"	"	"	"	"	"					
AF09072	WAP-17	"	1512	"	"	"	"	"	"					
AF09073	WAP-17 DUP	"	1617	"	"	"	"	"	"					
AF09077	WAP-21	8/3/21	1130	BRT/CWS	"	"	"	"	"					
AF09075	WAP-19	"	1627	"	"	"	"	"	"					
AF09091	WLF-A2-6	8/4/21	1502	MDG/BRT	"	"	"	"	"					
AF09092	WLF-A2-6 DUP	"	1507	"	"	"	"	"	"					

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	8/10/21	1055	[illegible]	GEL	8/10/21	1055
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[illegible]	GEL	8-10-21	1633	[illegible]	GEL	811021	1633
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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
Halogens
Metals in Oil
(As, Cd Cr, Pb)
Hg
PCB
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)
Preservatives: 1=HCl 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: 552377
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 08 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 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
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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:	Date Results Needed by:	Project/Task/Unit #:	Rerun request for any flagged QC
LCWILLIA @santeecooper.com	/ /	121567 / JM02.09.G01 / 36500	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	MDE/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
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
[signature]	GEL	8/10/21	1633	[signature]	GEL	8/10/21	1633
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time

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

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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:	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

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:	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

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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

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

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 229	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	〃	1167	〃	〃	〃	〃	〃	〃		〃	〃	〃	
AF09089	WLF-A1-4 DUP	〃	1112	〃	〃	〃	〃	〃	〃		〃	〃	〃	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35594	8/13/21	1105	K. Sch	GEL	8/13/21	1105
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**
K. Sch		8/13/21	1321	[signature]	GEL	8/13/21	13:21
Relinquished by:	**Employee#**	**Date**	**Time**	**Received by:**	**Employee #**	**Date**	**Time**

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.
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, 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
Ash Pond A and B Background Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 1	29.44	4.16	4- 24	2/15/2021	1337	25.18
Drawdown:	4.19		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)
1306	14.57	4.12	310	88	8.1	3.14
1311	14.35	4.15	271	86	6.5	1.04
1316	14.3	4.15	258	86	0.9	0.85
1321	14.36	4.16	247	86	0	0.74
1326	14.39	4.17	240	85	0	0.7
1331	14.22	4.2	231	85	0	0.67
1334	14.16	4.2	228	85	0	0.67
1337	14.13	4.2	227	85	0	0.65

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B Background Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 1	29.44	6.14	4- 24	7/20/2021	1228	25.18
Drawdown:	6.15		depth to GW (ft)			

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1154	27.12	4.24	166	89	1.2	2.63
1159	27.59	4.19	159	97	6.3	1.17
1204	27.7	4.18	158	94	3.9	1.71
1209	27.63	4.19	153	93	2.6	1.9
1214	27.78	4.21	144	92	2.3	1.64
1219	27.94	4.24	136	91	5.2	0.63
1222	28.18	4.22	139	90	1.7	0.49
1225	28	4.23	136	89	1	0.47
1228	28.33	4.24	133	88	0.9	0.44

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B Background Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WBW - 1	31.97	3.32	7- 17	2/15/2021	1221	19.77

Drawdown: 3.55 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)
1120	17.95	4.37	212	32	24.4	1.46
1125	17.41	4.27	229	27	0	1.04
1130	16.92	4.24	234	27	1.3	0.9
1135	16.47	4.21	235	27	0	0.79
1140	16.08	4.21	239	27	0	0.86
1145	15.79	4.21	250	27	0	0.85
1148	15.64	4.2	260	27	0	0.83
1151	15.5	4.19	268	27	0	0.82
1154	15.35	4.2	277	27	0	0.81
1157	15.23	4.2	285	27	0	0.79
1200	15.13	4.19	294	28	0	0.78
1203	15.03	4.19	303	28	0	0.73
1206	14.94	4.2	310	28	0	0.75
1209	14.84	4.2	317	28	0	0.76
1212	14.74	4.19	324	28	0	0.73
1215	14.64	4.2	329	28	0	0.72
1218	14.54	4.2	333	28	0	0.73
1221	14.41	4.2	339	28	0	0.72

