

**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**

Well ID	Purpose	Date of Sample Event	Laboratory Sample ID Number	Appendix III Constituents													Appendix IV Constituents													Field Parameters							
				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		
				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	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	Feet (btoc)	Feet (msl)	SU	uS	C	mv SM2580	NTU	ppm
Site Background Wells				Unit Method GWPS/US EPA MCL/RSL	---	---	---	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
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	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	1.89	<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	<5.0	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	2	
Ash Pond A Wells																																					
WAP-9	Assessment	2/23/2021	AE96387			121	83.9	<0.10	172.3	716.2	5.88	<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	<0.50	<0.10	<1.0	57	<0.2	<10	1.27	2.19	3.46	<10.0	<1.0	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	2	2	2	2	2	2	1	2	2	2	2	2	2	2	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	893.8		<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	<0.50	<0.10	<1.0	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	<0.50	<0.10	<1.0	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	4	6	6	4	6	6	6	6	6	6	4	4	4	4	4	4	4	4		
WAP-18	Assessment	2/16/2021	AE96403		7500	324	27.5	1.39	892	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	2	2	2	2	2	2	2	2	2	2	2	2	2	2	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	1562	6.37		147	51.2		<0.50	<0.50	<0.10	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	2	2	2	2	2	2	2	2	2	2	2	2	2	2	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	2	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	<0.50	<5.0	<0.50	<0.10	<1.0	25		<10	3.81	-0.0936	3.81	<10.0	<1.0	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	<0.50	<5.0	<0.50	<0.10	<1.0	25		<10	2.55	3.33	5.88	<10.0	<1.0									
WAP-10	total samples				2	4	4	4	4	4	2	2	4	4	4	4	4	4	4	4	4	2	4	4	4	4	4	4	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</																																			

FIGURES

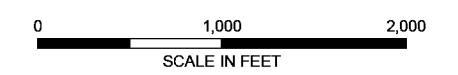
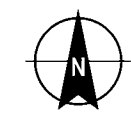


LEGEND

- 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



SANTEE COOPER
 WINYAH GENERATING STATION
 GEORGETOWN, SOUTH CAROLINA

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

C:\Users\hwaad\Documents\working\pse\seced\131539_SANTEE_COOPER\Maps\2022_02132892_08_00MB_WINYAH_POTENTIOMETRIC_MAPS.mxd — USER: hwaad — LAST SAVED: 2/23/2022 2:42:35 PM



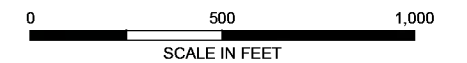
LEGEND

- 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:

$$v = \frac{K \Delta h}{n_e \Delta L}$$
3. ABBREVIATIONS:
 ft/day = FEET PER DAY
 V = AVERAGE LINEAR VELOCITY (ft/day)
 K = HORIZONTAL HYDRAULIC CONDUCTIVITY (ft/day)
 $\Delta h/\Delta L$ = HORIZONTAL GRADIENT (CHANGE IN HYDRAULIC HEAD / LENGTH OF HORIZONTAL HYDRAULIC FLOW PATH)
 ne = EFFECTIVE POROSITY
4. K = 2.3 FEET PER DAY (ft/day)
5. ne = 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



SANTEE COOPER
 WINYAH GENERATING STATION
 GEORGETOWN, SOUTH CAROLINA

**POTENTIOMETRIC MAP
 ASH PONDS A & B
 JULY-AUGUST 2021**

FEBRUARY 2022

FIGURE 3

Appendix A – Statistical Analysis



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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 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

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*	Inter-well Analysis			GWPS (Higher of MCL/RSL or Background Limit) (mg/L)	SSL																						
																				February 2021 Concentration	Detect?	Upper Tolerance Limit (mg/L)			SSI																					
CCR Appendix-IV: Antimony, Total (mg/L)																																														
WBW-1	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.0003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA																											
WAP-01	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.0003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA		0.025		0.025																							
WAP-09	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.0003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA		0.005	N		N	FALSE																					
WAP-17	0/13	100%	0.005-0.025	0.00654	0.005	0.013		0.0003077	0.005547	0.8484	0.006	mg/L	N	0	1	NA	NA	NA	NA		0.005	N		N	FALSE																					
WAP-18	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.0003333	0.005774	0.866	0.006	mg/L	N	0	1	NA	NA	NA	NA		0.005	N		N	FALSE																					
WAP-19	0/12	100%	0.005-0.025	0.00667	0.005	0.014		0.0003333	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																											
WAP-01	1/17	94%	0.003-0.005	0.00496	0.005	0.00566	0.0083	0.00001179	0.001086	0.219	0.01	mg/L	N	0	0	Yes	No	NA	NA			0.008		0.010																						
WAP-09	17/17	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	16/16	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-18	15/15	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-19	15/15	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	15/15	0%	-	0.0126	0.013	0.01565	0.016	0.00008808	0.002968	0.2348	2	mg/L	N	0	0	No	No	Decreasing	Non-parametric																											
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		2.0																						
WAP-09	18/18	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-17	17/17	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-18	15/15	0%	-	0.0909	0.0915	0.1024	0.11	0.0008804	0.009383	0.1032	2	mg/L	N	0	0	Yes	No	Stable	Normal		0.092	Y		N	FALSE																					
WAP-19	15/15	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	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		0.0																						
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-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		0.0005	N		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		0.0005	N		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		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	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		0.0																						
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-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		0.0005	N		N	FALSE																					
WAP-18	1/12	92%	0.0005-0.0005	0.000515	0.0005	0.000581	0.00068	2.7E-09	0.0005196	0.1009	0.005	mg/L	N	0	0	NA	NA	NA	NA		0.00068	Y		Y	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		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	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			0.005		0.1																						
WAP-09	0/16	100%	0.005-0.01	0.00531	0.005	0.00625		0.00001562	0.00125	0.2353	0.1	mg/L	N	0	0	NA	NA	NA	NA		0.005	N		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		0.005	N		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		0.005	N		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		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	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-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-17	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-18	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-19	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		1.85E-18	1.36E-09	1.36E-08	4	mg/L	N	0	0	No	No	NA	Non-parametric			0.140		4.0																						
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																											
WAP-09	1/16	94%	0.1-0.1	0.101	0.1	0.1025	0.11	0.0000625	0.0025	0.02484	4	mg/L	N	0	0	No	No	NA	Non-parametric		0.100	N		N	FALSE																					
WAP-17	12/17	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-18	15/16	6%																																												

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	FALSE	
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	0.002	FALSE	
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	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	0.00020	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	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	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	FALSE	
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	NA	0.050	0.1	FALSE	
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	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	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	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	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	N	FALSE
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	Non-parametric	5.97	N	FALSE
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	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	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	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	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	FALSE	
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	NA	0.020	0.05	FALSE	
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	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	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	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	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	FALSE	
WAP-01	0/13	100%	0.0001-0.001	0.000931	0.001	0.001	6.231E-08	0.0002496	0.2682	0.002	mg/L	N	0	0	NA	NA	NA	NA	0.001	0.002	FALSE	
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	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	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	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	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 DOWNGRADIANT 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

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		3.09E-20	1.76E-10	1.76E-08	0.1	mg/L	N	0	0	NA	NA	NA	NA						
WAP-10	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	NA			0.010	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		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		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	Non-parametric						
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		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		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		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	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		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		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		FALSE
CCR Appendix-IV: Ithallium, 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		6.231E-08	0.0002496	0.2682	0.002	mg/L	N	0	0	NA	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		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		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		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 DOWNGRADIANT 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

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/MSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well*	Inter-well Analysis			GWPS (Higher of MCL/MSL or Background Limit) (mg/L)	SSL																				
																				August 2021 Concentration (mg/L)	Detect?	Upper Tolerance Limit (mg/L)																						
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																									
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	NA			0.025		0.025																				
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																									
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-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	15	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																									
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	Non-parametric			0.094		2.0																				
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																									
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		0.0005																				
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	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	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		0.000001471	0.001213	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		L.807E-20	L.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		L.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	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-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	Non-parametric																									
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																												

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	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	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	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	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	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	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	
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	Non-parametric				5.97
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		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		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		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		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	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	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



HALEY & ALDRICH, INC.
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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

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		
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	NA	0.050	0.10
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
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	Stable	Normal	0.021	Y
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
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		
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	Non-parametric	5.97	6.0
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	Stable	Normal	3.810	Y
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
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
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	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
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
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	
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%	0.001-0.001	0.000936	0.001	0.001		5.786E-08	0.0002405	0.2571	0.002	mg/L	N	0	0	NA	NA	NA	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	
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
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	