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B Background Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WBW - 1	31.97	18.27	7- 17	7/20/2021	1107	19.8

Drawdown: 17.79 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)
1036	21.7	5.05	75	77	234	6.5
1041	22.27	4.82	92	63	32	1.39
1046	22.81	4.72	107	53	13.8	1.05
1051	23.34	4.75	117	48	7.4	0.87
1056	23.79	4.78	120	46	2.1	0.77
1101	24.19	4.76	120	43	0.2	0.72
1104	24.47	4.76	120	43	0	0.71
1107	24.72	4.77	121	42	0	0.69

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 9	28.04	8.83	9- 19	2/23/2012	1249	22.22
Drawdown:	8.86		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)
1218	18.59	6.27	5	348	3.7	9.25
1223	18.22	6.11	14	303	3.5	1.08
1228	18.18	6.05	17	296	6.4	0.73
1233	18.72	5.8	26	456	0	0.66
1238	18.81	5.71	24	661	0	0.53
1243	18.83	5.69	22	722	0	0.47
1246	18.94	5.69	20	742	0	0.46
1249	18.93	5.68	17	748	0	0.45

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 9	28.04	9.7	9- 19	8/2/2021	1339	22.23
Drawdown:	9.76		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)
1308	29.21	6.01	-22	776	6.3	9.95
1313	29.18	5.89	-44	1170	2.1	0.62
1318	29.03	5.9	-50	1200	4.6	0.4
1323	28.74	5.93	-57	1190	5.3	0.34
1328	28.42	5.94	-61	1170	5.4	0.33
1333	28.18	5.96	-65	1170	4.9	0.31
1336	28.31	5.96	-67	1160	4.6	0.29
1339	28.14	5.97	-69	1160	4.2	0.29

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 10	26.11	4.36	4-24	2/17/2021	1357	26.81
Drawdown:	4.35		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)
1329	17.28	6.26	31	3860	195	2.04
1334	16.99	6.33	-8	3920	92.9	0.87
1339	17.28	6.36	-25	3920	72	0.78
1344	17.4	6.38	-37	3920	60.8	0.66
1349	17.25	6.38	-41	3920	40.3	0.59
1354	17.18	6.38	-44	3930	39.8	0.56
1357	17.41	6.38	-46	3910	36.6	0.54

Comments/Conditions: **Duplicate at 1402**

Samples were collected by Trey West and Bryan Brase

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 10	26.11	4.98	4-24	8/2/2021	1134	26.92
Drawdown:	5.44		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)
1106	23.36	6.38	-106	4080	15.5	7.48
1111	23.85	6.4	-108	4110	10.9	0.9
1116	23.88	6.41	-109	4090	5.2	0.65
1121	24.03	6.42	-110	4080	4.6	0.56
1126	24.36	6.43	-110	4040	4.6	0.49
1131	24.6	6.44	-111	4020	4.2	0.45
1134	24.72	6.44	-110	4000	4.2	0.43

Comments/Conditions:
DUP @ 1139
Wasps at Well
Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 17	29.27	8.89	9- 19	3/2/2021	1048	22.31
Drawdown:	8.93		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)
1017	17.48	5.93	117	588	0.1	4.4
1022	16.94	5.93	104	595	0	1.45
1027	16.97	5.9	100	606	0	0.88
1032	17.13	5.88	96	634	1.4	0.68
1037	17.1	5.88	93	669	0.2	0.64
1042	17.12	5.87	88	706	0	0.64
1045	17.21	5.87	86	727	0	0.64
1048	17.22	5.88	84	743	0	0.61

Comments/Conditions: **duplicate taken at 1053**

Samples were collected by Trey West, Damien Johnson, Thomas Guerry

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP-17	26.88	6.98	9-19	4/8/2021	1331	21.51
Drawdown:	6.98		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)
1303	23.78	6.38	68	1130	11.4	2.48
1308	24.07	6.27	51	1160	10.8	0.84
1313	24.27	6.23	42	1150	11.8	0.58
1318	24.19	6.22	34	1140	5.2	0.48
1323	24.12	6.22	28	1150	2.1	0.43
1328	23.94	6.22	22	1150	0	0.4
1331	23.83	6.22	19	1140	0	0.39

Comments/Conditions: Duplicate taken at 1336

Samples were collected by Melanie Goings and Trey West

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 17	26.88	6.24	9- 19	8/2/2021	1512	21.94
Drawdown:	6.28		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)
1444	33.07	6.24	-50	813	0	3.91
1449	30.96	5.8	-33	1530	0	0.63
1454	30.34	5.78	-35	1620	7	0.47
1459	29.69	5.8	-41	1640	10.4	0.41
1504	29.37	5.8	-43	1660	11.6	0.41
1509	29.31	5.82	-48	1650	12.6	0.39
1512	29.17	5.82	-49	1660	12.7	0.39

Comments/Conditions:
DUP @ 1517

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 18	43.05	22.72	13.5- 23.5	2/16/2021	1133	26.25

Drawdown: 23 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)
1059	20.69	6.43	205	1860	21.1	2.2
1104	20.88	6.4	213	1730	11.7	1.22
1109	20.85	6.39	181	1690	9.1	1.05
1114	20.86	6.37	148	1660	6	0.93
1119	20.94	6.37	119	1640	4.5	0.88
1124	21.01	6.36	103	1630	4.1	0.83
1127	21.03	6.36	96	1620	3.4	0.8
1130	21.06	6.36	91	1610	2.7	0.78
1133	21.07	6.37	87	1610	2.7	0.76

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 18	43.05	19.08	13.5- 23.5	8/4/2021	1216	26.25
Drawdown:	19.2		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)
1151	23.05	5.14	156	1700	170	1.26
1156	23.54	5.11	161	1690	32.9	0.91
1201	23.67	5.1	167	1700	10.4	0.75
1206	23.8	5.12	170	1690	14.7	0.66
1211	23.95	5.17	167	1670	9.7	0.61
1216	24.05	5.21	166	1680	8.4	0.56

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 19	43.39	20.45	14-24	2/16/2021	1425	26.89
Drawdown:	20.76	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)
1348	20.98	6.45	9	1770	227	1.98
1353	21.37	6.37	5	1760	122	0.95
1358	21.51	6.35	5	1750	58.7	0.76
1403	21.78	6.33	4	1740	56.1	0.62
1408	21.85	6.31	4	1740	37.5	0.54
1413	22.12	6.3	4	1740	26.1	0.49
1416	22.18	6.3	3	1750	29.7	0.48
1419	22.26	6.3	3	1740	17.9	0.47
1422	22.44	6.31	2	1740	21.3	0.45
1425	22.54	6.32	1	1740	22	0.45

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 19	43.39	22.35	14-24	8/3/2021	1627	27.1
Drawdown:	22.46	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)
1556	23.51	6.3	-17	1750	17.8	4.39
1601	23.79	6.26	-24	1770	13.8	0.88
1606	23.58	6.26	-28	1780	16	0.65
1611	23.71	6.29	-39	1830	12.2	0.57
1616	23.82	6.31	-46	1870	12	0.55
1621	23.82	6.35	-54	1890	12.1	0.52
1624	23.73	6.36	-57	1900	10	0.5
1627	23.64	6.37	-59	1910	6.8	0.48

Comments/Conditions:

Samples were collected by Ben Taylor and Connor Smalling

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 20	43.08	18.79	9- 19	2/16/21	1530	22.36
Drawdown:	18.96	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)
1510	22.76	5.96	58	369	65.6	1.52
1515	22.4	5.89	60	341	5.5	0.88
1520	21.88	5.88	62	328	2.9	0.89
1525	21.54	5.85	66	331	2.2	0.88
1530	21.32	5.84	65	333	1.6	0.89