NS=Not Sampled

Appendix B – Laboratory Analytical Reports



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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	1.76	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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	5.01	pCi/L	08/24/2021	GEL	EPA 903.1 Mod
Calculation					
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 - 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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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	0.626	pCi/L	08/24/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

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 - Supervisor Analytical Services

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 - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

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	2.18	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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 - Supervisor Analytical Services



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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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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	2.16	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

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 - Supervisor Analytical Services

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 - 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	5.83	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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	3.16	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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	3.81	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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 - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

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	2.13	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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 - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

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 - Supervisor Analytical Services

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 - Supervisor Analytical Services



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SANTEE COOPER ANALYTICAL SERVICES

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	3.65	pCi/L	03/24/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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	3.46	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Calculation					
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 - 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	0.390	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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	1.10	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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	4.02	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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	5.19	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Calculation					
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 - Supervisor Analytical Services

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 - Supervisor Analytical Services

SANTEE COOPER ANALYTICAL SERVICES

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 - Supervisor Analytical Services



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

SANTEE COOPER ANALYTICAL SERVICES

CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # 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 - Supervisor Analytical Services

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 - Supervisor Analytical Services



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 Moncks Corner, SC 29461-2901
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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 - Supervisor Analytical Services

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 - 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 - Supervisor Analytical Services

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 - Supervisor Analytical Services



Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	Project:	Ground Water
		Work Order:	1021082
		Received:	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

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

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an employee-owned company



Certificate of Analysis

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

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

Project: Ground Water
Work Order: 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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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	Analized	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	Analized	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	Analized	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	Analized	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



Rogers & Callcott

ENVIRONMENTAL

Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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
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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	



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1021082
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.

Chain of Custody



Customer Email/Report Recipient: _____ Date Results Needed by: _____ Project/Task/Unit #: _____ Rerun request for any flagged QC

lcwillia@santecooper.com _____ / _____ / _____ 121567 / JM02.09.GW1 / 36500 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				
AE96379	WAP-1	2/15/21	1337	NDC/GBN	1	P	G	GW	2	-01		X	X	X
AE96380	WAP-2	2/15/21	1440							-02			X	X
AE96412	WBW-1	2/15/21	1221							-03		X	X	X
AE96403	WAP-18	2/16/21	1133							-04		X	X	X
AE96404	WAP-19		1425							-05		X	X	X
AE96405	WAP-20		1530							-06		X	X	X
AE96407	WAP-22	2/16/21	1313							-07			X	

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>Sibrown</i>	35594	2/18/21	1400	FEDEx			
FEDEx				CJC		2/19/21	1020

Sample Receiving (Internal Use Only)
 TEMP (°C): 9.6 Initial: _____
 Correct pH: Yes No
 Preservative Lot#: _____
 Date/Time/Init for preservative: _____

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP, TPO4 <input type="checkbox"/> NH-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfides <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Trans. Oil Qual. <input type="checkbox"/> ASTM D975 <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Flashpoint <input type="checkbox"/> Viscosity <input type="checkbox"/> API <input type="checkbox"/> Ethanol Wash Used Oil <input type="checkbox"/> Flashpoint <input type="checkbox"/> Metals in oil <input type="checkbox"/> (As, Cd, Cr, Ni, Pb, Hg) <input type="checkbox"/> TSS <input type="checkbox"/> GOFER
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Chain of Custody

Customer Email/Report Recipient: _____ Date Results Needed by: _____ Project/Task/Unit #: _____ Rerun request for any flagged QC

LCWILLIA @santecooper.com _____ / _____ / _____ 121567 / JM02-09.G01 / 36500 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				
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
<i>Sjbrown</i>	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: _____

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP, TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum (all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Trans. Oil Qual. <input type="checkbox"/> Sulfur <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Sediment Sample <input type="checkbox"/> IPT <input type="checkbox"/> Dissolved Gases Used Oil <input type="checkbox"/> Carbon <input type="checkbox"/> Metals in Oil <input type="checkbox"/> Oil & Grease <input type="checkbox"/> Hg <input type="checkbox"/> SX <input type="checkbox"/> GOFER
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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	Y e s	N o	N A	Comments
Shipping container / cooler intact?	X			Damaged Leaking Other:
Custody seals intact?			X	
COC included with samples?	X			
COC signed when relinquished and received?	X			
Sample bottles intact?	X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	X			
Date / time on COC agree with label on bottle(s)?	X			
Number of bottles on COC agrees with number of bottles received?	X			
Samples received within holding time?	X			
Sample volume sufficient for analysis?	X			
VOA vials free of headspace (<6mm bubble)?			X	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 97050067			X	Ice Cold Packs Dry Ice <u>None</u>
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.	X			
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.			X	

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

Comments:

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



Laboratory Report

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

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on March 03, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

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

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

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Report Approved By:

Lauren Hollister
Project Manager

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

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an employee-owned company



Certificate of Analysis

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

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

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

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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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	Analized	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	Analized	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	Analized	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	Analized	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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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
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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							
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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
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Batch B1C0396 - EPA 7470A

LCS (B1C0396-BS1)

Mercury	5.0	0.20	ug/L	5.00		100	80-120			
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LCS Dup (B1C0396-BSD1)

Mercury	5.0	0.20	ug/L	5.00		101	80-120	1	20	
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Matrix Spike (B1C0396-MS1) Source: 1030283-03

Mercury	4.8	0.20	ug/L	5.00	ND	97	75-125			
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Matrix Spike Dup (B1C0396-MSD1) Source: 1030283-03

Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125	3	20	
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Post Spike (B1C0396-PS1) Source: 1030283-03

Mercury	4.0		ug/L	4.00	ND	99	80-120			
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283
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



Chain of Custody

Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by: Project/Task/Unit #: 121567 / JM02.09.GR1 / 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	M	Li	Mo	Hg
AE96387	WAP-9	2/23/21	1249	DEW/MDS	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/MDS	↓	↓	↓	↓	↓	-05		X		
AE96397	WAP-14B	↓	1356	↓	↓	↓	↓	↓	↓	-06		X		
AE96396	WAP-14C	↓	1446	↓	↓	↓	↓	↓	↓	-07		X		
AE96394	WAP-14	2/25/21	1110	DEW/MPF	↓	↓	↓	↓	↓	-08	X	X	X	X
AE96395	WAP-14 DUP	↓	1115	↓	↓	↓	↓	↓	↓	-09	X	X	X	X
AE96399	WAP-15	↓	1540	↓	↓	↓	↓	↓	↓	-10	X	X	X	X

Sample Receiving (Internal Use Only)
TEMP (°C): 16.0 Initial: GC
Correct pH: Yes No
Preservative Lot#:
Date/Time/Init for preservative:

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<u> </u>	<u>35594</u>	<u>3/2/21</u>	<u>1500</u>	<u>FED EX</u>			
<u>FED EX</u>				<u> </u>		<u>3/3/21</u>	<u>1320</u>

☐ METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Bc <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients TOC DOC TP/TPH NH ₄ -N I Cl NO ₂ Br NO ₃ SO ₄	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO ₄) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans. Oil Qual. ASTM Color Acidity Density @ 15.6°C Viscosity @ 40°C Used Oil Flash Point Metals in oil (ASTM D4052) Ign GUTB
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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	Y e s	N o	N A	Comments
Shipping container / cooler intact?	X			Damaged Leaking Other:
Custody seals intact?			X	
COC included with samples?	X			
COC signed when relinquished and received?	X			
Sample bottles intact?	X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?	X			
Date / time on COC agree with label on bottle(s)?	X			
Number of bottles on COC agrees with number of bottles received?	X			
Samples received within holding time?	X			
Sample volume sufficient for analysis?	X			
VOA vials free of headspace (<6mm bubble)?			X	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 97050067			X	Ice Cold Packs Dry Ice <u>None</u>
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the lab. Note: Samples for O&G and VOA analysis – preservation checked at bench.	X			
Samples dechlorinated for parameters requiring chlorine removal at the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, and HAA analysis.			X	

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

Comments:

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



Laboratory Report

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

Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on March 09, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

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

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

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Report Approved By:

Lauren Hollister
Project Manager

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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



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: 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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
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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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
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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							
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LCS (B1C0646-BS1)

Mercury	4.9	0.20	ug/L	5.00		98	80-120			
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LCS Dup (B1C0646-BSD1)

Mercury	5.0	0.20	ug/L	5.00		101	80-120	3	20	
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Matrix Spike (B1C0646-MS1)

Source: 1030536-15

Mercury	4.1	0.20	ug/L	5.00	ND	81	75-125			S7
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Matrix Spike Dup (B1C0646-MSD1)

Source: 1030536-15

Mercury	4.1	0.20	ug/L	5.00	ND	81	75-125	0	20	S7
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Post Spike (B1C0646-PS1)

Source: 1030536-15

Mercury	3.3		ug/L	4.00	ND	82	80-120			S7
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Post Spike (B1C0646-PS3)

Source: 1030536-06

Mercury	3.9		ug/L	4.00	ND	98	80-120			
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Post Spike (B1C0646-PS4)

Source: 1030536-07

Mercury	3.9		ug/L	4.00	ND	97	80-120			
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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
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Batch B1C0646 - EPA 7470A

Post Spike (B1C0646-PS5)

Source: 1030536-13

Mercury	3.3		ug/L	4.00	ND	82	80-120			S7
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Post Spike (B1C0646-PS6)

Source: 1030536-14

Mercury	3.2		ug/L	4.00	ND	81	80-120			S7
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Post Spike (B1C0646-PS7)

Source: 1030536-16

Mercury	3.6		ug/L	4.00	ND	89	80-120			
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
Reported: 03/17/21 10:37

Sample Preparation Data

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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536
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.