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 20	43.08	21.78	9- 19	8/3/2021		22.42

Drawdown: 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)
1307	24.89	6.21	-79	785	270	0.81
1312	25.07	6.22	-82	784	279	0.51
1317	25.19	6.24	-84	784	585	0.49

Comments/Conditions:
Well Ran Dry at 1317
Since aquifer refills well and we want the equilibrium aquifer water, sample was taken automatically after we let well refill.
Came back to well around 1430 on 08/03/2021 and got 2/3 of a bottle.
Came back to well on 08/04/2021 @ 1042 and collected another bottle.
Came back to well on 08/04/2021 @ 1352 and collected a little more water, tried again at 1403
Came back to well on 08/04/2021 @ 1556 and collected water from the well,
Came back to well on 08/05/2021 @ 0945 and collected water
Came back to well on 08/05/2021 @ 1310 and collected more water from well
Came back to well on 08/10/2021 @ 1051 and collected more water from well
Came back to well on 08/10/2021 @ 1536 and collected more water from well

Samples were collected by Ben Taylor and Connor Smalling

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 21	43.06	18.86	14- 24	2/17/2021	1235	27.05
Drawdown:	19.7		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)
1155	18.19	6.38	39	482	8.4	14.39
1200	17.89	6.27	39	482	3.7	1.43
1205	17.92	6.23	38	475	1.2	0.93
1210	17.9	6.23	36	473	0	0.76
1215	17.76	6.23	36	467	0	1.38
1220	17.66	6.24	37	467	0	2.35
1223	17.66	6.24	37	467	0	2.35
1226	17.83	6.2	36	471	0	0.77
1229	17.76	6.19	36	474	0	0.65
1232	17.76	6.19	36	476	0	0.59
1235	17.82	6.2	35	479	0	0.57

Comments/Conditions:

Samples were collected by Trey West and Bryan Brase

Winyah Generating Station
Ash Pond A and B CCR Groundwater Monitoring Wells

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 21	43.06	21.46	14- 24	8/3/2021	1130	27.5
Drawdown:	22.98	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)
1047	22.26	6.09	-25	451	95.1	4.42
1052	22.96	6.08	-30	449	48.3	1.49
1057	23.36	6.08	-33	449	25	0.94
1102	23.59	6.12	-40	446	19.9	0.7
1107	23.76	6.13	-44	450	21	0.6
1112	23.62	6.13	-48	452	31.7	0.54
1115	23.71	6.12	-47	457	40.3	0.54
1118	23.84	6.14	-50	454	37.1	0.55
1121	23.78	6.13	-51	451	40.5	0.54
1124	23.78	6.14	-53	454	38.5	0.53
1127	23.68	6.13	-57	455	21.8	0.49
1130	23.67	6.13	-57	455	21	0.49

Comments/Conditions:

Samples were collected by Ben Taylor and Connor Smalling

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 22	43.37	23.42	44-54	2/16/2021	1313	57.92
Drawdown:	23.53	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)
1233	20.72	7.06	109	1750	0.9	6.08
1238	20.91	9.51	101	1840	0.9	2.99
1243	21.02	10.92	89	2000	0.1	3.55
1248	21.1	11.14	82	2120	0	3.71
1253	21.17	11.15	79	2170	0	3.8
1258	21.09	7.3	-13	2350	2.2	1.7
1301	20.96	6.61	-63	2390	0	1.03
1304	20.92	6.59	-66	2390	0.3	0.94
1307	20.95	6.58	-65	2400	0.1	0.84
1310	21.03	6.58	-63	2400	0.1	0.8
1313	20.98	6.58	-62	2390	0	0.79

Comments/Conditions:

Samples were collected by Trey West and Melanie Goings

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 22	43.37	22.33	44-54	8/4/2021	1331	57.54
Drawdown:	22.46	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)
1303	23.67	6.16	-4	1870	11.5	6.43
1308	23.84	6.69	-106	1960	4.3	1.08
1313	23.88	6.82	-127	1980	5.8	0.75
1318	24.08	6.86	-134	1980	6.1	0.6
1323	24.07	6.88	-138	1980	6.1	0.52
1328	24.15	6.89	-140	1980	6.5	0.49
1331	24.1	6.9	-140	1980	6	0.47

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 23	43.23	20.2	39-49	2/17/2021	1126	
Drawdown:	22.45	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)
1058	19	6.5	9	1150	16.7	6.6
1103	19.03	6.54	-9	1120	17.9	3.09
1108	19.11	6.63	-42	1050	15.3	0.84
1113	19.01	6.65	-49	957	9.2	0.78
1118	18.98	6.67	-51	939	7	0.7
1123	18.92	6.67	-54	944	6.1	0.66
1126	18.91	6.73	-58	937	4.5	0.64

Comments/Conditions:

Samples were collected by Trey West Bryran Brase

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 23	43.23	21.83	39-49	8/3/2021	1236	
Drawdown:	23.21	depth to GW (ft)				

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1211	22.93	6.54	-79	1150	18	1.64
1216	23.17	6.49	-87	1150	8.2	0.62
1221	23.12	6.5	-91	1140	12.2	0.5
1226	23.03	6.53	-95	1110	12.2	0.44
1231	22.99	6.57	-98	1080	11.8	0.42
1236	22.99	6.61	-102	1060	12.8	0.39

Comments/Conditions:

Samples were collected by Ben Taylor and Connor Smalling

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 24	28.77	6.25	34-44	3/2/2021	1157	47.72
Drawdown:	8.28		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)
1142	19.06	7.42	69	321	10.8	10.73
1147	18.53	7.59	70	312	13.8	5.79
1152	18.39	7.61	71	309	5.8	5.42
1157	18.53	7.59	72	309	1.6	5.3

Comments/Conditions:

Samples were collected by Trey West, Damien Johnson, Thomas Guerry

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 24	28.77	7.57	34-44	8/2/2021	1250	47.73
Drawdown:	9.54		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)
1216	28.67	7.46	-88	463	3.2	7.62
1221	27.7	7.44	-126	362	1.4	0.81
1226	27.25	7.44	-136	350	5.8	0.6
1231	27.01	7.45	-142	344	7.6	0.53
1236	27.14	7.45	-146	339	7.2	0.47
1241	27.13	7.49	-153	338	7	0.44
1244	27.18	7.51	-158	340	6.9	0.43
1247	27.35	7.53	-164	342	6.7	0.41
1250	27.4	7.53	-166	340	6.3	0.41

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 25	27.1	8.05	27-37	3/4/2021	1036	40.43
Drawdown:	8.21	depth to GW (ft)				

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)
1005	18.85	6.71	135	472	2.1	3.52
1010	18.78	6.72	34	382	0	1.17
1015	18.63	6.76	-32	364	0	0.79
1020	18.58	6.83	-58	355	0	0.7
1025	18.51	6.88	-84	353	0	0.67
1030	18.59	6.9	-106	349	0	0.65
1033	18.64	6.92	-112	348	0	0.64
1036	18.69	6.93	-115	348	0	0.63

Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 25	27.1	7.92	27-37	8/10/2021	1332	40.45
Drawdown:	8.16	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)
1258	25.4	6.81	-106	348	0	3.13
1303	24.59	6.92	-140	349	0	1.66
1308	24.72	6.93	-142	350	0	1.91
1313	24.31	6.94	-142	349	0	1.69
1318	23.79	6.98	-143	348	0	1.47
1323	23.66	7.01	-144	348	0	1.31
1326	23.53	7.04	-146	347	0	1.16
1329	23.48	7.04	-145	347	0	1.08
1332	23.55	7.05	-145	345	0	1.02

Comments/Conditions:

Samples were collected by Melanie Goings and Brian Brase.