Chain of Custody



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

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	W	J	MO	HF
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
<i>S. Brown</i>	35594	3/8/21	1200	<i>FEDGX</i>			
<i>FEDGX</i>				<i>OSL</i>		3/9/21	1255

Sample Receiving (Internal Use Only)
TEMP (°C): 17.6 Initial: ca

Correct pH: Yes No

Preservative Lot#:

Date/Time/Init for preservative:

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TH/4 <input type="checkbox"/> NH ₃ -N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO ₂ <input type="checkbox"/> Br <input type="checkbox"/> NO ₃ <input type="checkbox"/> SO ₄	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO ₄) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Total Oil/Grease <input type="checkbox"/> Sulfur <input type="checkbox"/> Chlorine <input type="checkbox"/> Ash <input type="checkbox"/> Dissolved Metals <input type="checkbox"/> IPT <input type="checkbox"/> Dissolved Metals <input type="checkbox"/> Used Oil <input type="checkbox"/> Phosphorus <input type="checkbox"/> Metals as oil <input type="checkbox"/> (As, Cd, Cr, Cu, Pb, Hg) <input type="checkbox"/> IS <input type="checkbox"/> COVER
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
 Preservative code- 1=<4°C 2=HNO₃ 3=H₂SO₄ 4-HCl 5=Na₂S₂O₃ 6-Other (Specify)



Chain of Custody

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

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				
AE96409	WAP-24	3/2/21	1128	DEW i3-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
<i>Admission</i>	35594	3/8/21	1200	<i>FEDSO</i>			
<i>FEDSO</i>				<i>CEL</i>		3/19/21	1255

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

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients TOC DOC TP-TP04 NH3-N T EI NO2 Br NO3 SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum (all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans. Oil Qual <input type="checkbox"/> % Moisture <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Radioactive Strontium (P) <input type="checkbox"/> Dissolved Gases Used Oil <input type="checkbox"/> Flashpoint <input type="checkbox"/> Metals in oil <input type="checkbox"/> TAN/TBN/NOx (P) <input type="checkbox"/> VV COFER
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
 Preservative code- 1=<4°C 2=HNO3 3=H2SO4 4-HCl 5=Na2S2O3 6-Other (Specify)



Sample Receipt Verification

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

Carrier Name: Client FedEx UPS US Mail Courier Field Services Other: _____
Tracking Number: 804137735722

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

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

Comments:

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



Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	Project:	Ground Water
		Work Order:	1040743
		Received:	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
Project Manager

This report may not be reproduced, except in full, without written permission from Rogers & Callcott, Inc.

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

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an employee-owned company



Certificate of Analysis

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

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

Project: Ground Water
Work Order: 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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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



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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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



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1 Riverwood Dr.
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Project: Ground Water
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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



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Project: Ground Water
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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



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1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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
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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			



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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			



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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
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Batch B1D0679 - EPA 7470A

Post Spike (B1D0679-PS6) Source: 1040743-06

Mercury	3.5		ug/L	4.00	ND	86	80-120			
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Post Spike (B1D0679-PS7) Source: 1040743-07

Mercury	3.6		ug/L	4.00	ND	89	80-120			
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Post Spike (B1D0679-PS8) Source: 1040743-10

Mercury	3.9		ug/L	4.00	ND	98	80-120			
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Post Spike (B1D0679-PS9) Source: 1040743-11

Mercury	3.8		ug/L	4.00	ND	96	80-120			
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Post Spike (B1D0679-PSA) Source: 1040743-12

Mercury	3.7		ug/L	4.00	ND	91	80-120			
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Post Spike (B1D0679-PSB) Source: 1040743-13

Mercury	3.8		ug/L	4.00	ND	93	80-120			
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Batch B1D0837 - EPA 3005A

Blank (B1D0837-BLK1)

Boron	ND	15	ug/L							
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LCS (B1D0837-BS1)

Boron	210	15	ug/L	250		82	80-120			
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LCS Dup (B1D0837-BSD1)

Boron	240	15	ug/L	250		95	80-120	14	20	
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Matrix Spike (B1D0837-MS1) Source: 1040743-03

Boron	1800	75	ug/L	1250	850	80	75-125			
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Matrix Spike (B1D0837-MS2) Source: 1040743-12

Boron	4600	75	ug/L	1250	3300	105	75-125			
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Santee Cooper
1 Riverwood Dr.
Moncks Comer, SC 29461

Project: Ground Water
Work Order: 1040743
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
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Batch B1D0837 - EPA 3005A

Matrix Spike Dup (B1D0837-MSD1) Source: 1040743-03

Boron	2000	75	ug/L	1250	850	93	75-125	8	20	
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Matrix Spike Dup (B1D0837-MSD2) Source: 1040743-12

Boron	4600	75	ug/L	1250	3300	102	75-125	0.9	20	
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Post Spike (B1D0837-PS1) Source: 1040743-03

Boron	3200	75	ug/L	2500	850	95	75-125			
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Post Spike (B1D0837-PS2) Source: 1040743-12

Boron	5900	75	ug/L	2500	3300	105	75-125			
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1040743
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.

Chain of Custody

1040743



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

1040743

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

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>Sibrown</i>	35594	4/12/21	1200	<i>LCW</i>		4/12/21	1200
<i>Felder</i>		4/14/21	0920	<i>Nelson Rose</i>		4/14/21	0920

Sample Receiving (Internal Use Only)
 TEMP (°C): 19.2 Initial:
 Correct pH: Yes No
 Preservative Lot#:
 Date/Time/Init for preservative:

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients TOC DOC TP/TPO NH ₄ -N F Cl NO ₂ Br NO ₃ SEH	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO ₄) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Total Oil/Grease <input type="checkbox"/> % Moisture <input type="checkbox"/> Lead <input type="checkbox"/> Sulfur <input type="checkbox"/> Soluble <input type="checkbox"/> Total Solids <input type="checkbox"/> pH <input type="checkbox"/> Ammonia <input type="checkbox"/> Lead Dil <input type="checkbox"/> Total Solids <input type="checkbox"/> Moisture <input type="checkbox"/> % Moisture <input type="checkbox"/> TSS
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
 Preservative code- 1=<4°C 2=HNO₃ 3=H₂SO₄ 4-HCl 5=Na₂S₂O₃ 6-Other (Specify)

Chain of Custody

1040743



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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle Type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments	B	L	Mo	Hg
AF00693	WLF-A2-6	4/8/21	1527	DEW/MG	1	P	G	GW	2	B, Li, Mo 6010 -010	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
<i>Sjbrown</i>	35594	4/12/21	1200	<i>Fedex</i>		4/12/21	1200
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>Fedex</i>		4/14/21	0920	<i>Abraham Rose</i>		4/14/21	0920

Sample Receiving (Internal Use Only)
 TEMP (°C): 19.2 Initial:
 Correct pH: Yes No
 Preservative Lot#:
 Date/Time/Init for preservative:

☐ METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients TOC DOC TP/TP01 NH ₄ -N F Cl NO ₂ BF NO ₃ SO ₄	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum (all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO ₄) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfides <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans Oil Qual. Total Oil Qual. Total Oil Total Oil Total Oil Total Oil Total Oil Total Oil Total Oil Total Oil
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
 Preservative code- 1=<4C 2=HNO₃ 3=H₂SO₄ 4-HCl 5=Na₂S₂O₃ 6-Other (Specify)



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

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

Comments:

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



Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	Project:	Ground Water
		Work Order:	1080231
		Received:	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
Project Manager

This report may not be reproduced, except in full, without written permission from Rogers & Callcott, Inc.

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



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: 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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080231
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	Analized	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	Analized	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	Analized	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	Analized	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	Analized	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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080231
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080231
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
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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							
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LCS (B1H0392-BS1)

Mercury	5.1	0.20	ug/L	5.00		102	80-120			
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Matrix Spike (B1H0392-MS1) Source: 1080231-08

Mercury	4.9	0.20	ug/L	5.00	ND	97	75-125			
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080231
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
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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	
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Post Spike (B1H0392-PS1) Source: 1080231-08

Mercury	3.8		ug/L	4.00	ND	95	80-120			
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Batch B1H0482 - EPA 3005A

Blank (B1H0482-BLK1)

Lithium	ND	10	ug/L							
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LCS (B1H0482-BS1)

Lithium	499	10	ug/L	500		100	80-120			
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Matrix Spike (B1H0482-MS1) Source: 1080231-05

Lithium	715	10	ug/L	500	40	135	75-125			S1
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Matrix Spike Dup (B1H0482-MSD1) Source: 1080231-05

Lithium	717	10	ug/L	500	40	135	75-125	0.4	20	S1
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Post Spike (B1H0482-PS1) Source: 1080231-05

Lithium	0.703		mg/L	0.500	ND	133	75-125			S1
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080231
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080231
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.



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

Chain of Custody

1080231

Customer Email/Report Recipient: _____ Date Results Needed by: _____ Project/Task/Unit #: _____ Rerun request for any flagged QC

LCWILLIA @santecooper.com _____ / _____ / _____ 121567 / JMO2.09.681 / 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	B	U	M	H
AF09053	WAP-4	7/19/21	1124	BRT/CNS	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		1346		1							X		
AF09069	WAP-14C		1531		1							X		
AF09068	WAP-14B		1634		1							X		
AF09050	WAP-1	7/20/21	1228	MDS/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
<i>Sibrown</i>	85594	8/2/21	1530	FedEx			
FedEx		8-3-21	0915	<i>[Signature]</i>		8-3-21	0915

Sample Receiving (Internal Use Only)
TEMP (°C): 24.4 Initial: _____
Correct pH: Yes No
Preservative Lot#: _____
Date/Time/Init for preservative: _____

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP-TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard (Gypsum/all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Party (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans. Oil Qual. <input type="checkbox"/> Moisture <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Density, Strength <input type="checkbox"/> IFI <input type="checkbox"/> Dissolved Gases Used Oil <input type="checkbox"/> Phosphorus <input type="checkbox"/> Metals in oil (As, Cu, Cr, Ni, Pb, Hg) TX GOREX
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
 Preservative code- 1=<4°C 2=HNO3 3=H2SO4 4-HCl 5=Na2S2O3 6-Other (Specify)



Sample Receipt Verification

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

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

Tracking Number: _____

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

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

Comments: _____

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



Laboratory Report

Client	Santee Cooper Linda Williams 1 Riverwood Dr. Moncks Corner, SC 29461	Project:	Ground Water
		Work Order:	1080871
		Received:	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
Project Manager

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

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an employee-owned company



Certificate of Analysis

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

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

Project: Ground Water
Work Order: 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



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ENVIRONMENTAL

Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



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ENVIRONMENTAL

Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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	Analized	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	Analized	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	Analized	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	Analized	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



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ENVIRONMENTAL

Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



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ENVIRONMENTAL

Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



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ENVIRONMENTAL

Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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	Analized	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	Analized	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	Analized	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	Analized	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
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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
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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			



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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
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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	SS
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							
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Santee Cooper
1 Riverwood Dr.
Moncks Comer, SC 29461

Project: Ground Water
Work Order: 1080871
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
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Batch B1H0833 - EPA 7470A

LCS (B1H0833-BS1)

Mercury	5.0	0.20	ug/L	5.00		99	80-120			
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Matrix Spike (B1H0833-MS1) Source: 1080871-01

Mercury	4.2	0.20	ug/L	5.00	ND	83	75-125			
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Matrix Spike (B1H0833-MS2) Source: 1080871-02

Mercury	5.0	0.20	ug/L	5.00	ND	101	75-125			
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Matrix Spike Dup (B1H0833-MSD1) Source: 1080871-01

Mercury	4.2	0.20	ug/L	5.00	ND	83	75-125	0.2	20	
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Matrix Spike Dup (B1H0833-MSD2) Source: 1080871-02

Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125	0.9	20	
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Post Spike (B1H0833-PS1) Source: 1080871-01

Mercury	3.2		ug/L	4.00	ND	81	80-120			
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Post Spike (B1H0833-PS2) Source: 1080871-02

Mercury	3.8		ug/L	4.00	ND	95	80-120			
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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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



Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1080871
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.

Chain of Custody

1080811



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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments	B	LI	MO	HF
AF09085	WLF-A1-1 -01	8/5/21	1246	BRT/ BWM							X	X	X	X
AF09086	WAP-7 -02	8/10/21	1500	MDS/ 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-A1-2 106	8/11/21	1385	MDS/ GWS							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

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>SJBrown</i>	35594	8/12/21	1500	<i>W. Feder</i>			
<i>Feder</i>				<i>W. Feder</i>		8/13/21	0905

MAN 8/13/21

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

<input type="checkbox"/> Ag <input type="checkbox"/> Al <input type="checkbox"/> As <input type="checkbox"/> B <input type="checkbox"/> Ba <input type="checkbox"/> Be <input type="checkbox"/> Ca <input type="checkbox"/> Cd <input type="checkbox"/> Co <input type="checkbox"/> Cr	<input type="checkbox"/> Cu <input type="checkbox"/> Fe <input type="checkbox"/> K <input type="checkbox"/> Li <input type="checkbox"/> Mg <input type="checkbox"/> Mn <input type="checkbox"/> Na <input type="checkbox"/> Ni <input type="checkbox"/> Pb	<input type="checkbox"/> Sb <input type="checkbox"/> Se <input type="checkbox"/> Sn <input type="checkbox"/> Sr <input type="checkbox"/> Ti <input type="checkbox"/> Tl <input type="checkbox"/> V <input type="checkbox"/> Zn <input type="checkbox"/> Hg <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TP04 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wellboard <input type="checkbox"/> Gypsum (all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Pump (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUS <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> AS <input type="checkbox"/> TSS	Cl Units of Calc. Chloride Chlor Arsenic Arsenic Arsenic Arsenic Used Cl Chloride Chloride Chloride Chloride Chloride Chloride
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FedEx 8153 6791 5397 *MA 8/13/21*

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section).
 Preservative code- 1=<4°C 2=HNO3 3=H2SO4 4-HCl 5=Na2S2O3 6-Other (Specify)

Chain of Custody

1080871
cont



Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by: Project/Task/Unit #: 121567 / JMO2.09.601 / 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	B	J	M	LF
AF09052	WAP-3	10/10	7/29/21	1235	MDS/BRT	P	G	GW	2		X			
AF09071	WAP-16	-11	1	1538							X	X		
AF09064	WAP-13	-12	1	1129							X			
AF09062	WAP-12	-13	1	1354							X			
AF09063	WAP-12 DUP	-14	1	1359							X			
AF09080	WAP-24	-15	8/2/21	1250	MDS/BRT							X	X	
AF09059	WAP-10	-16	1	1134							X	X	X	
AF09060	WAP-10 DUP	-17	1	1139							X	X	X	
AF09058	WAP-9	-18	1	1339							X	X	X	
AF09072	WAP-17	-19	1	1512							X	X	X	

Relinquished by:	Employee #	Date	Time	Received by:	Employee #	Date	Time
<i>SJBrown</i>	35594	8/12/21	1500	<i>FedEx</i>			
<i>FedEx</i>				<i>[Signature]</i>		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: _____

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TP04 <input type="checkbox"/> NH3-N <input type="checkbox"/> P <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum (all below) <input type="checkbox"/> T AM <input type="checkbox"/> T OC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfates <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUS <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> AS <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Trans. Oil Qual. <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Distilled Oil <input type="checkbox"/> Washed <input type="checkbox"/> Methanol <input type="checkbox"/> (ASTM D 153) <input type="checkbox"/> PX <input type="checkbox"/> GOMER
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MATRIX codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO3 3=H2SO4 4-HCl 5=Na2S2O3 6-Other (Specify)

8/12/21
3077
2 of 3

Chain of Custody

1080871
cont



Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by: Project/Task/Unit #: 121567 / JM02.09.081 / 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	B	J	M	Hg
AF09073	WAP-17 DUP -20	8/2/21	MDS BRT	1517	1	P	G	GW	2		X	X	X	
AF09079	WAP-23 -21	8/3/21	1236	BRT CWS								X	X	
AF09077	WAP-21 -22		1130								X	X	X	
AF09075	WAP-19 -23		1627								X	X	X	
AF09078	WAP-22 -24	8/4/21	1331	MDS 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
<i>SJBrown</i>	35594	8/12/21	1500	<i>FedEx</i>			
<i>FedEx</i>				<i>Michael</i>		8/13/21	0925

Sample Receiving (Internal Use Only)
TEMP (°C): 21.4 Initial: MA
Correct pH: Yes No
Preservative Lot#: _____
Date/Time/Init for preservative: _____

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TP04 <input type="checkbox"/> NH3-N <input type="checkbox"/> P <input type="checkbox"/> C <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum (all below) <input type="checkbox"/> AM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> AS <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Gross Oil Qual <input type="checkbox"/> Metals <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Oil strength <input type="checkbox"/> Dissolved bases <input type="checkbox"/> Lead Oil <input type="checkbox"/> Infrared <input type="checkbox"/> Metals <input type="checkbox"/> A-Gal <input type="checkbox"/> Sulfur <input type="checkbox"/> H2S <input type="checkbox"/> GOFBR
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)
Preservative code- 1=<4°C 2=HNO3 3=H2SO4 4=HCl 5=Na2S2O3 6=Other (Specify)

283



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

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

Comments: _____

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



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.

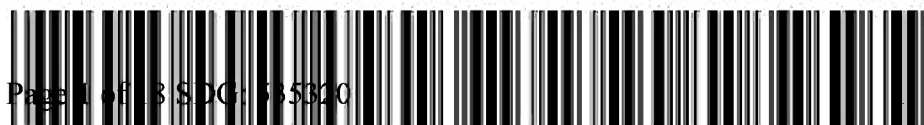
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without 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
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
 Sample ID: 535320002
 Matrix: Ground Water
 Collect Date: 16-FEB-21 14:25
 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	1.83	+/-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

GEL LABORATORIES LLC

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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
 Sample ID: 535320003
 Matrix: Ground Water
 Collect Date: 16-FEB-21 15:30
 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	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
 Sample ID: 535320004
 Matrix: Ground Water
 Collect Date: 15-FEB-21 13:37
 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	1.34	+/-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
 Sample ID: 535320005
 Matrix: Ground Water
 Collect Date: 15-FEB-21 14:40
 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		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
 Sample ID: 535320006
 Matrix: Ground Water
 Collect Date: 15-FEB-21 12:21
 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	+/-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

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: 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

GEL LABORATORIES LLC

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

QC Summary

Report Date: March 19, 2021

Page 1 of 2

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

Contact:
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.

GEL LABORATORIES LLC

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

QC Summary

Workorder: 535320

Page 2 of 2

Parname	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.								
NI			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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.

Chain of Custody

535320



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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC
AE96403	WAP-18	2/16/21	1133	MDE/ DEW	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	DEW/ BSB	2								
AE96389	WAP-10 DUP		1402										
AE96406	WAP-21		1235										

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>Sjbrown</i>	35574	2/19/21	0954	<i>GEL</i>	GEL	2/19/21	0954
<i>GEL</i>	666	2/19/21	11:21	<i>GEL</i>	GEL	2/19/21	11:21

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

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans. Oil Qual. <input type="checkbox"/> % Moisture Color Acidity Dielectric Strength IFT Dissolved Gases Used Oil Flashpoint Metals in oil (As, Cd, Cr, Ni, Pb, Hg) TX GOFER
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SAMPLE RECEIPT & REVIEW FORM

J.R.

Client: **SOOP** SDG/AR/COC/Work Order: **535320**

Received By: **Tye** 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	No	Comments/Qualifiers (Required for Non-Conflicting Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Method: Wet Ice Ice Packs Dry Ice None Other: _____ *all temperatures are recorded in Celsius TEMP: 110°C
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: IR3-19 Secondary Temperature Device Serial # (If Applicable): _____
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, List#: 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 full of headspace? Yes ___ No ___ NA ___
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
8 Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

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



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
Project Manager

Purchase Order: 367074
Enclosures



GEL LABORATORIES LLC

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

Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 536093 GEL Work Order: 536093

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

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

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

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

Reviewed by _____

Julie Robinson

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: March 26, 2021

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

Project: SOOP00119
 Client ID: SOOP001

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

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: March 26, 2021

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

Project: SOOP00119
 Client ID: SOOP001

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

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: March 26, 2021

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

Project: SOOP00119
 Client ID: SOOP001

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

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: March 26, 2021

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

Project: SOOP00119
 Client ID: SOOP001

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

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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QC Summary

Report Date: March 26, 2021

Page 1 of 2

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

Contact:
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.

GEL LABORATORIES LLC

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QC Summary

Workorder: 536093

Page 2 of 2

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H											
J											
J											
K											
L											
M											
M											
N/A											
NI											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.

536093

Chain of Custody



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

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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	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
<i>Sibrown</i>	35594	2/26/21	0947	<i>GEL</i>	GEL	2/26/21	0947
<i>GEL</i>	GEL	2/26/21	1334	<i>ATH</i>		2/26/21	1334

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

<input type="checkbox"/> Ag <input type="checkbox"/> Al <input type="checkbox"/> As <input type="checkbox"/> B <input type="checkbox"/> Ba <input type="checkbox"/> Be <input type="checkbox"/> Ca <input type="checkbox"/> Cd <input type="checkbox"/> Co <input type="checkbox"/> Cr	<input type="checkbox"/> Cu <input type="checkbox"/> Fe <input type="checkbox"/> K <input type="checkbox"/> Li <input type="checkbox"/> Mg <input type="checkbox"/> Mn <input type="checkbox"/> Mo <input type="checkbox"/> Na <input type="checkbox"/> Ni <input type="checkbox"/> Pb	<input type="checkbox"/> Sb <input type="checkbox"/> Se <input type="checkbox"/> Sn <input type="checkbox"/> Sr <input type="checkbox"/> Ti <input type="checkbox"/> Tl <input type="checkbox"/> V <input type="checkbox"/> Zn <input type="checkbox"/> Hg <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> AS <input type="checkbox"/> TSS	Oil Trans. Oil Qual. % Moisture Color Acidity Dielectric Strength JFI Dissolved Gases Used Oil Flashpoint Metals in oil (As, Cd, Cr, Ni, Pb, Hg) IXL GOPER
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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-H2O2 2-HNO3 3-H2SO4 4-HCl 5=Na2S2O3 6-Other (Specify)

SAMPLE RECEIPT & REVIEW FORM

Client: SOOP		SDG/AR/COC/Work Order: 536093	
Received By: STACY BOONE		Date Received: FEBRUARY 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): <u> </u> CPN / 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
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>		
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>		
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>		
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>		
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>		
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>		
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>		
8 Samples received within holding time?	<input checked="" type="checkbox"/>		
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>		
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>		
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>		
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>		
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>		
Comments (Use Continuation Form if needed):			

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

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



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.

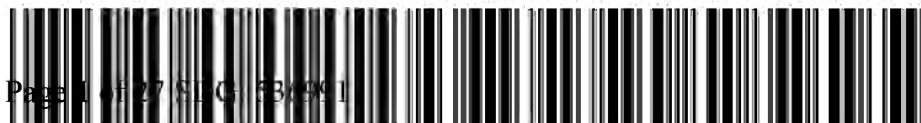
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without 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
Project Manager

Purchase Order: 367074
Enclosures



GEL LABORATORIES LLC

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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



GEL LABORATORIES LLC

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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: 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

GEL LABORATORIES LLC

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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

GEL LABORATORIES LLC

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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

GEL LABORATORIES LLC

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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

GEL LABORATORIES LLC

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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

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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: AE96419
 Sample ID: 536991009
 Matrix: Ground Water
 Collect Date: 02-MAR-21 14:01
 Receive Date: 05-MAR-21
 Collector: Client

Project: SOOP00119
 Client ID: SOOP001

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

The following Analytical Methods were performed:

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

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

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

Column headers are defined as follows:

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

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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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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

GEL LABORATORIES LLC

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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

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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: 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

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QC Summary

Report Date: April 1, 2021

Page 1 of 2

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

Contact:
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.

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QC Summary

Workorder: 536991

Page 2 of 2

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H											
J											
J											
K											
L											
M											
M											
N/A											
NI											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.



Chain of Custody

530991

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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments	RAD 226	RAD 228	TOTAL RAD CALC
AE96394	WAP-14	2/25/21	1110	DEW/ MDS	2	P	G	GW	2	• Method # • Reporting limit • Misc. sample info • Any other notes	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
<i>SJBrown</i>	35594	3/5/21	0959	<i>[Signature]</i>	GEL	3/5/21	0959
<i>[Signature]</i>	GEL	3-5-21	1345	<i>H. Hume</i>	GEL	3-5-21	1345

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

METALS (all)			Nutrients	MISC.	Gypsum	Coal	Flyash	Oil
<input type="checkbox"/> Ag	<input type="checkbox"/> Cu	<input type="checkbox"/> Sb	<input type="checkbox"/> TOC	<input type="checkbox"/> BTEX	<input type="checkbox"/> Wallboard	<input type="checkbox"/> Ultimate	<input type="checkbox"/> Ammonia	Trans. Oil Qual.
<input type="checkbox"/> Al	<input type="checkbox"/> Fe	<input type="checkbox"/> Se	<input type="checkbox"/> DOC	<input type="checkbox"/> Napthalene	<input type="checkbox"/> Gypsum(all below)	<input type="checkbox"/> % Moisture	<input type="checkbox"/> LOI	% Moisture
<input type="checkbox"/> As	<input type="checkbox"/> K	<input type="checkbox"/> Sn	<input type="checkbox"/> TP/TPO4	<input type="checkbox"/> THM/HAA	<input type="checkbox"/> AIM	<input type="checkbox"/> Ash	<input type="checkbox"/> % Carbon	Color
<input type="checkbox"/> B	<input type="checkbox"/> Li	<input type="checkbox"/> Sr	<input type="checkbox"/> NH3-N	<input type="checkbox"/> VOC	<input type="checkbox"/> TOC	<input type="checkbox"/> Sulfur	<input type="checkbox"/> Mineral Analysis	Acidity
<input type="checkbox"/> Ba	<input type="checkbox"/> Mg	<input type="checkbox"/> Ti	<input type="checkbox"/> F	<input type="checkbox"/> Oil & Grease	<input type="checkbox"/> Total metals	<input type="checkbox"/> BTUs	<input type="checkbox"/> Sieve Analysis	Defecative Strength (W)
<input type="checkbox"/> Be	<input type="checkbox"/> Mn	<input type="checkbox"/> Tl	<input type="checkbox"/> Cl	<input type="checkbox"/> E. Coli	<input type="checkbox"/> Soluble Metals	<input type="checkbox"/> Volatile Matter	<input type="checkbox"/> Sieve	Dissolved Gases
<input type="checkbox"/> Ca	<input type="checkbox"/> Mo	<input type="checkbox"/> V	<input type="checkbox"/> NO2	<input type="checkbox"/> Total Coliform	<input type="checkbox"/> Purity (CaSO4)	<input type="checkbox"/> CHN	<input type="checkbox"/> % Moisture	Used Oil
<input type="checkbox"/> Cd	<input type="checkbox"/> Na	<input type="checkbox"/> Zn	<input type="checkbox"/> Br	<input type="checkbox"/> pH	<input type="checkbox"/> % Moisture	Other Tests:	NPDES	Flashpoint
<input type="checkbox"/> Co	<input type="checkbox"/> Ni	<input type="checkbox"/> Hg	<input type="checkbox"/> NO3	<input type="checkbox"/> Dissolved As	<input type="checkbox"/> Sulfites	<input type="checkbox"/> XRF Scan	<input type="checkbox"/> Oil & Grease	Metal in oil
<input type="checkbox"/> Cr	<input type="checkbox"/> Pb	<input type="checkbox"/> CrVI	<input type="checkbox"/> SO4	<input type="checkbox"/> Dissolved Fe	<input type="checkbox"/> Chlorides	<input type="checkbox"/> HGI	<input type="checkbox"/> As	(As, Cd, Cr, Ni, Pb, Hg)
				<input type="checkbox"/> Rad 226	<input type="checkbox"/> Particle Size	<input type="checkbox"/> Fineness	<input type="checkbox"/> TSS	IN
				<input type="checkbox"/> Rad 228	<input type="checkbox"/> Sulfur	<input type="checkbox"/> Particulate Matter		GDPLR
				<input type="checkbox"/> PCB				

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)



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

Chain of Custody

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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 228	TOTAL RAD CALC.
AE96402	WAP-17 DUP	↓	1053	↓	↓	↓	↓	↓	↓		↓	↓	↓
AE96413	WW-A1-1	3/3/21	1006	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
<i>M. Brown</i>	35594	3/5/21	0959	<i>DEW</i>	GEL	3/5/21	0959
<i>DEW</i>	666	3-5-21	1345	<i>M. Brown</i>	GEL	3-5-21	1345

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

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans. Oil Qual. <input type="checkbox"/> % Moisture Color Acidity Dynamic Strength IFI Dissolved Gases Used Oil Flashpoint Metals in oil (As, Cd, Cr, Ni, Pb, Hg) TX GOFIR
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid,

C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)

Preservative Code: 1=HNO3 2=H2SO4 3=HCl 4=HCl 5=Na2S2O3 6=Other (Specify)



SAMPLE RECEIPT & REVIEW FORM

Client: 608 SDG/AR/COC/Work Order: 530991

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?
B) Did the client designate the samples are to be received as radioactive?
C) Did the RSO classify the samples as radioactive?
D) Did the client designate samples are hazardous?
E) Did the RSO identify possible hazards?

Table with columns: Sample Receipt Criteria, Yes, NA, No, Comments/Qualifiers (Required for Non-Conforming Items). Rows 1-13 detailing shipping and handling criteria.

Comments (Use Continuation Form if needed):

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

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



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.

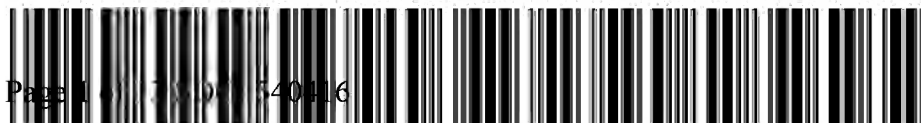
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without 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
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

Page 1 of 2

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

Contact:
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.

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QC Summary

Workorder: 540416

Page 2 of 2

Parname	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.								
NI		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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.

Chain of Custody 540416



Customer Email/Report Recipient: LCWILLIA@santecooper.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	RAD 226	RAD 228	TOTAL RAD CALC
AF00693	WLF-A2-6	4/8/21	1527	DEW/MDE	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
<i>[Signature]</i>	35594	4/9/21	1015	<i>[Signature]</i>	GEL	4/9/21	1015
Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>[Signature]</i>	GEL	4/9/21	1324	<i>[Signature]</i>	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: _____

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	<input type="checkbox"/> Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	<input type="checkbox"/> MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	<input type="checkbox"/> Gypsum <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	<input type="checkbox"/> Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	<input type="checkbox"/> Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	<input type="checkbox"/> Oil <input type="checkbox"/> Trans. Oil Qual. <input type="checkbox"/> % Moisture <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Dynamic Strength <input type="checkbox"/> IFT <input type="checkbox"/> Dissolved Gases <input type="checkbox"/> Used Oil <input type="checkbox"/> Flashpoint <input type="checkbox"/> Metals in oil (As, Cd, Cr, Ni, Pb, Hg) <input type="checkbox"/> TX <input type="checkbox"/> GOFER
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid, C-coal, G-gypsum, FA-flyash, BA-bottom ash, M-misc (describe in comment section)

SAMPLE RECEIPT & REVIEW FORM

Client: SDGP		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 <u>Courier</u> 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?		<input checked="" type="checkbox"/> 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?		<input checked="" type="checkbox"/> 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	No
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comments (Use Continuation Form if needed):			

PM (or PMA) review: Initials NRG Date 4/12/21 Page 1 of 1

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



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.

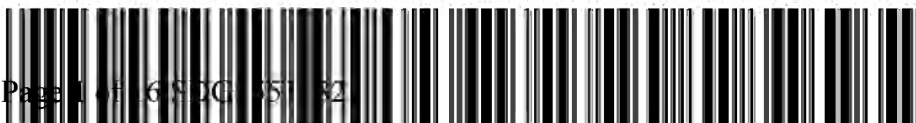
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without 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
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	Project:	SOOP00119
Sample ID:	551182001	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	19-JUL-21 11:24		
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	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			LXPI	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

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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:	AF09070	Project:	SOOP00119
Sample ID:	551182002	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	19-JUL-21 10:30		
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	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			LXPI	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

GEL LABORATORIES LLC

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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			LXPI	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

GEL LABORATORIES LLC

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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			LXPI	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

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:	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			LXPI	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

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:	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			LXPI	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			LXPI	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

GEL LABORATORIES LLC

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QC Summary

Report Date: August 26, 2021

Page 1 of 2

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

Contact:
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.

GEL LABORATORIES LLC

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

QC Summary

Workorder: 551182

Page 2 of 2

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H											
J											
J											
K											
L											
M											
M											
N/A											
NI											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.

Chain of Custody

551182



Customer Email/Report Recipient:

Date Results Needed by:

Project/Task/Unit #:

Rerun request for any flagged QC

LCWILLIA @santecooper.com

121567 / JM02.09.091 / 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	Analysis Group		
											RAD 226	RAD 228	TOTAL RAD CALC
AF09053	WAP-4	7/19/21	1124	BRT/ CNS	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	MDS/ BRT									
AF09051	WAP-2		1328										
AF09083	WBW-1		1107										

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
SJBrown	35574	7/30/21	1230	[Signature]	GEL	7/30/21	1230
[Signature]	666	7/30/21	1327	[Signature]	GEL	7/30/21	1327

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

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Br <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum/all below <input type="checkbox"/> AM <input type="checkbox"/> DO <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfates <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Trans. Oil Qual. <input type="checkbox"/> Viscosity <input type="checkbox"/> Color <input type="checkbox"/> Acidity <input type="checkbox"/> Distillate <input type="checkbox"/> BTU <input type="checkbox"/> Dissolved Gases <input type="checkbox"/> Used Oil <input type="checkbox"/> Flashpoint <input type="checkbox"/> Moisture <input type="checkbox"/> (As, Cd, Cr, Hg, Pb) <input type="checkbox"/> TSS <input type="checkbox"/> 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=HNO3 3=H2SO4 4=HCl 5=Na2S2O3 6=Other (Specify)

SAMPLE RECEIPT & REVIEW FORM

Client: DS 9/30/21 BELLE SDOOP 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? Yes No Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___

B) Did the client designate the samples to be received as radioactive? Yes No COC notation or radioactive stickers on containers equal client designation.

C) Did the RSO classify the samples as radioactive? Yes No 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? Yes No COC notation or hazard labels on containers equal client designation.

E) Did the RSO identify possible hazards? Yes No 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: <u>22°C</u>
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>125-21</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	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

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



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.

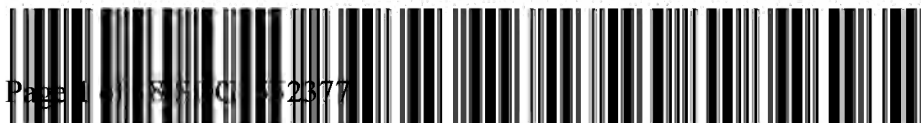
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without 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
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			LXPI	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			LXPI	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

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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:	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			LXPI	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			LXPI	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

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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:	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			LXPI	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

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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:	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			LXPI	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			LXPI	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

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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:	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			LXPI	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

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QC Summary

Report Date: September 8, 2021

Page 1 of 2

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

Contact:
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.

GEL LABORATORIES LLC

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QC Summary

Workorder: 552377

Page 2 of 2

Parname	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.								
NI			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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.



Chain of Custody

552377

Customer Email/Report Recipient: LCWILLIA@santecooper.com Date Results Needed by: Project/Task/Unit #: 121567 / JM02.09. G#1 / 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
AF09059	WAP-10	8/2/21	1134	MDE/ 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		1517										
AF09077	WAP-21	8/3/21	1130	BRT/ CWS									
AF09075	WAP-19		1627										
AF09091	WLF-A2-6	8/4/21	1502	MDE/ BRT									
AF09092	WLF-A2-6 DUP		1507										

Relinquished by:	Employee#	Date	Time	Received by:	Employee #	Date	Time
<i>SJBrown</i>	35594	8/10/21	1055	<i>GEL</i>	GEL	8/10/21	1055
<i>GEL</i>	66L	8-10-21	1633	<i>GEL</i>	GEL	8/10/21	1633

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

METALS (all)			Nutrients	MISC.	Gypsum	Coal	Flyash	Oil
<input type="checkbox"/> Ag	<input type="checkbox"/> Cu	<input type="checkbox"/> Sb	TOC	<input type="checkbox"/> BTEX	Wallboard	<input type="checkbox"/> Ultimate	<input type="checkbox"/> Ammonia	Trans. Oil Qual.
<input type="checkbox"/> Al	<input type="checkbox"/> Fe	<input type="checkbox"/> Se	DOC	<input type="checkbox"/> Napthalene	Gypsum(all below)	<input type="checkbox"/> % Moisture	<input type="checkbox"/> LOI	% Moisture
<input type="checkbox"/> As	<input type="checkbox"/> K	<input type="checkbox"/> Sn	TP TPO4	<input type="checkbox"/> THM/HAA	AIM	<input type="checkbox"/> Ash	<input type="checkbox"/> % Carbon	Color
<input type="checkbox"/> B	<input type="checkbox"/> Li	<input type="checkbox"/> Sr	NH3-N	<input type="checkbox"/> VOC	TOC	<input type="checkbox"/> Sulfur	<input type="checkbox"/> Mineral Analysis	Acidity
<input type="checkbox"/> Ba	<input type="checkbox"/> Mg	<input type="checkbox"/> Ti	F	<input type="checkbox"/> Oil & Grease	Total metals	<input type="checkbox"/> BTUS	<input type="checkbox"/> Sieve Analysis	Viscosity Strength
<input type="checkbox"/> Be	<input type="checkbox"/> Mn	<input type="checkbox"/> Tl	Cl	<input type="checkbox"/> E. Coli	Soluble Metals	<input type="checkbox"/> Volatile Matter	<input type="checkbox"/> % Moisture	IEI
<input type="checkbox"/> Ca	<input type="checkbox"/> Mo	<input type="checkbox"/> V	NO2	<input type="checkbox"/> Total Coliform	Purity (CaSO4)	<input type="checkbox"/> CHN		Dissolved Gases
<input type="checkbox"/> Cd	<input type="checkbox"/> Na	<input type="checkbox"/> Zn	Br	<input type="checkbox"/> pH	% Moisture	Other Tests:		Used Oil
<input type="checkbox"/> Co	<input type="checkbox"/> Ni	<input type="checkbox"/> Hg	NO3	<input type="checkbox"/> Dissolved As	Sulfides	<input type="checkbox"/> XRF Scan	NPDES	Flashpoint
<input type="checkbox"/> Cr	<input type="checkbox"/> Pb	<input type="checkbox"/> CrVI	SO4	<input type="checkbox"/> Dissolved Fe	pH	<input type="checkbox"/> HGI	<input type="checkbox"/> Oil & Grease	Metals in Oil
				<input type="checkbox"/> Rad 226	Chlorides	<input type="checkbox"/> Fineness	<input type="checkbox"/> AS	CA, C, G, N, P, H, I
				<input type="checkbox"/> Rad 228	Particle Size	<input type="checkbox"/> Particulate Matter	<input type="checkbox"/> TSS	IN
				<input type="checkbox"/> PCB	Sulfur			GUER

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)

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



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			LXPI	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			LXPI	08/31/21	0839	2161142	3

The following Analytical Methods were performed:

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

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

Notes:

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: September 7, 2021

Company :	Santee Cooper		
Address :	P.O. Box 2946101		
	OCO3		
	Moncks Corner, South Carolina 29461		
Contact:	Ms. Jeanette Gilmetti		
Project:	ABS Lab Analytical		
Client Sample ID:	AF09090	Project:	SOOP00119
Sample ID:	552374003	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	05-AUG-21 11:38		
Receive Date:	10-AUG-21		
Collector:	Client		

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

Page 1 of 2

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

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.

GEL LABORATORIES LLC

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

QC Summary

Workorder: 552374

Page 2 of 2

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H											
J											
J											
K											
L											
M											
M											
N/A											
NI											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.

Chain of Custody



552374

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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix (see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	Analysis Group		
											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
<i>SJBrown</i>	35594	8/10/21	1055	<i>GEL</i>	GEL	8/10/21	1055
<i>GEL</i>	<i>GEL</i>	8/10/21	1633	<i>GEL</i>	GEL	8/10/21	1633

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

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI	Nutrients TOC DOC TP/TPO4 NH3-N F Cl NO2 Br NO3 SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Naphthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum Wallboard Gypsum(all below) <input type="checkbox"/> AIM <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particulate Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fitness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Sulfur <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> As <input type="checkbox"/> TSS	Oil Trans. Oil Qual Moisture Crude Acidity Distillate Residue IPF Dissolved Gases Used Oil Technical Metals (Fe, Ni, Cu, Cd, Cr, Ni, Pb, Ba) GOLF
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

SR

SAMPLE RECEIPT & REVIEW FORM

Client: <u>SOOP</u>		SDG/A/R/COC/Work Order: <u>552374</u>	
Received By: <u>BE</u>		Date Received: <u>8/10/21</u>	
Carrier and Tracking Number		Circle Applicable: FedEx Express FedEx Ground UPS Field Services <u>Courier</u> Other	
		*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.	
Suspected Hazard Information		Yes	No
A) Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
B) Did the client designate the samples are to be received as radioactive?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
C) Did the RSO classify the samples as radioactive?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
D) Did the client designate samples are hazardous?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
E) Did the RSO identify possible hazards?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
		Hazard Class Shipped: _____ UN#: _____ If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___	
		COC notation or radioactive stickers on containers equal client designation.	
		Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u> CPM/mR/Hr Classified as: Rad 1 Rad 2 Rad 3	
		COC notation or hazard labels on containers equal client designation.	
		If D or E is yes, select Hazards below: PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:	
Sample Receipt Criteria		Yes	NA
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comments (Use Continuation Form if needed):			

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

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



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.

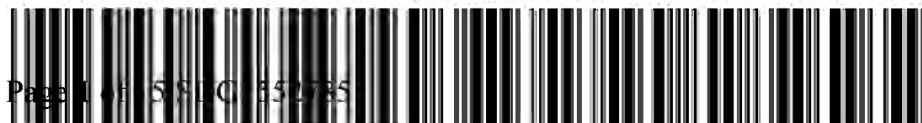
Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without 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
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			LXPI	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

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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:	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			LXPI	08/31/21	1050	2161142	3

The following Analytical Methods were performed:

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

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

Notes:

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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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			LXPI	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

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:	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			LXPI	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			LXPI	08/31/21	1122	2161142	3

The following Analytical Methods were performed:

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

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

Notes:

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

Column headers are defined as follows:

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

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: September 13, 2021

Company :	Santee Cooper		
Address :	P.O. Box 2946101		
	OCO3		
	Moncks Corner, South Carolina 29461		
Contact:	Ms. Jeanette Gilmetti		
Project:	ABS Lab Analytical		
Client Sample ID:	AF09089	Project:	SOOP00119
Sample ID:	552785006	Client ID:	SOOP001
Matrix:	Ground Water		
Collect Date:	11-AUG-21 11:12		
Receive Date:	13-AUG-21		
Collector:	Client		

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

Page 1 of 2

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

Contact:
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.

GEL LABORATORIES LLC

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

QC Summary

Workorder: 552785

Page 2 of 2

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
H											
J											
J											
K											
L											
M											
M											
N/A											
NI											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
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.

Chain of Custody

552785



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

Analysis Group

Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)	Comments • Method # • Reporting limit • Misc. sample info • Any other notes	RAD 226	RAD 229	TOTAL RAD CALC
AF09056	WAP-7	8/10/21	1500	MDE/BSB	2	P	G	GW	2		X	X	X
AF09076	WAP-20	1	1536	1									
AF09086	WLF-A1-2	8/11/21	1335	MDS/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
<i>Sibrown</i>	35574	8/13/21	1105	<i>K. Siff</i>	GEL	8/13/21	1105
<i>R. Siff</i>		8/13/21	1321	<i>Mudry</i>	GEL	8/13/21	1321

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

<input type="checkbox"/> METALS (all) <input type="checkbox"/> Ag <input type="checkbox"/> Cu <input type="checkbox"/> Sb <input type="checkbox"/> Al <input type="checkbox"/> Fe <input type="checkbox"/> Se <input type="checkbox"/> As <input type="checkbox"/> K <input type="checkbox"/> Sn <input type="checkbox"/> B <input type="checkbox"/> Li <input type="checkbox"/> Sr <input type="checkbox"/> Ba <input type="checkbox"/> Mg <input type="checkbox"/> Ti <input type="checkbox"/> Be <input type="checkbox"/> Mn <input type="checkbox"/> Tl <input type="checkbox"/> Ca <input type="checkbox"/> Mo <input type="checkbox"/> V <input type="checkbox"/> Cd <input type="checkbox"/> Na <input type="checkbox"/> Zn <input type="checkbox"/> Co <input type="checkbox"/> Ni <input type="checkbox"/> Hg <input type="checkbox"/> Cr <input type="checkbox"/> Pb <input type="checkbox"/> CrVI			Nutrients <input type="checkbox"/> TOC <input type="checkbox"/> DOC <input type="checkbox"/> TP/TPO4 <input type="checkbox"/> NH3-N <input type="checkbox"/> F <input type="checkbox"/> Cl <input type="checkbox"/> NO2 <input type="checkbox"/> Bi <input type="checkbox"/> NO3 <input type="checkbox"/> SO4	MISC. <input type="checkbox"/> BTEX <input type="checkbox"/> Napthalene <input type="checkbox"/> THM/HAA <input type="checkbox"/> VOC <input type="checkbox"/> Oil & Grease <input type="checkbox"/> E. Coli <input type="checkbox"/> Total Coliform <input type="checkbox"/> pH <input type="checkbox"/> Dissolved As <input type="checkbox"/> Dissolved Fe <input type="checkbox"/> Rad 226 <input type="checkbox"/> Rad 228 <input type="checkbox"/> PCB	Gypsum <input type="checkbox"/> Wallboard <input type="checkbox"/> Gypsum(all below) <input type="checkbox"/> Alk <input type="checkbox"/> TOC <input type="checkbox"/> Total metals <input type="checkbox"/> Soluble Metals <input type="checkbox"/> Purity (CaSO4) <input type="checkbox"/> % Moisture <input type="checkbox"/> Sulfites <input type="checkbox"/> pH <input type="checkbox"/> Chlorides <input type="checkbox"/> Particle Size <input type="checkbox"/> Sulfur	Coal <input type="checkbox"/> Ultimate <input type="checkbox"/> % Moisture <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> BTUs <input type="checkbox"/> Volatile Matter <input type="checkbox"/> CHN Other Tests: <input type="checkbox"/> XRF Scan <input type="checkbox"/> HGI <input type="checkbox"/> Fineness <input type="checkbox"/> Particulate Matter	Flyash <input type="checkbox"/> Ammonia <input type="checkbox"/> LOI <input type="checkbox"/> % Carbon <input type="checkbox"/> Sulfur <input type="checkbox"/> Mineral Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture NPDES <input type="checkbox"/> Oil & Grease <input type="checkbox"/> AS <input type="checkbox"/> TSS	Oil <input type="checkbox"/> Trans. Oil Qual <input type="checkbox"/> 254/400nm <input type="checkbox"/> Color <input type="checkbox"/> % Carbon <input type="checkbox"/> Ash <input type="checkbox"/> Sulfur <input type="checkbox"/> Mineral <input type="checkbox"/> Analysis <input type="checkbox"/> Sieve <input type="checkbox"/> % Moisture <input type="checkbox"/> Used Oil <input type="checkbox"/> Flashpoint <input type="checkbox"/> Vapor Pressure <input type="checkbox"/> Viscosity @ 100 <input type="checkbox"/> (cP) <input type="checkbox"/> Viscosity @ 200 <input type="checkbox"/> (cP)
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Matrix codes: GW-groundwater, DW-drinking water, SW-surface water, WW-waste water, BW-boiler water, L-limestone, Oil-oil, S-Soil, SL-solid,

SAMPLE RECEIPT & REVIEW FORM

Client: <u>SDGP</u>	SDG/AR/COC/Work Order: <u>552785</u>
Received By: <u>BE / NRG</u>	Date Received: <u>8/13/21</u>
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services <u>Courier</u> Other
<u>GEL COURIER</u>	

Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A) Shipped as a DOT Hazardous?	<input checked="" type="checkbox"/>	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?	<input checked="" type="checkbox"/>	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u> CPM/mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?	<input checked="" type="checkbox"/>	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?	<input checked="" type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Methods: <u>Wet Ice</u> Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: <u>22 - 7ch</u> <u>5 - 0/1/2/3</u>
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>IR2-21</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
9 Sample ID's on CCC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	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?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials GIB Date 8/16/21 Page 1 of 1

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 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 - 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 - 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 - 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	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 - 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