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 26	27.56	6.52	12'-22'	3/2/2021	1513	26
Drawdown:	6.72	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)
1436	17.55	5.68	62	125	24.8	2.37
1441	17.34	5.34	80	134	19.4	1.53
1446	17.4	5.24	80	142	15.2	1.29
1451	17.55	5.14	78	157	10.1	0.93
1456	17.4	5.1	77	166	6.9	0.83
1501	17.52	5.07	76	177	4.9	0.75
1504	17.56	5.06	75	179	3.6	0.76
1507	17.62	5.04	75	186	3.2	0.7
1510	17.75	5.04	74	189	3.1	0.75
1513	17.86	5.03	74	191	3.1	0.72

Comments/Conditions:

Samples were collected by Trey West, Damien Johnson, Thomas Guerry

Winyah Generating Station
Ash Pond A and B CMA/NE Groundwater Monitoring Well

Well ID	TOC Elevation (feet)	GW Depth (feet)	Screen Intervals (ft, bgs)	Sample Date	Sample Time	Total Well Depth
WAP - 26	27.56	7.49	12'-22'	8/10/2021	1146	25.98
Drawdown:	7.63		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)
1115	25.45	4.6	184	192	12.5	1.73
1120	26.23	4.63	174	186	15.5	1.13
1125	26.56	4.65	152	179	15.9	0.76
1130	27.02	4.66	134	181	14	0.65
1135	26.95	4.72	118	183	8.9	0.6
1140	27.26	4.71	112	183	4.4	0.56
1143	27.3	4.72	106	184	0	0.54
1146	27.54	4.72	103	184	0	0.51

Comments/Conditions:

Samples were collected by Melanie Goings and Brian Brase.

Appendix C – Well Installation Records

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SANTEE COOPER (last) (first)
Address: ONE RIVERWOOD DRIVE
City: MONCKS CORNER State: SC Zip: 29461
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** GEORGETOWN
Name: WINYAH GENERATING STATION
Street Address: 661 STEAM PLANT DRIVE
City: GEORGETOWN Zip: 29440
Latitude: 33° 19' 53.57" Longitude: 79° 21' 33.16"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** WAP-17

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 19.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ABANDONED VIA TREMIE PIPE		
WITH PORTLAND BENTONITE		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
3.0 GALLONS PORTLAND BENTONITE

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: WAP-17

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 03/04/21
19.0 ft. Date Completed: 03/04/21

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: JEREMY RINGLER **CERT. NO.:** 02294
Address: (Print)
176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 03/05/21
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: SANTEE COOPER (last) (first)
Address: ONE RIVERWOOD DRIVE
City: MONCKS CORNER State: SC Zip: 29461
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** GEORGETOWN
Name: WINYAH GENERATING STATION
Street Address: 661 STEAM PLANT DRIVE
City: GEORGETOWN Zip: 29440
Latitude: 33° 19' 53.57" Longitude: 79° 21' 33.16"

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:** WAP-17

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
SAND	19.0	19.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
BENTONITE SEAL 5.0 - 7.0 FEET

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 19.0 ft. Date Started: 03/03/21 Date Completed: 03/03/21

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 9.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☑ Below ☐
Surface 2.5 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 9.0 ft. and 19.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 10.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 7.0 ft. to 19.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 5.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: JEREMY RINGLER **CERT. NO.:** 02294
Address: (Print) 176 COMMERCE BLVD STATESVILLE, NC 28625
Level: A ☐ B ☑ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Well Driller Date: 03/05/21

If D Level Driller, provide supervising driller's name:

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

1. WELL OWNER INFORMATION:
Name: Santee Cooper (last) (first)
Address: One Riverwood Drive
City: Moncks Corner State: SC Zip: 29461-2998
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** Georgetown
Name: Winyah Generating Station
Street Address: 661 Steam Plant Road
City: Georgetown, SC Zip: 29440-4815
Latitude: 33.3298 Longitude: -79.3578

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☑ Yes ☐ No
Give Details Below
Grouted Depth: from 0 ft. to 23 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Original Well Installed 9.23.15

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: WAP-18

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 12.7.21
23 ft. Date Completed: 12.7.21

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elbert Rozier **CERT. NO.:** 2088
Address: (Print) Level: A B C D ✓ (circle one)
1800 Reynolds Ave N. Charleston, SC 29405
Telephone No.: Fax No.:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: _____
Well Driller

If D Level Driller, provide supervising driller's name:
Charles Clymer A-75

DHEC 1903 (08/2017)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

***Note:** Personal information provided on this document is subject to public scrutiny or release.*

1. WELL OWNER INFORMATION:
Name: Santee Cooper (last) (first)
Address: One Riverwood Drive
City: Moncks Corner State: SC Zip: 29461-2998
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** Georgetown
Name: Winyah Generating Station
Street Address: 661 Steam Plant Road
City: Georgetown, SC Zip: 29440-4815
Latitude: 33.3298 Longitude: -79.3578

3. PUBLIC SYSTEM NAME: WAP-18 **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Fine Sand	0	3
White Fine Sand	3	6
Dark Brown Fine Sand	6	13
Gray Fine Sand w/Silt	13	17.5
Gray Fine-Medium Sand	17.5	19.5
Gray Clay w/Silt and Sand	19.5	20
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: WAP-18 (Replacement)

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 17.5 ft. Date Started: 11.17.21 Date Completed: 11.17.21

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 7.5 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2
Slot/Gauge: 0.010 Length: 10
Set Between: 7.5 ft. and 17.5 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 5.5 ft. to 18.5 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 5.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elbert Rozier **CERT. NO.:** 2088
Address: (Print) 1800 Reynolds Ave N. Charleston, SC 29405
Level: A B C D ✓ (circle one)
Telephone No.: 843 864-1234 Fax No.:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: _____
Well Driller

If D Level Driller, provide supervising driller's name:
James Smith

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

***Note:** Personal information provided on this document is subject to public scrutiny or release.*

1. WELL OWNER INFORMATION:
Name: Santee Cooper (last) (first)
Address: One Riverwood Drive
City: Moncks Corner State: SC Zip: 29461-2998
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** Georgetown
Name: Winyah Generating Station
Street Address: 661 Steam Plant Road
City: Georgetown, SC Zip: 29440-4815
Latitude: 33.3298 Longitude: -79.3578

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☑ Yes ☐ No
Give Details Below
Grouted Depth: from 0 ft. to 54 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Original Well Installed 5.29.19

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: WAP-22

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 12.7.21
54 ft. Date Completed: 12.7.21

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elbert Rozier **CERT. NO.:** 2088
Address: (Print) Level: A B C D ✓ (circle one)
1800 Reynolds Ave N. Charleston, SC 29405
Telephone No.: Fax No.:

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: _____
Well Driller

If D Level Driller, provide supervising driller's name:
Charles Clymer A-75

DHEC 1903 (08/2017)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

Note: Personal information provided on this document is subject to public scrutiny or release.

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Name: Winyah Generating Station
Street Address: 661 Steam Plant Road
City: Georgetown, SC Zip: 29440-4815
Latitude: 33.3298 Longitude: -79.3578

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Fine Sand	0	3
White Fine Sand	3	6
Dark Brown Fine Sand	6	13
Gray Fine Sand w/Silt	13	17.5
Gray Fine-Mediun Sand	17.5	19.5
Gray Clay w/Silt and Sand	19.5	20.5
Gray Fine Sand	20.5	22.5
Gray Medium Sand	22.5	25
Gray Fine-Medium Sand w/Silt	25	30
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: WAP-22 (Replacement)

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 35 ft. Date Started: 11.17.21 Date Completed: 11.17.21

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 25 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2
Slot/Gauge: 0.010 Length: 10
Set Between: 25 ft. and 35 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 23 ft. to 36 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 23 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Elbert Rozier **CERT. NO.:** 2088
Address: (Print) Level: A B C D ✓ (circle one)
1800 Reynolds Ave N. Charleston, SC 29405
Telephone No.: Fax No.:

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Signed: _____ Date: _____
Well Driller

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Charles Clymer A-75

DHEC 1903 (08/2017)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER