2021 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT CLASS 3 LANDFILL AREA 2 WINYAH GENERATING STATION

by Santee Cooper Moncks Corner, South Carolina

January 31, 2022 (Amended March 2, 2022)

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1. Annual Groundwater Monitoring Report Summary

The South Carolina Public Service Authority (Santee Cooper) has prepared this 2021 Annual Groundwater Monitoring Corrective Action Report for Class 3 Landfill Area 2 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 17 April 2015 (CCR Rule), specifically subsection § 257.90(e)(1) through (6).

The newly constructed Class 3 Landfill Area 2 at WGS received Approval to Operate from South Carolina Department of Health and Environmental Control (SCDHEC) on December 20, 2021. However, no waste was received in 2021. This is a new CCR landfill and is subject to the groundwater monitoring and corrective action requirements described under § 257.90 through § 257.98. The Class 3 Landfill Area 2 is located within the footprint of Ash Pond A, which is an existing surface impoundment subject to the CCR Rule and is undergoing closure by removal. A portion of the existing groundwater monitoring network for Ash Pond A is also included in the monitoring network for the Class 3 Landfill Area 2. In addition to the federal CCR rule groundwater monitoring program discussed throughout, a SCDHEC approved groundwater monitoring program is also being implemented in accordance with the SCDHEC Permit #LF3-00042. This document addresses the requirement for the Owner/Operator to prepare an Annual Groundwater Monitoring and Corrective Action Report per § 257.90(e).

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

At the start of the current annual reporting period (January 1, 2021), the Class 3 Landfill Area 2 groundwater monitoring network was being established with the installation of one additional monitoring well (WLF-A2-6) to supplement existing monitoring wells (WAP-17, WAP-18, WAP-19, WBW-1, and WAP-1). At the end of the current annual reporting period (December 31, 2021), seven rounds of baseline groundwater sampling have been validated for the newly installed well. The eighth round of baseline groundwater samples were collected in December 2021, however the analytical results from this sampling round were not received in 2021 and therefore are not included in this annual report. Validation of the last remaining baseline sampling event's analytical data along with detection monitoring will be completed in the first quarter of 2022 and will be reported in the 2022 annual report. The remaining groundwater requirements (initiate assessment monitoring, identify Appendix IV SSLs and establish groundwater protection standards, initiate, and complete an assessment of corrective measures, hold a public meeting, select a corrective action remedy, and implement remedial activities) are not applicable at this time.

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)**

Except as provided for in § 257.100 for inactive CCR surface impoundments, 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.

As stated in Section 1, Santee Cooper is complying with the groundwater monitoring and corrective action requirements described under 40 CFR § 257.90 through § 257.98 of the CCR Rule for the Class 3 Landfill Area 2 at WGS. This document addresses the requirements outlined in § 257.90(e) for the 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 new CCR landfills, new CCR surface impoundments, and all lateral expansions of CCR units, the owner or operator must prepare the initial annual groundwater monitoring and corrective action report no later than January 31 of the year following the calendar year a groundwater monitoring system has been established for such CCR unit as required by this subpart, and annually thereafter. For the preceding calendar year, the annual report must document the status of the groundwater monitoring and corrective action program for the CCR unit, summarize key actions completed, describe any problems encountered, discuss actions to resolve the problems, and project key activities for the upcoming year. For purposes of this section, the owner or operator has prepared the annual report when the report is placed in the facility's operating record as required by § 257.105(h)(1).

This Annual Report documents the activities completed in 2021 for the Class 3 Landfill Area 2 at WGS as required by the Rule. Groundwater sampling and analysis was conducted per the requirements described in § 257.93, and the status of the groundwater monitoring program described in § 257.94 is provided in this report.

2.2.1 Status of the Groundwater Monitoring Program

In accordance with § 257.94, groundwater monitoring wells were constructed, and baseline sampling of the groundwater monitoring well network was initiated for the newly constructed Class 3 Landfill Area 2 at WGS. Per baseline sampling requirements outlined in § 257.94(b), eight independent sampling events were conducted at the new downgradient well, WLF-A2-6, and analyzed for Appendix III and Appendix IV constituents prior to the initial receipt of waste. As of December 31, 2021, waste had not been placed in the Class 3 Landfill Area 2. The remaining wells in the groundwater monitoring system for the Class 3 Landfill Area 2 (WAP-17, WAP-18, WAP-19, WBW-1, and WAP-1) are existing wells that were installed for Ash Pond A which is also subject to § 257.90 through § 257.98 of the CCR Rule. Baseline sampling for these existing wells was completed in 2017 when the monitoring network was initially established. Therefore, the baseline data presented for those wells are from 2015-2017, which will provide the background for the statistical analysis in the Detection Monitoring Program.

A summary of the groundwater monitoring program for the new landfill, including the analytical results for the Appendix III and Appendix IV list of constituents, is presented in Table 1 and the laboratory analytical reports, along with field sampling forms, are provided in Appendix A of this report.

Additionally, two (2) groundwater monitoring wells, WLF-A2-1 and WLF-A2-2, were installed in December 2021 for the next phase of landfill construction. These were installed early enough to allow time to collect eight independent baseline samples prior to those new cells accepting the initial receipt of waste. Well installation records are provided in Appendix B.

2.2.2 Key Actions Completed

The following key actions were completed in 2021:

- Installed one (1) new downgradient well, WLF-A2-6, in March 2021 to establish a compliant monitoring network in accordance with §257.91(c). Well installation records are provided in Appendix B.
- Initiated Detection Monitoring by collecting Baseline Sampling. In accordance with § 257.94(b), a
 minimum of eight independent samples were collected from the new monitoring well (WLF-A2-6).
 Seven rounds of baseline sampling were completed for WLF-A2-6. The eighth round of baseline
 groundwater samples were collected in December 2021, however the validated analytical
 results from this sampling round were not received in 2021. Laboratory analytical results are
 provided in Appendix A.
- Certified the groundwater monitoring network and placed in the operating record prior to the initial receipt of waste in accordance with §257.91(f).
- Certified the statistical method and placed in the operating record prior to the initial receipt of waste in accordance with §257.93(f)(6).
- Abandoned and replaced two (2) existing wells, WAP-17 and WAP-18, to maintain well integrity in accordance with §257.91(e). Well installation records are provided in Appendix B.
- Installed two (2) new wells, WLF-A2-1 and WLF-A2-2, in December 2021 in preparation for the construction of a new cell at the permitted landfill. Well installation records are provided in Appendix B.
- The newly constructed Class 3 Landfill Area 2 at WGS received Approval to Operate from South Carolina Department of Health and Environmental Control (SCDHEC) on December 20, 2021. However, no waste was received in 2021.

2.2.3 Problems Encountered

Two (2) existing wells (WAP-17 and WAP-18) were impacted by landfill construction during the baseline sampling period. The original locations of these existing wells were on top of the existing Ash Pond A dike (which also serves as side slopes for the new Class 3 Landfill Area 2) and there was limited space for accommodating landfill construction traffic. This limited space also posed safety concerns for the sampling personnel. In fact, the protective posts for existing well WAP-18 were damaged by construction heavy equipment and there were concerns about the integrity of the well should it have been left in place for upcoming sampling events.

2.2.4 Actions to Resolve Problems

The wells (WAP-17 and WAP-18) were properly abandoned and replaced by a South Carolina certified well driller at a safe location out of the way of landfill construction traffic at the outside toe of the dike slope rather than on the dike crest. The analytical data for the first detection event in 2022 will be evaluated to determine whether the groundwater quality at this new well location is comparable to the groundwater quality at the original location. If it is determined to be inconsistent with previous data associated with these wells, these wells will be renamed, and baseline sampling will be completed.

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.
- Complete analysis and validation of the eighth round of Baseline Monitoring data for WLF-A2-6.
- Collection of first round of Detection Monitoring (Appendix III Constituents only) as required by § 257.94 for WLF-A2-6.
- Statistical analysis of Detection Monitoring analytical data to determine if statistically significant increases (SSIs) over background are present as required by § 257.94.
- Based on the findings of the statistical analysis, an evaluation of alternate sources will be considered as provided in § 257.95(g)(1) and § 257.95(g)(3).
- Collection of eight independent samples for WLF-A2-1 and WLF-A2-2 which were installed for the construction of a new cell at the permitted landfill. This will establish the baseline for these two wells.
- Update the existing groundwater model that was prepared for Ash Ponds A & B to calibrate the model to existing conditions and examine the fate and transport characteristics of arsenic in groundwater.
- Prepare the 2022 annual report; place it in the record as required by § 257.105(h)(1), notify the state [§ 257.106(d)]; and post to website [§ 257.107(d)].

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

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

2.3.1 **40 CFR § 257.90(e)(1)**

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

As required by § 257.90(e)(1), a map showing the locations of the CCR unit and associated upgradient and downgradient monitoring wells for the Class 3 Landfill Area 2 is presented as Figure 1.

2.3.2 **40 CFR § 257.90(e)(2)**

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

One (1) groundwater monitoring well, WLF-A2-6, was installed in March 2021 for this newly constructed Class 3 Landfill Area 2. Two (2) groundwater monitoring wells, WAP-17 and WAP-18, were abandoned and replaced in 2021 because they were adversely impacted by landfill construction. The remaining wells in the Class 3 Landfill Area 2 monitoring network are existing wells.

Additionally, two (2) groundwater monitoring wells, WLF-A2-1 and WLF-A2-2, were installed in December 2021 for the next phase of landfill construction. These were installed early enough to allow time to collect eight independent baseline samples prior to those new cells accepting the initial receipt of waste.

2.3.3 **40 CFR § 257.90(e)(3)**

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

In accordance with § 257.94(b), eight independent samples from the new downgradient monitoring well, WLF-A2-6, was collected and analyzed. The eighth round of baseline groundwater samples for WLF-A2-6 were collected in December 2021, however the validated analytical results from this sampling round were not received in 2021. The remaining wells in the groundwater monitoring system for the Class 3 Landfill Area 2 (WAP-17, WAP-18, WAP-19, WBW-1, and WAP-1) are existing wells that were installed for Ash Pond A which is also subject to § 257.90 through § 257.98 of the CCR Rule. Baseline sampling for these existing wells was completed in 2017 when the monitoring network was initially established. Therefore, the baseline data presented for those wells are from 2015-2017. Samples collected and analyzed in 2021 for these existing wells satisfied the assessment monitoring requirements [§ 257.95(b) and § 257.95(d)(1)] for Ash Pond A and that data is also provided in the attachments to this report. All data collected in 2021 was prior to the receipt of waste in the landfill.

A summary table including the sample names, dates of sample collection, reason for sample collection (baseline), and monitoring data obtained for the groundwater monitoring program for the Class 3 Landfill Area 2 is presented in Table 1 of this report. As stated above, the eighth round of baseline for WLF-A2-6 was collected in December 2021 but because the data was not received in 2021 the analytical results for that round have not been included in this report. In addition, and as required by § 257.95(d)(3), the groundwater protection standards are included on Table 1. Laboratory analytical data reports, along with field sampling forms, are provided in Appendix A to this report.

2.3.4 **40 CFR § 257.90(e)(4)**

A narrative discussion of any transition between monitoring programs (e.g., the date and circumstances for transitioning from detection monitoring to assessment monitoring in

addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and

Since the detection monitoring event and statistical analysis that will be conducted to determine if SSIs of Appendix III constituents are present downgradient of the Class 3 Landfill Area 2 has not been completed the Unit did not transition in between monitoring programs. The Unit remained in Detection Monitoring in 2021.

2.3.5 **40 CFR § 257.90(e)(5)**

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

This initial Annual Report documents activities conducted to comply with Sections § 257.90 through § 257.94 of the Rule. Groundwater flow rate and direction are provided as Figures 2 and 3 for each sampling event as specified in § 257.93(c). There are no applicable requirements from Sections § 257.95 through § 257.98.

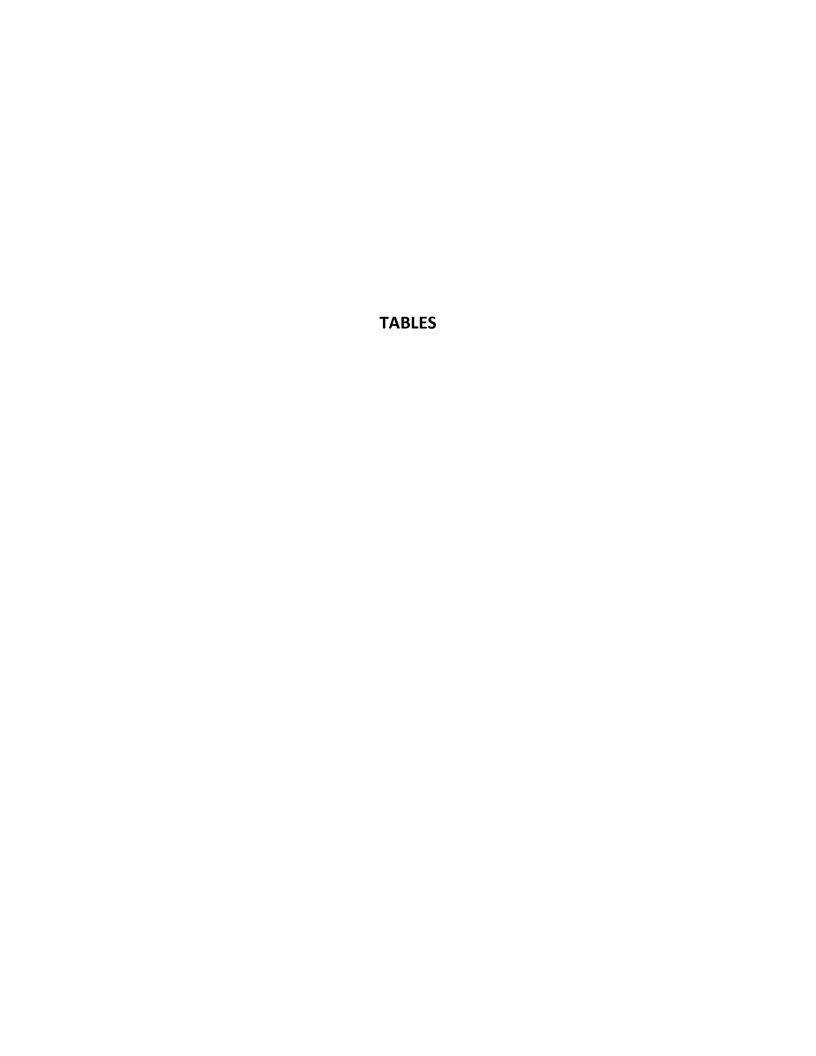


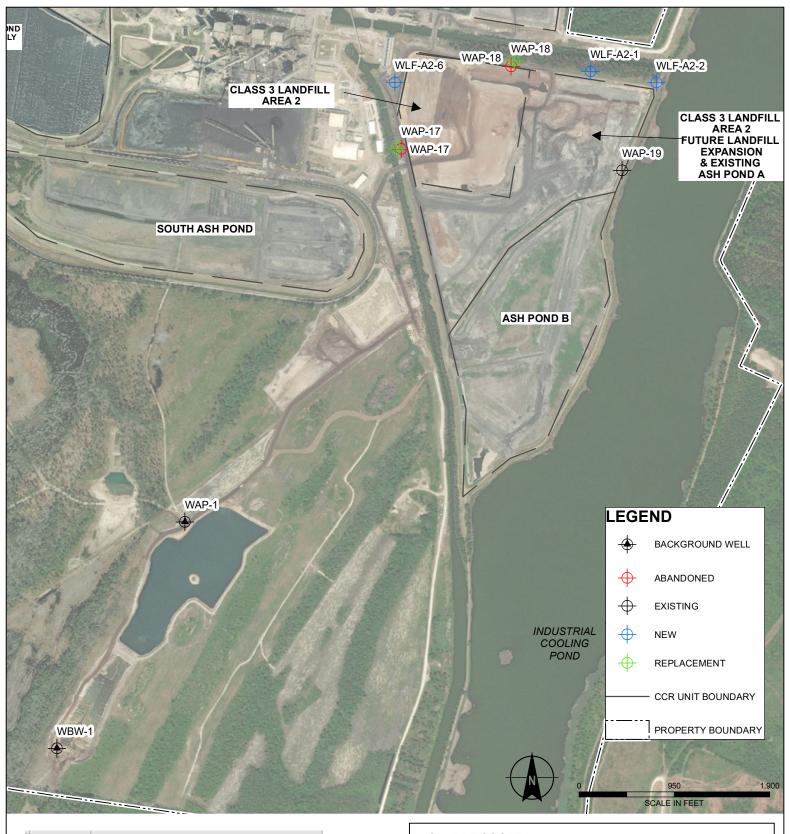
TABLE 1 - Summary of Analytical Results Winyah Generating Station Class 3 Landfill (Area 2) Baseline Monitoring

				1 1		Δ	nnendiy II	I Constituents			ı							Annen	dix IV Co	onstitue	inte							Field Par	ameters		
			Laboratory		Boron Boron			Chloride Fluoride		Total pH	Antimony A	Arsenic Bariu	m Beryllium	Cadmium	Chromium Co	obalt Fluor	ide Lead	Lithium	Lithium M	Mercury	Molybdenum Molybdenum	Radium 226 Radium 228	Radium 226/Radium	Selenium	Selenium Thalliu	m pH	Depth to	Groundwater Specific		Oxidation To	urbidity Dissolved
Well ID	Purpose	Sample Event	Sample ID Number	1						Dissolved Solids													228 Combined Calculation				Groundwater	Elevation Conductivi	ty	Reduction Potential	Oxygen
		LVOIIL	Number	Unit	ug/L ug/L	mg/L	mg/L	mg/L mg/L	mg/L	mg/L SU	ug/L	ug/L ug/L	. ug/L	ug/L	ug/L u	ıg/L mg/	/L ug/L	ug/L	ug/L	ug/L	ug/L ug/L	pCi/L pCi/L	pCi/L	ug/L	ug/L ug/L	SU	Feet (btoc)	Feet (msl) uS	С	mv	NTU ppm
				Method GWPS/ US	EPA 6010D EPA 6020	OB EPA 6010D	EPA 6020B	EPA 300.0 EPA 300.	0 EPA 300.0 S	SM 2540C	EPA 6020B EP	A 6020B EPA 603	20B EPA 6020E	EPA 6020B	EPA 6020B EPA	6020B EPA 3	00.0 EPA 6020E	B EPA 6010D EI	PA 6020B E	EPA 7470	EPA 6010D 6020B	EPA 903.1 Mod EPA 904.0	EPA 903.1 Mod	EPA 6010D	EPA 6020B EPA 602	20B				SM2580	$\overline{}$
				EPA				4			6	10 2000	4	5	100	6 4	15	40	40	2	100 100		5	50	50 2						
	Cito Dookar	aund Walla		MCL/RSL																							-		-		
WAP-1	Site Backgr Baseline	11/10/2015	AD35133	1 1	- 26	6.9 1		5.1 <0.1	0 9.2	27.5 4.14	<5.0	<3.0	55 <0.50	<0.50	<5.0	<0.50	<0.10 <2.	5 -	<10.0	<0.20	<10 -	<1.00 3.4	6 -	<20		1.0 4.1	4 3	26.44	58 19.	88 358	0 1.7
WAP-1	Baseline		AD39059		- 28	3.9 0.61	1 -	5.17 <0.1		30 3.68	<5.0	<3.0	8.7 <0.50	<0.50	<5.0		<0.10 <2.		<10.0		<10 -	1.2 <3.0		<20		1.0 3.6		24.6	58 15.		9.6 1
WAP-1 WAP-1	Baseline Baseline		AD47942 AD52935	-	- 22		0.555 26.9			<100.0 4.15 234 7.61	<5.0	<5.0	7.97 <0.5 94 <0.5	5 <0.5 5 <0.5	<5		<0.10 1.2 0.14 <1.			<0.200 <0.200	<10.0 - <10.0 -	1.03 <3.0 <1.00 <3.0		-	<10 <10.0	<1 4.1 <1.0 7.6			51 18. 26 19.		0 0.4
WAP-1	Baseline	10/18/2016			- 26	6.9 -	0.507	4.91 <0.1 4.98 <0.1		98.33 4.31	<5	<5	9.25 <0.5	5 <0.5	<5		0.10 1.	7 -	<10.0	<0.200	<10.0	<1.00 4.7		-	<10	<1 4.3		25.23	53 21.	87 99	0 0.9
WAP-1	Baseline		AD71597		- 28	3.4 -	<0.50			51.25 4.11	<5.0	<5.0	7.1 <0.50	<0.50	<5.0	<0.50	0.10 4.5	6 -	<10.0		<10.0	<1.00 <3.0		-	<10	<1.0 4.1	1 4.42	25.02	60 12.	74 321	8.8 1.4
WAP-1 WAP-1	Baseline Baseline		AD78674 AD93032	-	23 -	-	<0.50	6.13 <0.1 9.7 <0.1		36.25 4.39 42 4.7	<5.0 <5.0	<5.0 <5.0	5.8 <0.50 20.6 <0.50	<0.50	<5.0 <5.0		<0.10 1. <0.10 <1.	3 <10 0 <10	-	<0.200 <0.2	<10.0 -	1.38 4.5 <1.00 <3.0		-	<10 <	1.0 4.3	9 4.61 7 6.12	24.83	56 20. 63 24.		0.4 0.8
WAP-1	Background				24 -	-	2.1	7.18 <0.1		67.5 4.2	<5.0	8.3	52.9 <0.50	0.50	<5.0		0.10 <1.	0 <10	-	<0.2	<10 -	0.422 1.3	4 1.76	3 -	<10.0	1.0 4.	2 4.16	25.28	85 14.		0 0.6
WAP-1	Background	7/20/2021	AF09050		26 -		2.2	8.76 <0.1	0 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 3.9	6 5.01	1 -	<10.0	1.0 4.2	4 6.14	23.3	88 28.	33 133	0.9 0.4
WAP-1	total samples				4	6 2	2 8	10 1	0 10	10 10	10	10	10 10	10	10	10	10 1	0 4	6	10	9 1	10 1	0 2	2 2	8	10 1	0 10	10	10	10 10	10 1
WBW-1	Baseline		AD35149		- <30			2.71 <0.1	4.00	8 4.08	<5.0	<3.0	15 <0.50	<0.50	<5.0	-0.00	<0.10 <2.	5 -	<10.0	<0.20	<10 -	<1.00 <3.0	0	<20		<1.0 4.0		28.01	38 19.		0 4.8
WBW-1	Baseline		AD39079		- <30	0.0 <0.500		3.07 <0.1		15.83 3.55	<5.0	<3.0	16 <0.50		<5.0		<0.10 <2.	5 -	<10.0	<0.20	<10 -	<1.00 <3.0		<20		1.0 3.5			40 14.		1.8 4.3
WBW-1 WBW-1	Baseline Baseline	6/20/2016	AD47948 AD53348	-	- 15 - <15	5.0 -	<0.500	2.44 <0.1 2.57 <0.1		<33.3 4.07 22.5 4	<5 <5.0	<5.0	15 <0.5 15.2 <0.5	5 <0.5	<5.0		<0.10 < <0.10 <1.	0 -	<10.0 <10.0	<0.200 <0.200	<10.0 - <10.0 -	1.33 <3.0 <1.0 <3.	_		<10.0	<1 4.0	7 6.69 4 6.58	9 25.28 3 25.39	38 19. 40 22	59 179 !.3 241	0 3.1
WBW-1	Baseline	10/17/2016	AD64696		- <15	5.0 -	<0.5	2.72 <0.1	0 5.3	30 4.15	<5	<5	14.7 <0.5	5 <0.5	<5	<0.5	<0.10 <	1 -	<10.0 <10.0	<0.200	<10.0	1.04 <3.0	0 -	-	<10	<1 4.1	5 4.99	26.98	36 25	i.1 318	0 2.4
WBW-1	Baseline		AD71622		- <75	5.0 -	<0.50			45 3.83	<5.0	<5.0	13 <0.50	<0.50			<0.10 <1.	-	<10.0		<10.0	<1.00 <3.0		-	<10 <	1.0 3.8				96 252	17 3.0
WBW-1 WBW-1	Baseline Baseline	9/18/2017	AD78690 AD93052	1 1	19 -	-	<0.50 <0.50	4.96 0 6.77 <0.1		52.5 4.08 158 4	<5.0 <5.0	<5.0 <5.0	15.5 <0.50 15.2 <0.50	0 <0.50 0 <0.50	<5.0	<0.50 <0.50	0.1 <1. <0.10 <1.	0 <10	-	<0.200 <0.2	<10.0 -	<1.00 <3.0 1.29 <3.0			<10	1.0 4.0	8 6.24 4 5.02	25.73 2 26.95	48 17. 55 25.		0 3.8
WBW-1	Background	2/15/2021	AE96412		<15 -	-	0.51	1.77 <0.1		158 4 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 1.2	4 1.69	-	<10.0	<1.0 4.	2 3.32	28.65	28 14.	41 339	0 0.7
WBW-1 WBW-1		7/20/2021	AF09083		<15 -	6 -	1.2	4.62 <0.1	0 5.84	68.75 4.77	<5.0	<5.0	23.7 <0.50	<0.50	5	2.3 <	<0.10 <1.	0 <10	-	<0.2	<10 -	0.602 0.02	0.626	5 -	<10.0	<1.0 4.7	7 18.27	13.7	42 24.	72 121	0 0.6
	total samples				*		•		10	10 10	10		.0 10	10	10	10	10 1	*	•	10	1	10		4		1	10	10		10	10 1
	Class 3 Lan	dfill Area 2	10051					700		0.110		200	100			0.50			005		45							05.00			
WAP-17 WAP-17	Baseline Baseline	11/11/2015	AD35144 AD39074	+	- 1420	30 330	- 1	769 <0.1 377 0.2		3140 5.92 1735 6.01	<5.0 <5.0	200	100 <0.50 59 <0.50	0 <0.50	<5.0 <5.0		<0.10 <2. 0.25 <2.	5 -	825 550	<0.20	45 - 42 -	<1.00 <3.0 1.03 <3.0	0 -	<20 <20	- -	<1.0 5.9 <1.0 6.0	1 5.15	9 25.28 40 5 24.12 26	18 27.	77 -94	8.1 0.4
WAP-17	Baseline	4/26/2016	AD48289		- 54		325	329 0	.1 787	1615 6.03	<5	121	50.5 <0.5	5 <0.5	<5	<0.5	0.1 <		435	< 0.200	43.1 -	2.51 <3.0	0 -		<10	<1 6.0			40 23.	26 -11	0 0.7
WAP-17 WAP-17	Duplicate	4/26/2016	AD47954	$\perp \Box$	- 576		326		1 791	1735 -	<5		50.4 <0.5		<5	<0.5	0.1	1 -	443	< 0.200	43.3 -	<1.00 <3.0		-	<10	<1 -	-		-	-	
WAP-17 WAP-17	Baseline Duplicate	6/20/2016	AD53351 AD52951	+	- 56 ⁻	10 -	309 319	311 0.1 302 0.1		1722 6.02 1696 -	<5.0 <5.0	114	46.2 <0.5 45.3 <0.5	5 <0.5 5 <0.5	<5.0 <5.0	<0.5 <0.5	0.11 <1. 0.17 <1.	0 -			40.7 -	<1.00 <3.0 <1.0 <3.0			<10.0 <	(1.0 6.0 (1.0 -	2 5.45	23.82 23	40 27.	93 -35 -	U 0.7
WAP-17	Baseline	10/18/2016	AD64700		- 679	00	424			1952 5.9	<5	153	70.3 <0.5	<0.5	<5		0.14 <	1 -	444	<0.200	52.7 -	<1.00 <3.0	0 -	-	<10	<1 5.	9 4.42	24.85 29	30 25.	94 -135	0 0.5
WAP-17 WAP-17	Duplicate Baseline	10/18/2016			- 670	- 00	429	421 0.1 347 0.1		2038 -	<5	152	69.9 <0.5	5 <0.5 0 <0.50	<5		0.14 <	1 -			52.8 -	<1.00 <3.0 <1.00 <3.0		-	<10	<1 -			- 40		
WAP-17 WAP-17	Duplicate		AD71621 AD71613		- 560	30 -	368	347 0.1 357 0.1	7 878	1856 6.04 1920 -	<5.0 <5.0	170	64.4 <0.50 59.5 <0.50	0.50	<5.0 <5.0	<0.50	0.14 <1.	0 -	390 400	<0.200	49.2 -	<1.00 <3.0 <1.00 <3.0		-	<10 <	(1.0 6.0 (1.0 -	5./1	23.56 25	- 15		9.7 0.
WAP-17	Baseline	4/10/2017	AD78694		4900 -	-	359		7 1810	1840 6.1	<5.0	176	56.6 <0.50	< 0.50	<5.0		0.17 <1.	0 320	-	<0.200	41.4 -	<1.00 <3.0	0 -	-	<10	1.0 6.	1 6.44	22.83 24	80 24.	08 -2	6.8 0.7
WAP-17 WAP-17	Duplicate Baseline	4/10/2017 9/18/2017	AD78685	1	4700 - 6000 -	-	364	339 0.1	7 939	1794 - 1986 6.14	<5.0	161	56.8 <0.50	0.50 0 <0.50	<5.0	<0.50	0.17 <1.	0 320	-	<0.200	41.1 -	1.07 3.3	5 -	-	<10 <	1.0 -	- 4 5.14	24 13 25	- 26	10 17	- 0 0/
WAP-17	Assessment		AE96401	-	2800 -	-	136	-0.	000	812.5 5.88	<5.0 <5.0	90.6	23 <0.5	0.50	<5.0 <5.0		0.10 <1.	0 160		<0.2	110 -	0.25 0.14		9 -	<10.0	1.0 5.8			43 17.	22 84	0 0.6
WAP-17	Duplicate	3/2/2021	AE96402		2900 -	-	136	47.1 0.2	9 359	693.8 -	<5.0	95.4	23.4 < 0.50	<0.50			0.29 <1.	0 150	-	<0.2	110 -	0.308 0.79		1 -	<10.0	:1.0 -	-		-	-	
WAP-17	Assessment	4/8/2021	AF00695	1	3300 - 3300 -	-	180	66.6 <0.1 65.8 <0.1		1015 6.22 967.5 -	<5.0	108	26.9 <0.50 28.4 <0.50	0 <0.50 0 <0.50	<5.0		<0.10 <1. <0.10 <1.	0 130	-	<0.20	59 -	0.172 3.8	5 4.02	2 -	<10.0 <	1.0 6.2	2 6.98	19.9	40 23.	83 19	0 0.3
WAP-17	Duplicate Assessment	8/2/2021	AF00696 AF09072	1 1	4100 -	-	247	65.8 <0.1 198 <0.1	0 607	1321 5.82	- 5.0	89.5	52.9 -	- 0.50			(0.10 -	120	-	- 0.20	12 -	0.811 2.2		1 -		5.8	2 6.24	20.64 16	60 29.	17 -49	12.7 0.7
WAP-17	Duplicate	8/2/2021	AF09073		3900 -	-	244	195 <0.1	0 600	1286 -	-	90.5	51.7 -	-	-	<0.50	<0.10 -	11	-	-	14 -	0.854 2.6	8 3.53	3 -		-	-		-	-	
WAP-17	total samples				9 '	10 2	2 17	19 1	9 19	19 11	17	19	19 17	7 17	17	19	19 1	7 9	10	17	18 1	19 1	9 6	3 2	15	17 1	1 11	11	11	11 11	11 1
WAP-18	Baseline	11/11/2015	AD35145		- 48	10 460	-	81 <0.1	0 960	1692 6.15	<5.0	260	110 <0.50	<0.50	<5.0	<0.50	<0.10 <2.	5 -	203	<0.20	12 -	1.03 <3.0	0 -	<20		1.0 6.1	5 14.31	28.74 10	89 23.	97 -25	0 0.4
WAP-18	Baseline		AD39908		- 185	50 370	-	15.3 1.0	6 903	1452 6.28	<5.0	240	92 <0.50	<0.50 <0.50	<5.0	<0.50	1.06 <2.	-	151	<0.20	34 -	<1.00 <3.0		<20		1.0 6.2	8 14.26	28.79 17	90 18	1.8 -68	15.1 0.8
WAP-18 WAP-18	Duplicate Baseline	4/27/2016	AD39075 AD47955	1	- 25	10 -	448	15.3 1 49 0.7	1 902	1452 - 1760 6.27	<5.0 <5	135	77 <0.50 84.3 <0.5	0.50 5 <0.5	<5.0 <5	<0.50	1.1 <2. 0.71 <	1 -	155	<0.20	20.9 -	<1.00 <3.0 1.46 <3.0		<20	<10	<1.0 -	7 17.09	25.96	10 24	57 34	3.4 0.6
WAP-18	Baseline	6/21/2016	AD52952		- 250	- 00	488			2182 6.31	<5.0	130	91.1 <0.	5 <0.5	<5.0	<0.5	0.8 <1.	0 -	154	<0.200	20.6 -	1.23 <3.0		-	<10.0	1.0 6.3			60 23.	24 -33	63.7 0.5
WAP-18 WAP-18	Baseline	10/20/2016		1	- 375	50 -	509			1793 6.26 1711 6.48	<5	228	96 <0.5 89.6 <0.5	5 <0.5 0 <0.50	<5		0.85 <	1 -	184	<0.200	17.9 -	<1.00 <3.0 <1.00 <3.0		-	<10	<1 6.2 :1.0 6.4				1.4 -63	0 0.5
WAP-18	Baseline Resample Hg	1/12/2017 3/13/2017		1 1	- 391	-	- 493	67 0.9	- 941		- <5.0		- 40.50	- <0.50	- <5.0		0.91 <1.	-	- 103	<0.200	20.1	<1.00 <3.0	-	-		- 0.4	8 16.58	3 26.47 19	- 20.	-74	- 0 0.4
WAP-18	Baseline	4/12/2017	AD78686		5800 -	-	463	260 1	.5 845	2016 6.55	<5.0	951	96.3 <0.50	<0.50	<5.0	<0.50	1.5 <1.	0 210	-	<0.200	165 -	<1.00 <3.0		-	<10 <	1.0 6.5					0.2 0.7
WAP-18 WAP-18	Baseline Duplicate		AD93047	-	8200 -	-	422	231 1	2 962	2018 6.54 1970 -	<5.0	1530	76.2 <0.50 83.1 <0.50	0.50 0 <0.50	<5.0	0.54	1.2 <1.	0 270	-	<0.2 <0.2	- 247	<1.00 <3.0 <1.00 <3.0		-	<10 <	1.0 6.5	4 17.42	2 25.63 23	70 28.	11 31	0 1.0
WAP-18	Assessment		AE96403		7500 -	-	324		9 692	1428 6.37	<5.0	442	91.5 <0.50	0.68	<5.0	0.85	1.39 <1.	0 540	-	<0.2	2900 -	0.298 1.2		4 -	<10.0	1.0 6.3	7 22.72		10 21.	07 87	2.7 0.7
WAP-18	Assessment		AF09074		3500 -		335	92.1 2.5	750	1431 5.21	- 44	132	141 -	- 44	- 44	3.3	2.51 -	500	-	- 44	90 -	0.578 1.4	5 2.03	3 -		5.2	1 19.08	23.97 16	80 24.	05 166	8.4 0.5
WAT-18	total samples				3	, 3	9	12 1	12	12 10	11	14	12 1	- 11	- 11	12	12 1		- 1	- 11	10 2	12 1		3	8	1	10	10	IV	10	10 1
WAP-19	Baseline		AD35450		- 619	90 480	-	375 <0.1		2128 6.14	<5.0	56	100 <0.50	< 0.50	<5.0		<0.10 <2.	5 -	283	<0.20	12 -	1.25 <3.0		<20		1.0 6.1	4 15.15	5 28.24 20	75 24.	19 -2	0 0
WAP-19 WAP-19	Duplicate Baseline	11/11/2015		+	- 67	7U 470	- 0	380 <0.1 233 <0.1	0 879 0 674	2132 - 1526 6.43	<5.0 <5.0	58 82	100 <0.50 69 <0.50	0 <0.50 0 <0.50	<5.0 <5.0		<0.10 <2. <0.10 <2.		311 251	<0.20 <0.20	21 -	<1.00 4.5 <1.00 <3.0		<20 <20	- -	<1.0 - <1.0 6.4	3 16.51	26.88 20	80 20.	13 -37	9.3 0.7
WAP-19	Baseline	4/27/2016	AD47956		- 199	90 -	360	155 0.1	7 880	1525 6.31	<5	58.7	37.3 <0.5	5 <0.5	<5			1 -	305		36.6 -	<1.00 <3.0			<10	<1 6.3					0 1.4
WAP-19	Baseline	6/21/2016	AD52953	lacksquare	- 269		350	134 <0.1		1684 6.18	<5.0	41.5	53.5 <0.5	< 0.5	<5.0		0.10 <1.	0 -		<0.200	25.9 -	<1.00 <3.0	0 -	-	<10.0	1.0 6.1		5 25.94 17	70 25.	61 47	19.1 0.6
WAP-19 WAP-19	Baseline Baseline	1/12/2017	AD64693 AD71615	+	- 46 ⁻	00 -	396 315	240 0.1 227 0.1	9 658	1612 5.97 1571 6.18	<5.0	102	70.1 <0.5 53.6 <0.5	<0.5 <0.50	<5.0		0.11 < 0.19 <1.	0 -	255	<0.200	39.1 - 46 -	<1.00 <3.0 <1.00 <3.0		-	<10	<1 5.9 (1.0 6.1	10.11	7 27.62 2° 5 25.14 19	90 24.		0 0.
WAP-19	Resample Hg	3/13/2017	AD76336			-	- 1				- 1		-		-		-	-	-	<0.200				-	- 1 -	-	-		-	-	
WAP-19 WAP-19	Baseline Baseline	4/12/2017 9/21/2017	AD78687 AD93049	+	3300 - 4600 -	-	321	222 0.3		1570 6.38 1776 6.16	<5.0	125	45.6 <0.50	0.50 0 <0.50	<5.0	<0.50 <0.50	0.34 <1.	0 290	-:-	<0.200	49.3 -	<1.00 <3.0 <1.00 <3.0		-	<10	1.0 6.3	8 19.87 6 18.5	7 23.52 20 5 24.89 22	20 20.	73 26	11 0.7
	Assessment	2/16/2021	AE96404	1 1	3500 -	-	325			1510 6.32	<5.0	120	39.6 <0.5	0.50	<5.0		0.10 <1.	0 290		<0.2	41 -	0.355 1.8		3 -	<10.0	1.0 6.1		22.94	40 22.	54 1	22 0.4
WAP-19	Assessment		AF09075		4000 -		342	122 0.2	6 775	1582 6.37		147	51.2 -	-	-	<0.50	0.26 -	240	-	-	24 -	0.726 0.89	9 1.63	3 -		6.3	7 22.35	21.04 19	10 23.	64 -59	6.8 0.4
WAP-19	total samples				4	7 3	8	11 1	1 11	11 10	10	11	11 10	10	10	11	11 1	4	7	10	10 1	11 1	1 2	3	7	10 1	10	10	10 -	10 10	10 1
	Baseline		AF00693		310 -	-	117	6.47 0.1		667.5 6.59			26.1 <0.50				0.17 <1.		-	<0.20	<10 -	0.244 1.0			<10.0	<1.0 6.5	9 16	10.88 5	15 26.	62 -5	0 0.4
WLF-A2-6	Duplicate	4/8/2021	AF00694	+	280 -	-	123	7.14 0	2 27.5	488.8 -	<5.0		28.3 <0.50			<0.50	0.2 <1.		-	<0.20	<10 -	0.214 0.89 0.313 0.37	7 1.11		<10.0	1.0 -	- 45 15	5 1143 5	79 ^-		0 0
WLF-A2-6	Baseline Duplicate Baseline	5/13/2021	AF03573	1 1	420 - 410 -	1	130 132	6.73 0.1	9 11.3	602.5 6.6 502.5 -	< 5.0	6.8	32.5 <0.50 33.8 <0.50		<5.0 <5.0	< 0.50	0.18 <1. 0.19 <1.		-	<0.2 <0.2	<10 -	0.23 0.3	1 0.54	4 -	<10.0 <	<1.0 6.	6 15.45		73 21.	- 1	0 0.6
					410 -	-	132	6 0.2	4 77.6	541.2 6.47		5.2	47.1 <0.50	< 0.50	<5.0	<0.50	0.24 <1.	0 41	-	<0.2	<10 -	0.379 1.			<10.0	1.0 6.4	7 14.18	20.96	90 25.	57 -89	2.6 0.6
WLF-A2-6 WLF-A2-6	Duplicate Baseline	9/1/2021	AF09092 AF13777	+	410 - 370 -	-	132	6 0.2 5.31 0.1		517.5 - 545 6.52	<5.0 <5.0		45.4 <0.50 39.4 <0.50	0 <0.50 0 <0.50			0.24 <1. 0.16 <1.		-	<0.2 <0.20	<10 - <10 -	0.144 0.75	5 0.899 3 0.295		<10.0 <	<1.0 - <1.0 6.5	2 14.22	20 92	97 26.	- 132	0 0.4
WLF-A2-6	Baseline Duplicate Baseline	9/1/2021	AF13778	1 1	380 -	-	131 133	5.31 0.1 5.31 0.1	6 48.4	545 6.52 482.5 -	<5.0	5.5	39 <0.50	< 0.50	<5.0	< 0.50	0.16 <1.	0 43	-	< 0.20	<10 -	0.3 -0.9 0.532 0.	3 0.295 1 0.632	2 -	<10.0	1.0 -	-	2 20.92 5	-	-	
WLF-A2-6	Baseline	9/28/2021	AF15791		360 -	-	136	5.39 0.1	7 53	552.5 6.36	<5.0		38.4 < 0.50	< 0.50	<5.0	< 0.50	0.17 <1.		-	<0.2	<10 -	0.421 0.38	4 0.805	5 -	<10.0	1.0 6.3	6 14.32	2 20.82	15 25.	29 -134	0 0.4
WLF-A2-6	Duplicate	9/28/2021	AF15792		340 - 420 -	-	139 133	5.45 0.2 5.75 0.2		496.2 - 588.8 6.33	<5.0 <5.0	<5.0 5.3	37.3 <0.50 37 <0.50	0 <0.50 0 <0.50	<5.0 <5.0	<0.50 <0.50	0.29 <1. 0.29 <1.		-	<0.2 <0.2	<10 - <10 -	0.556 1.7 2.97 0.61			<10.0 <	<1.0 - <1.0 6.3	3 14.82	2 20.32 5	76 23.	- 153	0 0.5
WLF-A2-6	Baseline Duplicate	10/27/2021	AF18540		360 -		130	5.7 0.2	9 37.9	436.2 -	<5.0	5.7	39.1 <0.50	< 0.50	<5.0	<0.50	0.29 <1.	.00		<0.2	<10 -	2.09 0.90	3 3	3 -	<10.0	:1.0 -	-		- 23.	- 130	- 0.5
WLF-A2-6	Baseline Duplicate	11/18/2021	AF20419		410 - 480 -	-	134 132	5.77 0 5.77 0	3 32.5 3 32.9	456.2 6.45	<5.0	5.4	39.2 < 0.50		<5.0		0.3 <1.		-	<0.2	<10 -	1.14 1.2 0.32 0.74		9 -	<10.0 <	1.0 6.4	5 15.27	7 19.87 5	69 24	.7 -143	0 1.4
WLF-A2-6 WLF-A2-6	Duplicate Baseline	17/18/2021	AF21740	+	480 - 740 -	-	132 130			432.5 - 600 6.29	<5.0 <2.0	5.4	39.3 <0.50 44 <0.40				0.3 <1. 0.31 <1.			<0.2 <0.2	<10 - <10 -	0.32 0.74 0.422 0.75			<10.0 < <5.0 <	·1.0 - 0.50 6.2	9 15.24	19.9	47 23.	51 -116	0.4 0.5
WLF-A2-6	Baseline Duplicate	12/7/2021	AF21741		690 -		140	10.2 0.3	1 36.3	517.5 -	<2.0	10	43 <0.40	< 0.50	<5.0	<5.0	0.31 <1.	0 62	-	< 0.20	<10 -	0.41 0.23	3 0.643	3 -	<5.0		- 15.24		- 23.	- 110	- 0.0
WLF-A2-6	total samples				16	0 0	16	16 1	6 16	16 8	16	16	16 16	16	16	16	16 1	6 16	0	16	16 0	16 1	6 16	0	16	16	8 8	8	8	8 8	8

All groundwater samples collected from the monitoring wells in 2021 for the constituents listed in Appendix IV of the EPA CCR Rule (40 CFR) were analyzed by South Carolina Certification # 98052), Test America Laboratories, LLC (Certification # 9001), GEL Laboratories, LLC (Certification # 10120), Rogers & Calicot, Inc. (Certification # 23105001), and Pace Analytical Services (Certification # 99030).

^{1.} Some groundwater monitoring wells are sampled for both Federal CCR and State Permit program compliance. Applicable analytical results from the State Permit program have been included in this summary table. All Background & Assessment compliance wells have been sampled to meet § 257.95.
2. Dashes indicate the analytical method was not conducted for that partial argoundwater sample.
3. Monitoring wells was completed in 2017. Samples collected and analyzed collected and analyzed collected in 2021 for these existing wells satisfied the assessment monitoring requirements [§ 257.95(b) and § 257.95(b) and § 257.95(b) and § 257.95(d)(1)] for Ash Pond A and is provided.
4. During the original baseline monitoring in 2015-2017, the laboratory did not calculate the combined Radium 226/228.



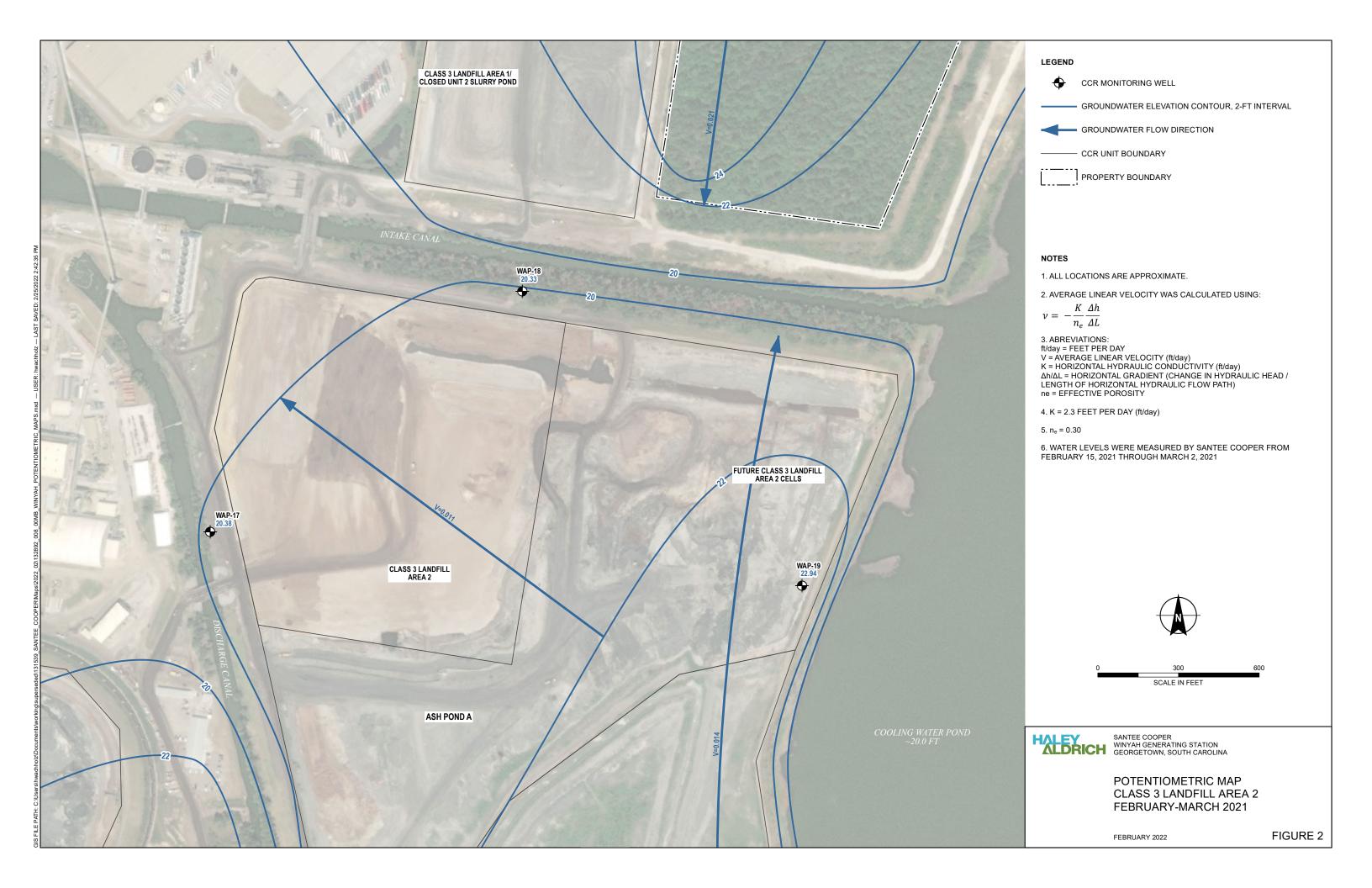


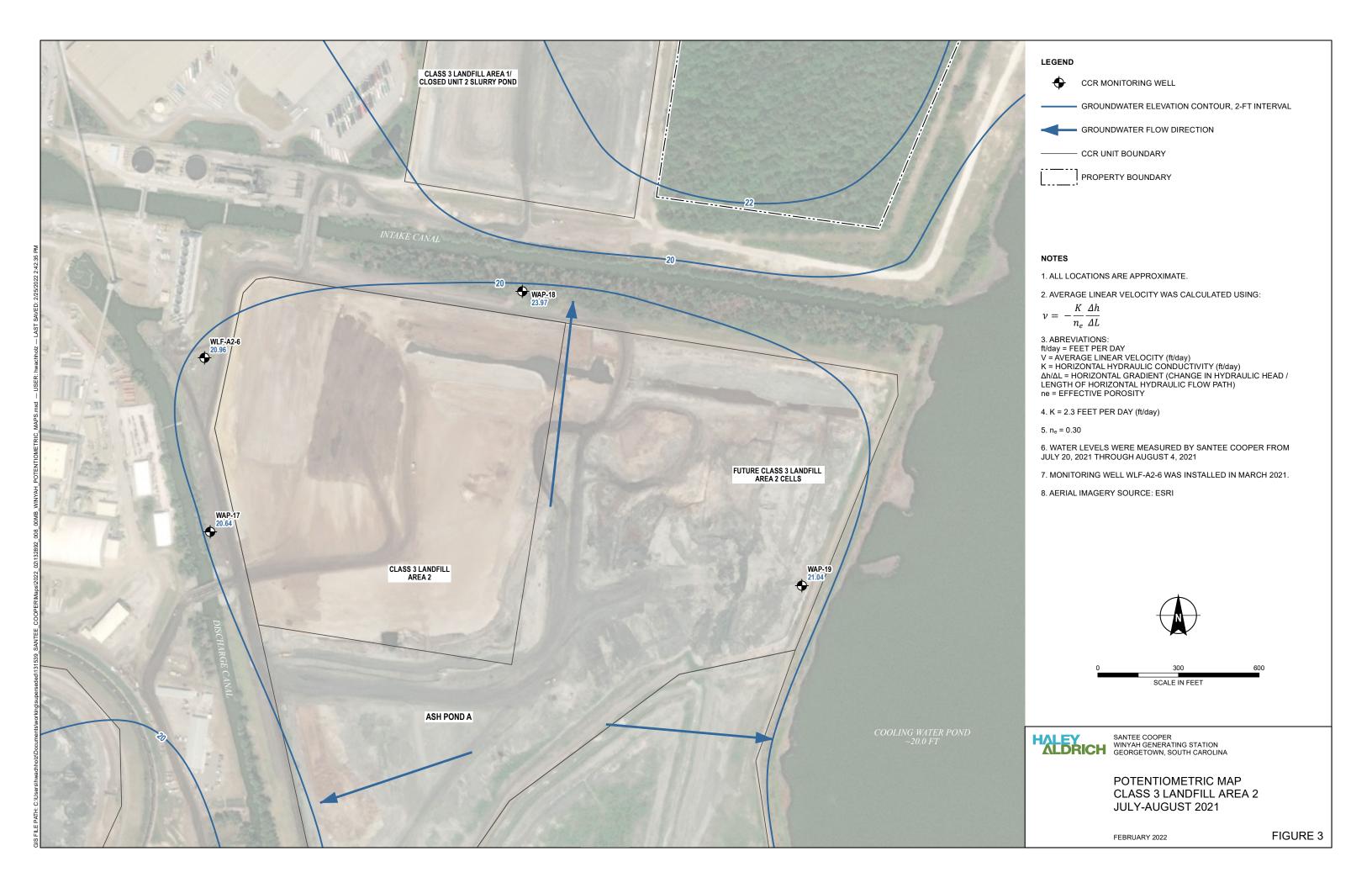
Well ID	Classification
WAP-17	Abandoned & Replaced March 2021
WAP-18	Abandoned & Replaced December 2021
WAP-19	Existing
WLF-A2-6	New
WLF-A2-2	New - for Future Expansion
WLF-A2-1	New - for Future Expansion
WAP-1	Existing Background
WBW-1	Existing Background

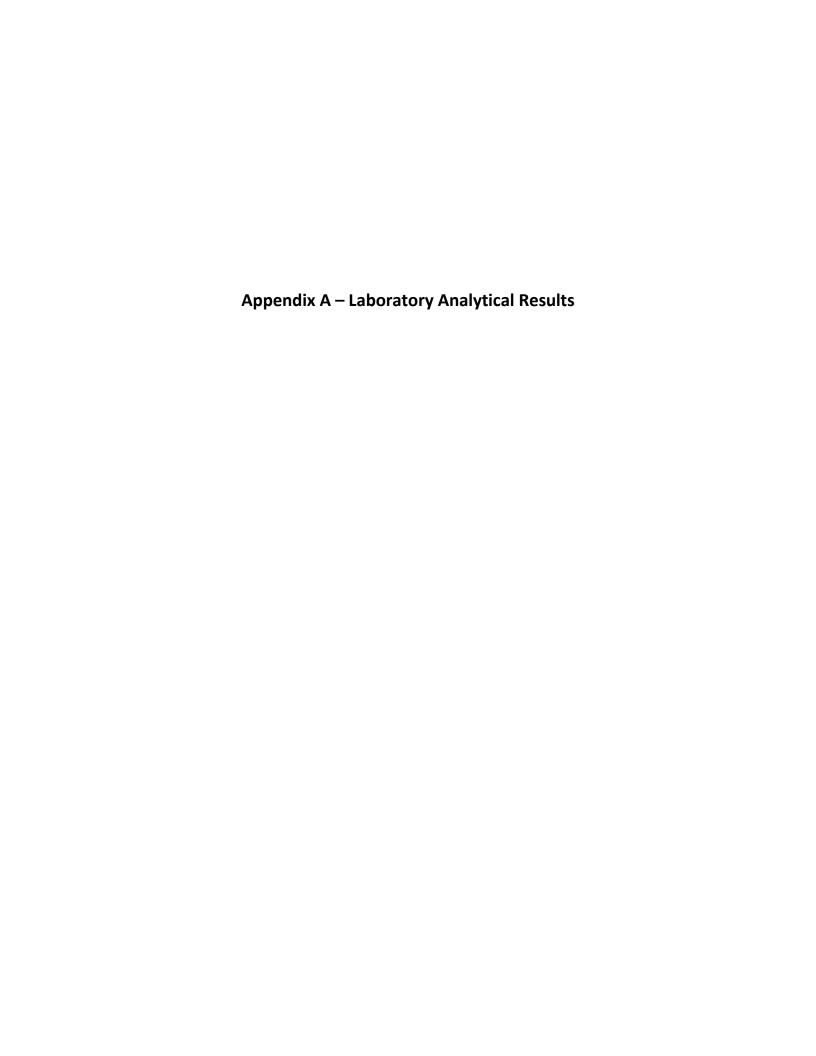
SANTEE COOPER WINYAH GENERATING STATION GEORGETOWN, SOUTH CAROLINA

CLASS 3 LANDFILL AREA 2 GROUNDWATER MONITORING WELLS FOR CCR COMPLIANCE

FIGURE 1 JANUARY 2022









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

Loc. Code WAP-1 Time: 13:37

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	8.3	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Barium	52.9	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Beryllium	< 0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Boron	24.0	ug/L	12/30/1999	R&C	EPA 6010D
Calcium	2.1	mg/L	03/08/2021	SJHATCHE	EPA 6020B
Cadmium	< 0.50	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Cobalt	1.5	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Iron	4930	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	12/30/1999	R&C	EPA 7470
Lithium	<10	ug/L	12/30/1999	R&C	EPA 6010D
Molybdenum	<10	ug/L	12/30/1999	R&C	EPA 6010D
Lead	<1.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.422	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
Radium 228	1.34	pCi/L	03/03/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.76	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	7.18	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	24.6	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	67.50	mg/L	02/19/2021	KCWELLS	SM 2540C
рН	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	С	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





Sample # AF09050 Location: GW Well WAP-1 Date: 07/20/2021 Sample Collector: MDG/BRT

Loc. Code WAP-1 Time: 12:28

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Barium	54.7	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Boron	26.0	ug/L	08/13/2021	R&C	EPA 6010D
Calcium	2.2	mg/L	08/24/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Cobalt	1.6	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Iron	7890	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/09/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/10/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/10/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	08/24/2021	SJHATCHE	EPA 6020B
Radium 226	1.05	pCi/L	08/22/2021	GEL	EPA 903.1 Mod
Radium 228	3.96	pCi/L	08/17/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	5.01	pCi/L	08/24/2021	GEL	EPA 903.1 Mod
Chloride	8.76	mg/L	07/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	07/28/2021	KCWELLS	EPA 300.0
Sulfate	27.8	mg/L	07/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	78.75	mg/L	07/26/2021	KCWELLS	SM 2540C
рН	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	С	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





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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
рН	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	С	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





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

Loc. Code WBW-1 Time: 11:07

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Barium	23.7	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Boron	<15	ug/L	08/13/2021	R&C	EPA 6010D
Calcium	1.2	mg/L	08/31/2021	SJHATCHE	EPA 6020B
Cadmium	< 0.50	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Cobalt	2.3	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Chromium	5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/09/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/10/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/10/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	08/31/2021	SJHATCHE	EPA 6020B
Radium 226	0.602	pCi/L	08/22/2021	GEL	EPA 903.1 Mod
Radium 228	0.0240	pCi/L	08/17/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.626	pCi/L	08/24/2021	GEL	EPA 903.1 Mod
Chloride	4.62	mg/L	07/28/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	07/28/2021	KCWELLS	EPA 300.0
Sulfate	5.84	mg/L	07/28/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	68.75	mg/L	07/26/2021	KCWELLS	SM 2540C
рН	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	С	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





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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

Result	Units	Test Date	Analyst	Method
442	ug/L	03/25/2021	SJHATCHE	EPA 6020B
91.5	ug/L	03/25/2021	SJHATCHE	EPA 6020B
<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
7500	ug/L	12/30/1999	R&C	EPA 6010D
324	mg/L	03/25/2021	SJHATCHE	EPA 6020B
0.68	ug/L	03/25/2021	SJHATCHE	EPA 6020B
0.85	ug/L	03/25/2021	SJHATCHE	EPA 6020B
<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
<0.2	ug/L	12/30/1999	R&C	EPA 7470
540	ug/L	12/30/1999	R&C	EPA 6010D
2900	ug/L	12/30/1999	R&C	EPA 6010D
<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
0.298	pCi/L	03/12/2021	GEL	EPA 903.1 Mod
1.24	pCi/L	03/03/2021	GEL	EPA 904.0
1.54	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
27.5	mg/L	02/18/2021	KCWELLS	EPA 300.0
1.39	mg/L	02/18/2021	KCWELLS	EPA 300.0
692	mg/L	02/18/2021	KCWELLS	EPA 300.0
1428	mg/L	02/19/2021	KCWELLS	SM 2540C
6.37	SU	02/16/2021	DEW/MDG	
1610	uS	02/16/2021	DEW/MDG	
0.760	ppm	02/16/2021	DEW/MDG	
87.0	mv	02/16/2021	DEW/MDG	SM2580
21.07	С	02/16/2021	DEW/MDG	
2.70	NTU	02/16/2021	DEW/MDG	
22.72	Feet	02/16/2021	DEW/MDG	
20.33	Feet	03/08/2021	DEWEST	
	442 91.5 <0.50 7500 324 0.68 0.85 <5.0 <0.2 540 2900 <1.0 <5.0 <10.0 <1.54 27.5 1.39 692 1428 6.37 1610 0.760 87.0 21.07 2.70 22.72	442 ug/L 91.5 ug/L <0.50 ug/L 7500 ug/L 7500 ug/L 324 mg/L 0.68 ug/L 0.85 ug/L <5.0 ug/L <5.0 ug/L 540 ug/L 2900 ug/L <1.0 ug/L Since the second of the second o	442	442

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





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
рН	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	С	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





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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 Calculation	2.18	pCi/L	03/16/2021	GEL	EPA 903.1 Mod
Chloride	64.8	mg/L	02/18/2021	KCWELLS	EPA 300.0
Fluoride	0.17	mg/L	02/18/2021	KCWELLS	EPA 300.0
Sulfate	800	mg/L	02/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1510	mg/L	02/19/2021	KCWELLS	SM 2540C
рН	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	С	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





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
рН	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	С	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





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SANTEE COOPER ANALYTICAL SERVICES **CERTIFICATE OF ANALYSIS** LAB CERTIFICATION #08552

Date: 03/02/2021 AE96401 Location: **GW Well WAP-17** DEW/TG/DJ Sample # **Sample Collector:**

Loc. Code WAP-17 Time: 10:48

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	90.6	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	23.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	2800.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	136	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	03/12/2021	R&C	EPA 7470
Lithium	160	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	110	ug/L	03/11/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.250	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.141	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.390	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	45.3	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	0.32	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	348	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	812.5	mg/L	03/05/2021	KCWELLS	SM 2540C
рН	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	С	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





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

Loc. Code WAP-17 Time: 10:53

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Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	95.4	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Barium	23.4	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Boron	2900.0	ug/L	03/15/2021	R&C	EPA 6010D
Calcium	136	mg/L	03/25/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	03/12/2021	R&C	EPA 7470
Lithium	150	ug/L	03/11/2021	R&C	EPA 6010D
Molybdenum	110	ug/L	03/11/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	03/25/2021	SJHATCHE	EPA 6020B
Radium 226	0.308	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Radium 228	0.794	pCi/L	03/23/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.10	pCi/L	04/01/2021	GEL	EPA 903.1 Mod
Chloride	47.1	mg/L	03/04/2021	KCWELLS	EPA 300.0
Fluoride	0.29	mg/L	03/04/2021	KCWELLS	EPA 300.0
Sulfate	359	mg/L	03/04/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	693.8	mg/L	03/05/2021	KCWELLS	SM 2540C

Comments:

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





Sample # AF00695 Location: GW Well WAP-17 Date: 04/08/2021 Sample Collector: DEW/MDG

Loc. Code WAP-17 Time: 13:31

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	108	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Barium	26.9	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Boron	3300	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Calcium	180	mg/L	04/26/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	04/16/2021	ROGERSNCALLC	EPA 7470
Lithium	130	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	59	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Radium 226	0.172	pCi/L	04/22/2021	GEL	EPA 903.1 Mod
Radium 228	3.85	pCi/L	04/20/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	4.02	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Chloride	66.6	mg/L	04/20/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	04/20/2021	KCWELLS	EPA 300.0
Sulfate	432	mg/L	04/20/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1015	mg/L	04/16/2021	SJBROWN	SM 2540C
рН	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	С	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



Sample # AF00696 Location: GW Well WAP-17 Date: 04/08/2021 Sample Collector: DEW/MDG

Loc. Code WAP-17 Time: 13:36

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Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	110	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Barium	28.4	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Boron	3300	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Calcium	188	mg/L	04/26/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	04/16/2021	ROGERSNCALLC	EPA 7470
Lithium	120	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	57	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Radium 226	1.02	pCi/L	04/22/2021	GEL	EPA 903.1 Mod
Radium 228	4.17	pCi/L	04/20/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	5.19	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Chloride	65.8	mg/L	04/20/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	04/20/2021	KCWELLS	EPA 300.0
Sulfate	426	mg/L	04/20/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	967.5	mg/L	04/16/2021	SJBROWN	SM 2540C

Comments:

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

Analysis Validated:



Linda Williams - Supervisor Analytical Services



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
рН	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	С	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



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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 Time: 15:17

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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





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SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AF00693 Location: WGS well WLF-A2-6 Date: 04/08/2021 Sample Collector: DEW/MDG

Loc. Code WLF-A2-6 Time: 15:27

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.3	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Barium	26.1	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Boron	310	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Calcium	117	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	24	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	<10	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	0.244	pCi/L	04/22/2021	GEL	EPA 903.1 Mod
Radium 228	1.02	pCi/L	04/20/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.26	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Chloride	6.47	mg/L	04/20/2021	KCWELLS	EPA 300.0
Fluoride	0.17	mg/L	04/20/2021	KCWELLS	EPA 300.0
Sulfate	28.2	mg/L	04/20/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	667.5	mg/L	04/16/2021	SJBROWN	SM 2540C
рН	6.59	SU	04/08/2021	DEW/MDG	
Spec. Cond.	515	uS	04/08/2021	DEW/MDG	
Dissolved Oxygen	0.430	ppm	04/08/2021	DEW/MDG	
Oxidation Reduction Potential	-5.00	mv	04/08/2021	DEW/MDG	SM2580
Temp	26.62	С	04/08/2021	DEW/MDG	
Turbidity	0	NTU	04/08/2021	DEW/MDG	
Depth	16.00	Feet	04/08/2021	DEW/MDG	
Elevation	10.88	Feet	04/23/2021	JMGILMET	

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





Sample # AF00694 Location: WGS well WLF-A2-6 Date: 04/08/2021 Sample Collector: DEW/MDG

Loc. Code WLF-A2-6 Time: 15:32

DL	JP				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	6.2	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Barium	28.3	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	04/26/2021	SJHATCHE	EPA 6020B
Boron	280	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Calcium	123	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	32	ug/L	04/16/2021	ROGERSNCALLC	EPA 6010D
Molybdenum	<10	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	0.214	pCi/L	04/22/2021	GEL	EPA 903.1 Mod
Radium 228	0.897	pCi/L	04/20/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.11	pCi/L	05/05/2021	GEL	EPA 903.1 Mod
Chloride	7.14	mg/L	04/20/2021	KCWELLS	EPA 300.0
Fluoride	0.20	mg/L	04/20/2021	KCWELLS	EPA 300.0
Sulfate	27.5	mg/L	04/20/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	488.8	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





Sample # AF03572 Location: WGS well WLF-A2-6 Date: 05/13/2021 Sample Collector: MDG/BWM

Loc. Code WLF-A2-6 **Time:** 11:20

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Analysis	Result	Units	Test Date	Analyst	Method	
Arsenic	6.5	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Barium	32.5	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Beryllium	<0.50	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Boron	420	ug/L	05/25/2021	R&C	EPA 6010D	
Calcium	130	mg/L	05/19/2021	SJHATCHE	EPA 6020B	
Cadmium	<0.50	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Cobalt	<0.50	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Chromium	<5.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Mercury	<0.2	ug/L	05/27/2021	R&C	EPA 7470	
Lithium	32.0	ug/L	05/25/2021	R&C	EPA 6010D	
Molybdenum	<10	ug/L	05/25/2021	R&C	EPA 6010D	
Lead	<1.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Antimony	<5.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Selenium	<10.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Thallium	<1.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B	
Radium 226	0.313	pCi/L	06/02/2021	GEL	EPA 903.1 Mod	
Radium 228	0.377	pCi/L	06/04/2021	GEL	EPA 904.0	
Radium 226/228 Combined Calculation	0.691	pCi/L	06/11/2021	GEL	EPA 903.1 Mod	
Chloride	6.72	mg/L	05/18/2021	KCWELLS	EPA 300.0	
Fluoride	0.18	mg/L	05/18/2021	KCWELLS	EPA 300.0	
Sulfate	11.5	mg/L	05/18/2021	KCWELLS	EPA 300.0	
Total Dissolved Solids	602.5	mg/L	05/21/2021	KCWELLS	SM 2540C	
рН	6.60	SU	05/14/2021	MDG/BWM		
Spec. Cond.	573	uS	05/14/2021	MDG/BWM		
Dissolved Oxygen	0.670	ppm	05/14/2021	MDG/BWM		
Oxidation Reduction Potential	3.00	mv	05/14/2021	MDG/BWM	SM2580	
Temp	21.31	С	05/14/2021	MDG/BWM		
Turbidity	0	NTU	05/14/2021	MDG/BWM		
Depth	15.45	Feet	05/14/2021	MDG/BWM		
Elevation	11.43	Feet	05/17/2021	MDGOINGS		

Comments:

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





Sample # AF03573 Location: WGS well WLF-A2-6 Date: 05/13/2021 Sample Collector: MDG/BWM

Loc. Code WLF-A2-6 Time: 11:25

DU	JP				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	6.8	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Barium	33.8	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Boron	410	ug/L	05/25/2021	R&C	EPA 6010D
Calcium	132	mg/L	05/19/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	05/27/2021	R&C	EPA 7470
Lithium	33.0	ug/L	05/25/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	05/25/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	05/19/2021	SJHATCHE	EPA 6020B
Radium 226	0.230	pCi/L	06/02/2021	GEL	EPA 903.1 Mod
Radium 228	0.310	pCi/L	06/04/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.540	pCi/L	06/11/2021	GEL	EPA 903.1 Mod
Chloride	6.73	mg/L	05/18/2021	KCWELLS	EPA 300.0
Fluoride	0.19	mg/L	05/18/2021	KCWELLS	EPA 300.0
Sulfate	11.3	mg/L	05/18/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	502.5	mg/L	05/21/2021	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





Sample # AF09091 Location: WGS well WLF-A2-6 Date: 08/04/2021 Sample Collector: MDG/BRT

Loc. Code WLF-A2-6 Time: 15:02

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.2	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	47.1	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	410	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	132	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	773	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	41.0	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/19/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.379	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	1.70	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.08	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	6.00	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	0.24	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	77.6	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	541.2	mg/L	08/14/2021	SJBROWN	SM 2540C
рН	6.47	SU	08/04/2021	BRT/MDG	
Spec. Cond.	690	uS	08/04/2021	BRT/MDG	
Dissolved Oxygen	0.670	ppm	08/04/2021	BRT/MDG	
Oxidation Reduction Potential	-89.0	mv	08/04/2021	BRT/MDG	SM2580
Temp	25.57	С	08/04/2021	BRT/MDG	
Turbidity	2.60	NTU	08/04/2021	BRT/MDG	
Depth	14.18	Feet	08/04/2021	BRT/MDG	
Elevation	20.96	Feet	08/20/2021	MDGOINGS	
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B

Comments:

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





Sample # AF09092 Location: WGS well WLF-A2-6 Date: 08/04/2021 Sample Collector: MDG/BRT

Loc. Code WLF-A2-6 Time: 15:07

)UP		111116. 10.07		
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.1	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Barium	45.4	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	410	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	132	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	760	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	39.0	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/19/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.144	pCi/L	08/31/2021	GEL	EPA 903.1 Mod
Radium 228	0.755	pCi/L	09/02/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.899	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	6.00	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	0.24	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	77.6	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	517.5	mg/L	08/14/2021	SJBROWN	SM 2540C
Nickel	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B

Comments:

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





Sample # AF13777 Location: WGS well WLF-A2-6 Date: 09/01/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 12:40

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.6	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Barium	39.4	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Boron	370	ug/L	09/10/2021	R&C	EPA 6010D
Calcium	131	mg/L	09/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	09/16/2021	R&C	EPA 7470
Lithium	41.0	ug/L	09/10/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	09/10/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Radium 226	0.300	pCi/L	09/29/2021	GEL	EPA 903.1 Mod
Radium 228	-0.930	pCi/L	09/29/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.295	pCi/L	10/01/2021	GEL	EPA 903.1 Mod
Chloride	5.31	mg/L	09/08/2021	KCWELLS	EPA 300.0
Fluoride	0.16	mg/L	09/08/2021	KCWELLS	EPA 300.0
Sulfate	47.9	mg/L	09/08/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	545.0	mg/L	09/09/2021	SJBROWN	SM 2540C
рН	6.52	SU	09/01/2021	DEW/ML	
Spec. Cond.	597	uS	09/01/2021	DEW/ML	
Dissolved Oxygen	0.430	ppm	09/01/2021	DEW/ML	
Oxidation Reduction Potential	-132	mv	09/01/2021	DEW/ML	SM2580
Temp	26.11	С	09/01/2021	DEW/ML	
Turbidity	0	NTU	09/01/2021	DEW/ML	
Depth	14.22	Feet	09/01/2021	DEW/ML	
Elevation	20.92	Feet	09/02/2021	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





Sample # AF13778 Location: WGS well WLF-A2-6 Date: 09/01/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 12:45

DI	JP				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.5	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Barium	39.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Boron	380	ug/L	09/10/2021	R&C	EPA 6010D
Calcium	133	mg/L	09/09/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Mercury	<0.20	ug/L	09/16/2021	R&C	EPA 7470
Lithium	43.0	ug/L	09/10/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	09/10/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/09/2021	SJHATCHE	EPA 6020B
Radium 226	0.532	pCi/L	09/29/2021	GEL	EPA 903.1 Mod
Radium 228	0.100	pCi/L	09/29/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.632	pCi/L	10/01/2021	GEL	EPA 903.1 Mod
Chloride	5.31	mg/L	09/08/2021	KCWELLS	EPA 300.0
Fluoride	0.16	mg/L	09/08/2021	KCWELLS	EPA 300.0
Sulfate	48.4	mg/L	09/08/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	482.5	mg/L	09/09/2021	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





Sample # AF15791 Location: WGS well WLF-A2-6 Date: 09/28/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 10:21

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Barium	38.4	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Boron	360	ug/L	10/06/2021	R&C	EPA 6010D
Calcium	136	mg/L	10/12/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	10/06/2021	R&C	EPA 7470
Lithium	31.0	ug/L	10/04/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	10/06/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Radium 226	0.421	pCi/L	10/26/2021	GEL	EPA 903.1 Mod
Radium 228	0.384	pCi/L	10/13/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	0.805	pCi/L	10/26/2021	GEL	EPA 903.1 Mod
Chloride	5.39	mg/L	09/30/2021	KCWELLS	EPA 300.0
Fluoride	0.17	mg/L	09/30/2021	KCWELLS	EPA 300.0
Sulfate	53.0	mg/L	09/30/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	552.5	mg/L	10/04/2021	KCWELLS	SM 2540C
рН	6.36	SU	09/28/2021	DEW/ML	
Spec. Cond.	615	uS	09/28/2021	DEW/ML	
Dissolved Oxygen	0.410	ppm	09/28/2021	DEW/ML	
Oxidation Reduction Potential	-134	mv	09/28/2021	DEW/ML	SM2580
Temp	25.29	С	09/28/2021	DEW/ML	
Turbidity	0	NTU	09/28/2021	DEW/ML	
Depth	14.32	Feet	09/28/2021	DEW/ML	
Elevation	20.82	Feet	10/01/2021	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





Sample # AF15792 Location: WGS well WLF-A2-6 Date: 09/28/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 10:26

DI	JP				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Barium	37.3	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Boron	340	ug/L	10/04/2021	R&C	EPA 6010D
Calcium	139	mg/L	10/12/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	10/06/2021	R&C	EPA 7470
Lithium	29.0	ug/L	10/04/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	10/04/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	10/11/2021	SJHATCHE	EPA 6020B
Radium 226	0.556	pCi/L	10/26/2021	GEL	EPA 903.1 Mod
Radium 228	1.73	pCi/L	10/13/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.29	pCi/L	10/26/2021	GEL	EPA 903.1 Mod
Chloride	5.45	mg/L	10/30/2021	KCWELLS	EPA 300.0
Fluoride	0.29	mg/L	10/30/2021	KCWELLS	EPA 300.0
Sulfate	53.3	mg/L	10/30/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	496.2	mg/L	10/04/2021	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





Sample # AF18539 Location: WGS well WLF-A2-6 Date: 10/27/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 10:27

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.3	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Barium	37.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Boron	420.0	ug/L	11/04/2021	R&C	EPA 6010D
Calcium	133	mg/L	11/02/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	11/09/2021	R&C	EPA 7470
Lithium	36.0	ug/L	11/04/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	11/04/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Radium 226	2.97	pCi/L	11/05/2021	GEL	EPA 903.1 Mod
Radium 228	0.619	pCi/L	11/04/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.59	pCi/L	11/10/2021	GEL	EPA 903.1 Mod
Chloride	5.75	mg/L	11/10/2021	KCWELLS	EPA 300.0
Fluoride	0.29	mg/L	11/10/2021	KCWELLS	EPA 300.0
Sulfate	37.7	mg/L	11/10/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	588.8	mg/L	11/02/2021	KCWELLS	SM 2540C
рН	6.33	SU	10/27/2021	DEW/ML	
Spec. Cond.	576	uS	10/27/2021	DEW/ML	
Dissolved Oxygen	0.510	ppm	10/27/2021	DEW/ML	
Oxidation Reduction Potential	-153	mv	10/27/2021	DEW/ML	SM2580
Temp	23.02	С	10/27/2021	DEW/ML	
Turbidity	0	NTU	10/27/2021	DEW/ML	
Depth	14.82	Feet	10/27/2021	DEW/ML	
Elevation	20.32	Feet	10/28/2021	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





Sample # AF18540 Location: WGS well WLF-A2-6 Date: 10/27/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 10:32

D D	UP		11110. 10.02		
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.7	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Barium	39.1	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Boron	360.0	ug/L	11/04/2021	R&C	EPA 6010D
Calcium	130	mg/L	11/02/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	11/09/2021	R&C	EPA 7470
Lithium	36.0	ug/L	11/04/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	11/04/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	11/02/2021	SJHATCHE	EPA 6020B
Radium 226	2.09	pCi/L	11/05/2021	GEL	EPA 903.1 Mod
Radium 228	0.903	pCi/L	11/04/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	3.00	pCi/L	11/10/2021	GEL	EPA 903.1 Mod
Chloride	5.70	mg/L	11/10/2021	KCWELLS	EPA 300.0
Fluoride	0.29	mg/L	11/10/2021	KCWELLS	EPA 300.0
Sulfate	37.9	mg/L	11/10/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	436.2	mg/L	11/02/2021	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





Sample # AF20419 Location: WGS well WLF-A2-6 Date: 11/18/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 11:27

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.4	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Barium	39.2	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	12/13/2021	SJHATCHE	EPA 6020B
Boron	410.0	ug/L	11/24/2021	R&C	EPA 6010D
Calcium	134	mg/L	12/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	12/13/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	11/29/2021	R&C	EPA 7470
Lithium	41.0	ug/L	11/24/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	11/30/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Radium 226	1.14	pCi/L	12/03/2021	GEL	EPA 903.1 Mod
Radium 228	1.25	pCi/L	12/27/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	2.39	pCi/L	12/28/2021	GEL	EPA 903.1 Mod
Chloride	5.77	mg/L	12/01/2021	KCWELLS	EPA 300.0
Fluoride	0.30	mg/L	12/01/2021	KCWELLS	EPA 300.0
Sulfate	32.5	mg/L	12/01/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	456.2	mg/L	11/30/2021	KCWELLS	SM 2540C
рН	6.45	SU	11/18/2021	DEW/ML	
Spec. Cond.	569	uS	11/18/2021	DEW/ML	
Dissolved Oxygen	1.46	ppm	11/18/2021	DEW/ML	
Oxidation Reduction Potential	-143	mv	11/18/2021	DEW/ML	SM2580
Temp	24.70	С	11/18/2021	DEW/ML	
Turbidity	0	NTU	11/18/2021	DEW/ML	
Depth	15.27	Feet	11/18/2021	DEW/ML	
Elevation	19.87	Feet	11/19/2021	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





Sample # AF20420 Location: WGS well WLF-A2-6 Date: 11/18/2021 Sample Collector: DEW/ML

Loc. Code WLF-A2-6 Time: 11:32

DI	JP				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	5.4	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Barium	39.3	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	12/13/2021	SJHATCHE	EPA 6020B
Boron	480.0	ug/L	11/24/2021	R&C	EPA 6010D
Calcium	132	mg/L	12/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	12/13/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	11/29/2021	R&C	EPA 7470
Lithium	40.0	ug/L	11/24/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	11/30/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	12/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.320	pCi/L	12/03/2021	GEL	EPA 903.1 Mod
Radium 228	0.743	pCi/L	12/27/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.06	pCi/L	12/28/2021	GEL	EPA 903.1 Mod
Chloride	5.77	mg/L	12/01/2021	KCWELLS	EPA 300.0
Fluoride	0.30	mg/L	12/01/2021	KCWELLS	EPA 300.0
Sulfate	32.9	mg/L	12/01/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	432.5	mg/L	11/30/2021	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





Sample # AF21740 Location: WGS well WLF-A2-6 Date: 12/07/2021 Sample Collector: TW ML

Loc. Code WLF-A2-6 Time: 10:36

Analysis	Result	Units	Test Date	Analyst	Method	
Arsenic	12	ug/L	01/19/2022	PACE	EPA 6020B	
Barium	44	ug/L	01/19/2022	PACE	EPA 6020B	
Beryllium	<0.40	ug/L	01/19/2022	01/19/2022 PACE	EPA 6020B	
Boron	740	ug/L	12/20/2021	ROGERSNCALLC	EPA 6010D	
Calcium	130	mg/L	01/19/2022	PACE	EPA 6020B	
Cadmium	<0.50	ug/L	01/19/2022	PACE	EPA 6020B	
Cobalt	<5.0	ug/L	01/19/2022	PACE	EPA 6020B	
Chromium	<5.0	ug/L	01/19/2022	PACE	EPA 6020B	
Mercury	<0.20	ug/L	12/16/2021	ROGERSNCALLC	EPA 7470	
Lithium	66	ug/L	12/20/2021	ROGERSNCALLC	EPA 6010D	
Molybdenum	<10	ug/L	12/17/2021	ROGERSNCALLC	EPA 6010D	
Lead	<1.0	ug/L	01/19/2022	PACE	EPA 6020B	
Antimony	<2.0	ug/L	01/19/2022	PACE	EPA 6020B	
Selenium	<5.0	ug/L	01/19/2022	PACE	EPA 6020B	
Thallium	<0.50	ug/L	01/19/2022	PACE	EPA 6020B	
Radium 226	0.422	pCi/L	01/04/2022	GEL	EPA 903.1 Mod	
Radium 228	0.757	pCi/L	01/05/2022	GEL	EPA 904.0	
Radium 226/228 Combined Calculation	1.18	pCi/L	01/05/2022	GEL	EPA 903.1 Mod	
Chloride	10.9	mg/L	12/15/2021	KCWELLS	EPA 300.0	
Fluoride	0.31	mg/L	12/15/2021	KCWELLS	EPA 300.0	
Sulfate	38.1	mg/L	12/15/2021	KCWELLS	EPA 300.0	
Total Dissolved Solids	600.0	mg/L	12/13/2021	KCWELLS	SM 2540C	
рН	6.29	SU	12/07/2021	DEW/ML		
Spec. Cond.	547	uS	12/07/2021	DEW/ML		
Dissolved Oxygen	0.590	ppm	12/07/2021	DEW/ML		
Oxidation Reduction Potential	-116	mv	12/07/2021	DEW/ML	SM2580	
Temp	23.51	С	12/07/2021	DEW/ML		
Turbidity	0.400	NTU	12/07/2021	DEW/ML		
Depth	15.24	Feet	12/07/2021	DEW/ML		
Elevation	19.90	Feet	12/08/2021	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





Sample # AF21741 Location: WGS well WLF-A2-6 Date: 12/07/2021 Sample Collector: TW ML

Loc. Code WLF-A2-6 Time: 10:41

DL	JP					
Analysis	Result	Units	Test Date	Analyst	Method	
Arsenic	10	ug/L	01/19/2022	PACE	EPA 6020B	
Barium	43	ug/L	01/19/2022	PACE	EPA 6020B	
Beryllium	<0.40	ug/L	01/19/2022	PACE	EPA 6020B	
Boron	690	ug/L	12/20/2021	ROGERSNCALLC	EPA 6010D	
Calcium	140	mg/L	01/19/2022	PACE	EPA 6020B	
Cadmium	<0.50	ug/L	01/19/2022	PACE	EPA 6020B	
Cobalt	<5.0	ug/L	01/19/2022	PACE	EPA 6020B	
Chromium	<5.0	ug/L	01/19/2022	PACE	EPA 6020B	
Mercury	<0.20	ug/L	12/16/2021	ROGERSNCALLC	EPA 7470	
Lithium	62	ug/L	12/20/2021	ROGERSNCALLC	EPA 6010D	
Molybdenum	<10	ug/L	12/17/2021	ROGERSNCALLC	EPA 6010D	
Lead	<1.0	ug/L	01/19/2022	PACE	EPA 6020B	
Antimony	<2.0	ug/L	01/19/2022	PACE	EPA 6020B	
Selenium	<5.0	ug/L	01/19/2022	PACE	EPA 6020B	
Thallium	<0.50	ug/L	01/19/2022	PACE	EPA 6020B	
Radium 226	0.410	pCi/L	01/04/2022	GEL	EPA 903.1 Mod	
Radium 228	0.233	pCi/L	01/05/2022	GEL	EPA 904.0	
Radium 226/228 Combined Calculation	0.643	pCi/L	01/05/2022	GEL	EPA 903.1 Mod	
Chloride	10.2	mg/L	12/15/2021	KCWELLS	EPA 300.0	
Fluoride	0.31	mg/L	12/15/2021	KCWELLS	EPA 300.0	
Sulfate	36.3	mg/L	12/15/2021	KCWELLS	EPA 300.0	
Total Dissolved Solids	517.5	mg/L	12/13/2021	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







Laboratory Services

Laboratory Report

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Ground Water Project: 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

Jane Heires-Ripshin

Report Approved By:

Karen Upshur Project Manager





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

Project: Ground Water
Work Order: 1021082

Received: 02/19/2021 10:20

Linda Williams
1 Riverwood Dr.
Moncks Corner, SC 29461

Santee Cooper

Client

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



Sample Data

Sample Number

1021082-01

Sample Description

AE96379 WAP-1 collected on 02/15/21 13:37

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

Sample Number

1021082-02

Sample Description

AE96380 WAP-2 collected on 02/15/21 14:40

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

Sample Number

1021082-03

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

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

Sample Number

1021082-04

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

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

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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

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

Project:

Work Order:

Reported:

Ground Water

02/26/21 13:41

1021082

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 Sample Description 1021082-07

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

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Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported:

1021082 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

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Total Metals **Quality Control Summary**

		Reporting		Spike	Source		%REC		RPD	
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1B1006 - EPA 3005A										
Blank (B1B1006-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1B1006-BS1)										
Boron	250	15	ug/L	250		98	80-120			
Lithium	255	10	ug/L	250		102	80-120			
Molybdenum	240	10	ug/L	250		97	80-120			
LCS Dup (B1B1006-BSD1)										
Boron	250	15	ug/L	250		99	80-120	0.8	20	
Lithium	257	10	ug/L	250		103	80-120	0.7	20	
Molybdenum	250	10	ug/L	250		99	80-120	2	20	
Matrix Spike (B1B1006-MS1)	Source: 1021082-01	l								
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	3								
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	l								
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	3								
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	

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Total Metals **Quality Control Summary**

		Reporting Limit		Spike	Source	0/225	%REC		RPD	***
Parameter	Result	Lillit	Units	Level	Result	%REC	Limits	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: 1021082-0	2								
Mercury	4.1	0.20	ug/L	5.00	ND	82	75-125			S7
Matrix Spike Dup (B1B1040-MSD2)	Source: 1021082-0	2								
Mercury	4.1	0.20	ug/L	5.00	ND	82	75-125	0.6	20	S7

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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	



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



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

Custom	ner Email	/Report Recip	ient:	Date F	Results N	eeded b	y:		Pr	roject/	Task/	Unit #:		Rerun reque	un request for any flagge			d QC
LCWI	LLIA	@santee	cooper.com		/	-		1215	567	1_1		162		2 Yes		Analy	is Gro	up
Labwor (Interna only)		Sample Locati Description	on/	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	• Me		nit c info	φ		0	F
AE96	379	WAP - I		2/15/24	1337	MDG	1	1	G	GW	2	-01			×	×	×	X
AE 963	3 80	WAP-2		2/15/21	1440				1			-02	iv.			X	×	×
AE964	+12	WBW-I		2/15/24	1221						1	-0	3		X	X	×	×
AE 764	03	WAP-18		2/16/21	1133		1			7		-04	1		×	×	X	¥
AE964	+04	WAP-19			1425							-0		160001100000000000000000000000000000000	×	X	X	X
AE964	105	WAP-20		1	1530	1	1	1			1	-0	6		X	X	X	X
AE % 40	7	WAP-22		2/16/21	1913	L	1	1	1	1	1	-0				X		
													,,					
Reling	uished by:	Employee#	Date	Time	Pacahi	red by:	E-	nployee		Date		Time	Sampl	le Receiving (Interno	il Use Or	ily)		
Sprace		35594	2/18/21	1400	FEX	XX		ipiojee		Date		Tune	TEM	P (°C): 4. 0	Initia	l:		-
Relinqu	uished by:	Employee#	Date	Time	Receiv	ed by:	En	nployee	8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Date	19/15/19	Time	Corre	ect pH: Yes N	lo			
TO	DEN				110		en Plan		1	1110	6.		Prese	rvative Lot#:				
	uished by:	Employee#	Date	Time	Receive	nd bus	-	nployee !		2/19 Date	101	020						
		Linployees	Jan Sala		inesta inchia.	eu by.		npioyee		Date		Time	Date/	Time/Init for presen	vative:			
		TALS (all)	Flide Con									A TOTAL MEN						
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	□ Fe	□ Se	DO DO	AND DESCRIPTION OF THE PERSON	☐ BTEX ☐ Napthale	ne	9	Wallbox	ard sum(<i>ali</i>	,	ום	Ultimate		□ Ammonia		as. Oi More	Qual	
□ As	□K	□ Sn		TPO4	O THM/HA			below				☐ % Mois ☐ Ash	ture	□ LOI □ % Carbon		sanur Siot		
□B	OLi	□ Sr	100 March 1997	3-N	□ VOC □ Oil & Gr	ease		O AJE				☐ Sulfur		□ Mineral				
□ Ba	□ Mg	□ Ti	□ F □ C1.		☐ E. Coli				al metal:	s	CONTRACTOR AND ADDRESS OF THE PARTY OF THE P	O BTUs		Analysis	18			
□ Be	□ Mn		J NO	ALCOHOLD BUILDING	☐ Total Col	liform		□ Solu	ible Me	tals		☐ Volatile ☐ CHN	Matter	☐ Sieve ☐ % Moisture		d Oil	ed Com	
□ Ca	□Мо		□ Br		☐ Dissolved				ty (CaS loisure		Ot	her Tests:		J. O. WISISHITE		ashpa		
□ Cd	□ Na	□ Zn	NO	SALES HARRISON OF THE PARTY OF	☐ Dissolved ☐ Rad 226	d Fe	40.05	O Sulf			S 2 100 2 100 100 100 100 100 100 100 100	(RF Scan		NPDES	L M			204
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□ Cr	□ Ni	☐ Hg			PCB				icle Size	•	OP	articulate M	atter	D As O TSS	60	FER		
50.	1 - 10	13011						Sulfur										

Chain of Custody



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

Custom	Customer Email/Report Recipient:		Date R	Project/Task/Unit #:						Rerun req	uest for a	any fla	aggeo	1 QC				
LCWI	LLIA	@santeed	cooper.com					1219	567	/_JM	02-0	9. GØI	1_365	500	Yes No			
)	02	1082		Analys	is Grou	up
Labwork (Internal only)		Sample Location Description	on/	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	Me Re Mis An		nments nit info	00	Lì	Mo	Hy
AE963	388	WAP-10		2/17/21	1357	DEW	1	P	6	GW	2	-68				×	X	X
AE963	389	WAP-10 DU	Þ	1	1402	1	1	1	1	1	1	-00	7			Х	x	X
AE964	-06	WAP-21		2/17/21	1235		1					-10			X	X	x	x
AE964		WAP-23		1	1126				1		1	- 11				X		
					1,22		-	-										
												-						
													Sample	e Receiving (Inte	rnal Use O	nlv)		
	uished by:	Employee#	Date	Time	Receiv	red by:	Er	mployee	#	Date	H.M. (4	Time	TEMI	(°C): 9,4	_ Initia			_
89/2000	uished by:	35594 Employee#	2/18/21 Date	1400 Time	Receiv	ed by:	F.	nployee	• At tract	Date	-	Time	Corre	ct pH: Yes	No			
		- Inpopulation						прючее		Date		Tune as	Preser	vative Lot#:				
Relinqu	ished by:	Employee#	Date	Time	Receiv	ed by:	Er	mployee		Date		Time						
													Date/1	Time/Init for pre	eservative:			
		TALS (all)	Nut	rients	MIS	SC.	100	Gv	psum			Coal		Elyach		Oi		
□ Ag	O Cu		DTO		D BTEX		n	Wallbo	SECTION AND PROPERTY.		п	Ultimate		Flyash Ammonia	1	ins, Oi		
	□ Fe		DO	e l	□ Napthale			Gyp	sum(al	1	AND THE SHEETS	0 % Moist	ture	□ LOI		%Mos		
□ As	OK	□ Sn		TPO4	□ THM/H/ □ VOC	ł.A		belov				□ Ash		☐ % Carbon		Talor Acidin		
OB	□ Li	□ Sr	U F	3-N	□ Oil & Gr	ease		U TO				□ Sulfur	1000	☐ Mineral		holooms		ji,
□ Ba	□ Mg	g 🛮 🗆 Ti	i ci		☐ E. Coli ☐ Total Co	liform		☐ Tot	al metal			☐ BTUs ☐ Volatile	Matter	Analysis D Sieve	000000	PT Dissolvi	10	
□Ве	□ Mr	n 🗆 Tl	UNO		D pH	mond			ible Me			CHN	. 10.00	D % Moisture		ed Oil		
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□ Cd	□ Na		T NO	STATE OF THE PARTY	☐ Dissolve☐ Rad 226	d Fe		O Sul	fites			RF Scan		NPDES		demis As.Cd		Page 1
			2 804	COLUMN TO SERVICE AND ADDRESS OF THE PARTY O	☐ Rad 228			□ pH □ Chl	orides		\$100 Per 100 P	ineness		Oil & Grease				
□ Co	□ Ni				□ PCB			☐ Part	icle Siz	e .	OP	articulate Ma	atter	□ As □ TSS		X		72.14
□ Cr	□ Pb	□ CrVI					200	Sulfur					Z/Maria and	11-3-00	23 63	FER		



Revised February 2018

Sample Receipt Verification

Client:	Santee Cooper	Date Received:	2/	24/21		Work Order: 1021247
Carrier Name:		S US I	Mail		Cou	urier Field Services Other:
Receipt Crite	eria		Y e s	N o	N A	Comments
Shipping conta	niner / cooler intact?		Х			Damaged Leaking Other:
Custody seals i	intact?				Х	
COC included	with samples?		Х			
COC signed w	hen relinquished and received?		Х			
Sample bottles	intact?		Х			Damaged Leaking Other:
Sample ID on	COC agree with label on bottle(s)?		Х			
Date / time on	COC agree with label on bottle(s)?		Х			
Number of bot	tles on COC agrees with number of bottle	es received?	Х			
Samples receiv	ved within holding time?		Х			
Sample volume	e sufficient for analysis?		Х			
VOA vials free	e of headspace (<6mm bubble)?				Х	
Samples cooled	d? Temp at receipt recorded on COC Temp measured with IR thermometer - Sl	N: 97050067			Х	Ice Cold Packs Dry Ice None
Note: Samples	ring pH preservation at proper pH? for metals analysis may be preserved upon receipt to For O&G and VOA analysis – preservation checked	in the lab.	Х			
Samples dechlor the time of sam	orinated for parameters requiring chlorine inple collection? e checked at bench for samples requiring Bacterial,	e removal at			х	
	If in-hous	se preservation	used	– re	cord	Lot#
HCL		H ₃ P				
H ₂ SO ₄ HNO ₃		NaC Oth				
Comments:						
Were non-cor	nformance issues noted at sample rece	eint? Yes	S 01	·	No	
	ance issue other than noted above:					
Payisad Fahrmary	2019				Co	ompleted by: KRU

Completed by:____

Page 12 of 12





Laboratory Services

Laboratory Report

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Ground Water Project: 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





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

Project: Ground Water
Work Order: 1030283

Received: 03/03/2021 13:20

Certificate of Analysis

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

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Sample Data

Sample Number

1030283-01

Sample Description

AE96387 WAP-9 collected on 02/23/21 12:49

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

Sample Number

1030283-02

Sample Description

AE96382 WAP-4 collected on 02/23/21 14:28

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

Sample Number

1030283-03

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

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

Sample Number

1030283-04

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

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

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Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported:

1030283 03/11/21 09:01

Sample Number 1030283-05

Sample Description

AE96398 WAP-14C collected on 02/25/21 12:20

sumple Bestription										
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 Sample Description	1030283-06 AE96397 WAP-14B	collected on	02/25/21 13:5	6						
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
Cample Number	1030283-07	·	·				·			

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

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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



Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0267 - EPA 200.7										
Blank (B1C0267-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1C0267-BS1)										
Boron	240	15	ug/L	250		96	80-120			
Lithium	266	10	ug/L	250		106	80-120			
Molybdenum	220	10	ug/L	250		89	80-120			
LCS Dup (B1C0267-BSD1)										
Boron	250	15	ug/L	250		100	80-120	5	20	
Lithium	264	10	ug/L	250		106	80-120	0.7	20	
Molybdenum	230	10	ug/L	250		94	80-120	5	20	
Matrix Spike (B1C0267-MS1)	Source: 1030283-05	5								
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	5								
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	5								
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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Total Metals **Quality Control Summary**

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

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

Sample Preparation Data

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



Data Qualifiers and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

RPD Relative Percent Difference

Chain of Custody



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

Custor	ner Emai	I/Report Recip	ient:	Date Results Needed by: Project/Task/Unit #:					Rerun r	equest	for a	any f	agge	d Q					
LOW	ILLIA	@santee	cooper.com		_/	/	_	1215	567	J_JA	102.	09. GØ] 3650	0	Yes	No			
		-										103	0283			ă	Analy	sis Gro	up
(Interne	rks ID # al use	Sample Locati Description	ion/	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	T	Comm lethod # eporting limit isc. sample in ny other notes	ents		m		Mo	Ha
AE 96	387	WAP-9		2/23/	21 1249	DEW	1.	P	6	GW	2	-01	1		2		X	X	X
AETE	382	WAP-4		1	1428	1	1	1	1	1		-02					X	X	X
AE96	382	WAP-7		2/24/2	21 1102	DEW	a production of the state of th		The second second	The same of		-03)				X	×	X
4E96	381	WAP-3		-	1318		* description .	- Anna Care	manual for the former	-		-04					X	×	X
AE 96	398	WAP-14C		2/25/2	2 1220	DEW	The second	-	i annua	· · · · · · · · · · · · · · · · · · ·	1	.05					×		
AE96	397	WAP-148		- Marie 1944	1356	manus de s	Principle of the second	1000		The State of Languages of		-06)				×		
AE 96	396	WAP-140		-	1446	1	1	- Personale con-	-	1		-07					х		
AE 963	74	WAP-14		2/25/2	1 1110	DEW	Padapasi	, and		- I trans		-08				X	×	X	X
+E96=	95	WAP-14 DO	IP.	al reports.	1115		The section of	STATE OF THE PROPERTY OF		The state of the s		-09				×	×	х	×
HE963	99	WAP-15			1540			-				-10	C			×	X	X	X
Lighton	ished by:	Employee#	Date 3/2/21	Time	Receive	EX		ployee #		Date		Time	Sample Re TEMP (°C			se Oni	(v) Ge	e	
FED	shed by:	Employee#	Date Date	Time	Receive	-		ployee #	3/	Date 3/71 Date	1	Time 320 Time	Preservati	ve Lot#:	No eservat	ive:			
☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be	☐ ME7 ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn	TALS (all)	Nutri D TOG D DOC D TP/1 D NH3 D F D C1 D NO2	P04	MISC BTEX Napthalenc THM/HAA VOC Oil & Grea E. Coli Total Colif	e A A ase Corm		Gypsu below) AIM TOC	metals		[[[[Coal Itimate Moist Ash Sulfur BTUs Volatile CHN	ure 1 1 1 1 1 1 1 1 1	Flyash Ammonia LOI 6 Carbon Mineral Analysis Sieve 6 Moisture		Co DAc Die	solver	Qual. ire frength	Ĺ
Ca Cd Co Cr	□ Mo □ Na □ Ni □ Pb	□ V □ Zn □ Hg □ CrVI	Br NO3 SO4		☐ Dissolved I ☐ Dissolved I ☐ Rad 226 ☐ Rad 228 ☐ PCB		ū.s	% Mo Sulfite pH Chlori Particular	isture es ides		Oth OXF OHO OFin	er Tests: RF Scan	<u></u>	NPDES il & Grease s		Fig Me	shpoin tals in s.Cd.C	t ml r.Nr.Pl	b



Revised February 2018

Sample Receipt Verification

Santee Cooper	Date ceived:	03	/03/2	:1	Work Order: 1030283
Carrier Name: Client FedEx UPS Tracking Number: 81624	US M	1 ail		Cou	urier Field Services Other:
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Χ			
COC signed when relinquished and received?		Х			
Sample bottles intact?		Χ			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Χ			
Date / time on COC agree with label on bottle(s)?		Х			
Number of bottles on COC agrees with number of bottles rece	eived?	Х			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Χ			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 9705	50067			Х	Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH? Note: Samples for metals analysis may be preserved upon receipt in the la Note: Samples for O&G and VOA analysis – preservation checked at ben	ab.	Χ			
Samples dechlorinated for parameters requiring chlorine remothe time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, analysis.	oval at			Х	
If in-house pres	servation u	ised	– re	cord	Lot#
HCL	H ₃ PC				
H ₂ SO ₄	NaO				
HNO ₃	Othe	21			
Comments:					
Were non-conformance issues noted at sample receipt?	Yes	or	Q	10	
Non-Conformance issue other than noted above:					

Completed by:____

Page 11 of 11





Laboratory Services

Laboratory Report

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Ground Water Project: 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





Certificate of Analysis

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

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

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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 Sample Description	1030536-02 AE96417 WLF-A1-4 collected o	n 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 Sample Description	1030536-03 AE96418 WLF-A1-4 dup collect	ed 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 Sample Description	1030536-04 AE96416 WLF-A1-3 collected o	n 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 Sample Description	1030536-05 AE96415 WLF-A1-2 collected o	n 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

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Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported:

1030536 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 Sample Description 1030536-08

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 Sample Descripti 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

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Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported:

1030536 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	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 Sample Description 1030536-16

ption AE96400 WAP-16 collected on 03/04/21 14:27

Parameter	Result	Reporting Limit	Units	nits 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



Total Metals **Quality Control Summary**

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



Total Metals **Quality Control Summary**

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



Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0646 - EPA 7470A	1									
Post Spike (B1C0646-PS5)	Source: 1030536-13									
Mercury	3.3		ug/L	4.00	ND	82	80-120			S7
Post Spike (B1C0646-PS6)	Source: 1030536-14									
Mercury	3.2		ug/L	4.00	ND	81	80-120			S7
Post Spike (B1C0646-PS7)	Source: 1030536-16									
Mercury	3.6		ug/L	4.00	ND	89	80-120			



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	



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



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

Labworks ID # (Internal use only) Sample Location/ Description Des	Yes	No X X X X X	Analy	sis Gro	
Comments Comments		KO X X X X X X X X X	,		
Comments Comments		X X X	1	Mo	Ha
AE96417 WLF-A1-4 1110 1 1 1 - 02 AE96418 WLF-A1-4 DUP 1115 - 03 AE96416 WLF-A1-3 1231 - 04 AE96415 WLF-A1-2 1348 1 1 - 05		X X			
AE96418 WLF-AI-4 DUP 1115 -03 AE96416 WLF-AI-3 1231 -04 AE96415 WLF-AI-2 1348 1 1 -05		X			
AE96416 WLF-AI-3 1231 -04 AE96415 WLF-AI-2 134805		X			
AE96415 WLF-AI-2 1348 1 1 - 05					
COM .		X		1 /	
DEN		1			
AE 96 401 WAP-17 3/2/21 1048 TG/DJ -06	1	X	×	X	х
AE96402 WAP-17 DUP 1 1053 1 1 1 1 1 1 - 07		×	×	×	Х
AE 96414 WLF-AI-1 3/2/21 1253 -08		X			
AE96419 WLF-AI-5 1 1401 1 1 1 1 1 -09		×			
Relinquished by: Employee# Date Time Received by: Employee# Date Time	ternal Us	se On	ly)		
8. Mount 35594 3/8/21 1200 FGBX	G In	nitial:	: 0	æ	
Relinquished by: Employee# Date Time Received by: Employee# Date Time Correct pH: Yes	No				
FEVEN SIQUE 3/9/11 1255 Preservative Lot#:					
Relinquished by: Employee# Date Time Received by: Employee# Date Time					
Date/Time/Init for pro	reservati	ive:			
□ METALS (all) □ Ag □ Cu □ Sb Nutrients MISC. Gypsum Coal Flyash			Oil		
□ Al □ Fe □ Se □ TOC □ BTEX □ Wallboard □ Ultimate □ Ammonia	ES (5) 75		is. Oil	Qual.	
□ As □ K □ Sn □ THM/HAA below) □ Ash			Moist dor	use	
□ B □ Li □ Sr NH3 N □ Oil & Grease □ TOC □ Sulfur □ Mineral		Aç	idity	Strengel	
□ Ba □ Mg □ Ti □ E. Coli □ Total metals □ BTUs Analysis	is	LIF	T		
□ Be □ Mn □ Tl □ NO2 □ Purity (CaSO4) □ CHN □ % Moisture	e		asolve d Oil	d Gase	
□ Ca □ Mo □ V □ Dissolved As □ % Moisture □ Other Tests: □ Dissolved Fe		Fla	shpoi	ni	
□ Cd □ Na □ Zn □ SO4 □ Rad 226 □ pH □ HGI NPDES			etals it is Cd.6	soil Dr.Ni, P	b
□ Co □ Ni □ Hg □ Rad 228 □ Chlorides □ Fineness □ Particulate Matter □		Hy	e)		
□ Cr □ Pb □ CrVI □ Sulfur □ TSS		GOF			

Chain of Custody



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

Customer Email/Report Recipient:			Date	Date Results Needed by: Project/Task/Unit #:							Rerun request for any flagged Q							
LCW	ILLIA	@santee	cooper.con	n	J			121	567	J_JM	102.1	09.60	1 36	500 (es No			
												1	17A	536		Analys	sis Gro	oup
Labwork (Internationly)		Sample Locati Description	on/	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	• !		mments mit e info	m	Į.J	Mo	五
AE961	t09	WAP-24		3/2/2	1 1128	DEW 160 DJ	1	D.	G	GW	2	= 1	9			X	×	
AE 964	+11	WAP-26		1	1513	1	1		1	1	2	-1)			X	X	
AE96	410	WAP-25		3/4/21	1036	DEW	1		1	1	2	- 1	Z.			X	X	
AE96=	393	WAP-13			1122		1	The state of the s			1	-13			X	X	X	X
AE963	391	WAP-12			1309							-14	***************************************		×	X	X	X
∧ 1 96 =	392	WAP-12 (DUP		1314							-1	,		×	X	X	X
AE964	t00	WAP-16		- Address and Addr	1427			a second			-	-1	6		×	×	X	×

													***************************************	***************************************				
Relingu	ished by:	Employee#	Date	Time	Receiv	ed hv.	En	ployee	#	Date		Time	Samp	le Receiving (Intern P (°C): 1 7. Le	al Use Or	rly)		
Simes		35594	3/8/21	1200	2 00	20	-	pioyee	-	Date	\dashv	Time	TEM	P(°C): 19.6	Initia	-	1	-
	ished by:	Employee#	Date	Time	Receive		En	ployee	#	Date	_	Time	Corre	ect pH: Yes	No			
FBA	ZX				80	}			3/	19/	21	1255	Prese	rvative Lot#:				
Relinqui	ished by:	Employee#	Date	Time	Receive	ed by:	Em	ployee f	#	Date		Time						
	~~~~												Date/	Time/Init for prese	ervative:			
		TALS (all)	Nut	rients	MIS	C.		Gvi	psum	1		Coa		Elyach		Oil		
<ul> <li>□ Ag</li> <li>□ Al</li> </ul>	☐ Cu ☐ Fe	□Sb	То		□ BTEX		i ii	Wallbon	Street Street		DI	Ultimate		Flyash  Ammonia	OTE	Oil as, Oil		
□ As		□ Se	□ DC	OC	□ Napthaler			Gyps	um(ali	1	E CONTRACTOR	□ % Mo		LOI	0.7	Moist		
		□ Sn		TPO4 I3-N	□ THM/HA □ VOC	A		below All			20 min (%)	□ Ash		□ % Carbon	THE RESERVE AND DESCRIPTION OF THE RESERVE AND ADDRESS OF THE RESERVE AND A	olar cidity		
□В	□ Li	□ Sr	2 F		□ Oil & Gre	ease		D TOO			100000000000000000000000000000000000000	☐ Sulfur ☐ BTUs		☐ Mineral  Analysis	□ De	eleanic		h
□ Ba	☐ Mg	□ Ti	L(C)	eries	☐ E. Coli ☐ Total Col	iform			il metals		TO CONTRACT OF	☐ Volati	le Matter	□ Sieve	□ III D D	T issolve	el Casa	
□ Be	☐ Mn	□ T1	Br.		□рH			□ Puri	ry (CaS	041		□ CHN		0 % Moisture	i Use	d Oll		
□ Ca	□ Mo	ΟV	I NO	THE RESERVE OF THE PARTY OF THE	☐ Dissolved			□ % M □ Sulfi	loisture			her Tests RF Scan	•	NOOFC		laahpoe letals ir		
□ Cd	□ Na	□ Zn	SO		☐ Rad 226			□pH			□H	GI		NPDES	0	As, Cd, C		Pb
□Со	□Ni	☐ Hg			□ Rad 228 □ PCB			□ Chlo			B	ineness		Oil & Grease	H	g).		
1 CO	□ Pb		The Real Property lies and the least terms of the l	THE RESERVE OF THE PERSON NAMED AS A PARTY OF THE PERSON NAMED	mrcn		\$2.00 miles	Parte	icle Size	A CONTRACTOR	II P	articulate l						



Revised February 2018

# **Sample Receipt Verification**

Client: Santee Cooper Re	Date eceived:	3/	9/21		Work Order: 1030536
Carrier Name: Client FedEx UPS  Tracking Number: 80413773	US N 85722	Mail		Cou	nrier Field Services Other:
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Х			
COC signed when relinquished and received?		Х			
Sample bottles intact?		Χ			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Х			
Date / time on COC agree with label on bottle(s)?		Х			
Number of bottles on COC agrees with number of bottles red	ceived?	Х			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Х			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 970	050067			Х	Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt in the Note: Samples for O&G and VOA analysis – preservation checked at be	lab.	Х			
Samples dechlorinated for parameters requiring chlorine rem the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA analysis.	noval at			х	
If in-house pro	eservation	used	– re	cord	Lot#
HCL	H ₃ P				
H ₂ SO ₄ HNO ₃	NaC Oth				
Comments:					
Were non-conformance issues noted at sample receipt?	) Vec	or	· ( N	No	)
Non-Conformance issue other than noted above:	, 103	- 01		<u></u>	•
Partical Fahruary 2019				Co	ompleted by: KRU

Completed by:____

Page 14 of 14





## Laboratory Services

### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project: Work Order:

Received: 04/14/2021 09:20

Ground Water

1040743

#### 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





# **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

**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



### 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 Sample Description 1040743-03

AF00630 CGYP-2 collected on 04/07/21 13:16

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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



Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported:

1040743 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
<b>Total Metals</b>									
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 Sample Description 1040743-07

AF00635 CGYP-6 collected on 04/07/21 16:02

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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



Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported:

1040743 04/22/21 14:29

Sample Number 10

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 Sample Description 1040743-10

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



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



# Total Metals **Quality Control Summary**

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



Santee Cooper Project:
1 Riverwood Dr. Work Order:
Moncks Corner, SC 29461 Reported:

# Total Metals **Quality Control Summary**

Ground Water

04/22/21 14:29

1040743

		Reporting		Spike	Source		%REC		RPD	
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	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 Ground Water Project: 1 Riverwood Dr. Work Order: 1040743 Moncks Corner, SC 29461 04/22/21 14:29 Reported:

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

Post Spike (BID0679-PS6)   Source: 1040743-07	Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Moreury   3.5	Batch B1D0679 - EPA 7470A										
Post Spike (BID0679-PS7)   Source: 1040743-07	Post Spike (B1D0679-PS6)	Source: 1040743-06									
Mercury   3.6   ug/L   4.00   ND   89   80-120	Mercury	3.5		ug/L	4.00	ND	86	80-120			
Post Spike (B1D0679-PS8)   Source: 1040743-10	Post Spike (B1D0679-PS7)	Source: 1040743-07									
Mercury   3.9   ug/L   4.00   ND   98   80-120	Mercury	3.6		ug/L	4.00	ND	89	80-120			
Post Spike (B1D0679-PS9)   Source: 1040743-11	Post Spike (B1D0679-PS8)	Source: 1040743-10									
Mercury   3.8   ug/L   4.00   ND   96   80-120	Mercury	3.9		ug/L	4.00	ND	98	80-120			
Post Spike (B1D0679-PSA)   Source: 1040743-12	Post Spike (B1D0679-PS9)	Source: 1040743-11									
Mercury   3.7	Mercury	3.8		ug/L	4.00	ND	96	80-120			
Post Spike (B1D0679-PSB)   Source: 1040743-13	Post Spike (B1D0679-PSA)	Source: 1040743-12									
Mercury   3.8   ug/L   4.00   ND   93   80-120	Mercury	3.7		ug/L	4.00	ND	91	80-120			
Blank (B1D0837 - EPA 3005A   Blank (B1D0837-BLK1)	Post Spike (B1D0679-PSB)	Source: 1040743-13									
Blank (B1D0837-BLK1)	Mercury	3.8		ug/L	4.00	ND	93	80-120			
Boron   ND   15   ug/L	Batch B1D0837 - EPA 3005A										
LCS (B1D0837-BS1)   Boron   210   15   ug/L   250   82   80-120	Blank (B1D0837-BLK1)										
Boron   210   15   ug/L   250   82   80-120	Boron	ND	15	ug/L							
LCS Dup (B1D0837-BSD1)   Boron   240   15   ug/L   250   95   80-120   14   20     Matrix Spike (B1D0837-MS1)   Source: 1040743-03     Boron   1800   75   ug/L   1250   850   80   75-125     Matrix Spike (B1D0837-MS2)   Source: 1040743-12	LCS (B1D0837-BS1)										
Boron 240 15 ug/L 250 95 80-120 14 20  Matrix Spike (B1D0837-MS1) Source: 1040743-03  Boron 1800 75 ug/L 1250 850 80 75-125  Matrix Spike (B1D0837-MS2) Source: 1040743-12	Boron	210	15	ug/L	250		82	80-120			
Matrix Spike (B1D0837-MS1)         Source: 1040743-03           Boron         1800         75         ug/L         1250         850         80         75-125           Matrix Spike (B1D0837-MS2)         Source: 1040743-12	LCS Dup (B1D0837-BSD1)										
Boron 1800 75 ug/L 1250 850 80 75-125  Matrix Spike (B1D0837-MS2) Source: 1040743-12	Boron	240	15	ug/L	250		95	80-120	14	20	
Matrix Spike (B1D0837-MS2) Source: 1040743-12	Matrix Spike (B1D0837-MS1)	Source: 1040743-03									
	Boron	1800	75	ug/L	1250	850	80	75-125			
Boron 4600 75 ug/L 1250 3300 105 75-125	Matrix Spike (B1D0837-MS2)	Source: 1040743-12									
	Boron	4600	75	ug/L	1250	3300	105	75-125			



# Total Metals **Quality Control Summary**

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



### **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	
<b>EPA 7470A Mercury Digestion</b>					
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	



### **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



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

	ner Email,		Port Recipient: Date Results Needed by: @santeecooper.com						Unit #:			Rerun reques	t for a	any fl	agge	d Q			
1040	*******************************	wsantee	cooper.cor	n	_/			[2]	56+	1_11	102.0	9.G0	31 / 36	500	Yes	No			
Labwor (Interno only)	ks ID#	Sample Locat Description	ion/	Collection Date	Collection Time	Sample Collector	Fotal # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see below)		Co Method # Reporting li Misc. sampl Any other ne	e info	3		Analys		
AF-00	633	CGYP-4		Notabe (no	a on the state of	DEW/ MG		<b>8</b> 5		2300	2				01	20	-	Z Z	+
70,00	000			4/7/2	21 1106	MG	,	.	G	GW	2-	D, L	i, MO - (	6010	-01	X	X	X	X
AFCOC	629	CGYP-1			1216							Hg	7470A		-00				1
AF-00	630	CGYP-2			1316						-				-17	$\prod$	$\prod$		Ħ
					10,0		+				+	<del></del>			-03	+	+	$\vdash$	$\vdash$
AFOO	631	CGYP-2	DUP		1321										-04				
KF 006	32	CGYP-3			1420									dia	05				
4F 00	(34										+++			***************************************		++			$\vdash$
4-00	634	CGYP-5			1209	+		-	+	+	11			- (	) 6			Ш	
HF 00	635	CGYP-6		17	1602						a medical de la constante de l			- 6	7	1	1		
TF 006	97	CCMAP-4		4/8/2	1032									-0	0		X		
				,			+	11		++									
F006	98	CCMAP- 4	DUP	1 T	1037	-	1	1	-	-				-00	1		X		
											***								
Relingu	ished by:	Employee#	Date	Time	Receive	d bu	l cm	alavaa #		0.1.			Sampl	e Recei	ving (Internal l	Jse On	(v)		
Atgrou		35594	4/12/21	1200	Ve day	******	EIII	ployee #		Date	1	Time 200	TEM	P (°C):_	19.2	Initial	:		_
	ished by:	Employee#	Date	Time	Receive		Em	ployee #	111	2/>  Date	1 1	Time	Corre	ct pH:	Yes No				
fed	0>		4/14/21	0920	111.	10 1		• • • • • • • • • • • • • • • • • • • •	-	es significa		4.000.000	Preser	vative	Lot#:				
	ished by:	Employee#	Date	Time	Receive	d by:	Em	ployee #	11/	14/ >- Date	0	9 9.0 Time							
			1 (2.7%)	The Carlotte Bengalia		2011 4	200	,		Dute	1. (1.6)	Time	Date A	/I-	it for preserva				
		TAT C (-III)	ER PER								- 1		Date	ime/in	it for preserva	tive:			
□ Ag	☐ Cu	ALS (all)	Nut	rients	MIS	<u>C.</u>		Gyp	sum			Coa	al	FI	yash		Oil		
□ AI	□Fe	□ Se	TO		DBTEX		O V	Vallboa			D U	ltimate			imonia	True	ss. Oil		
∃As	□K	□Sn	DO TP	TPO4	☐ Napthalen ☐ THM/HA			Gypsu below)	Control of the Contro		Chic Color of These	% Mo	isture	□ LO			Moistu	me	
В	□ Li	□ Sr		3-N	O VOC			O AIM			ROULD STEEL SHAD	Ash Sulfur			Carbon neral				
Ba	□Mg	□ Ti	F		□ Oil & Gre. □ E. Coli	ase		Total	metale			BTUs			Analysis	D Die	decinic S T		
Be	□ Mn	D TI	Cl NO	,	□ Total Coli	form		Soluc				Volati	le Matter	□ Sie	ve	II Di	saalved		5
Ca			Br		☐ pH ☐ Dissolved	As		Ponty		H)	TOTAL PROPERTY.	CHN er Tests		□%1	doisture		d Oil		
	□ Mo	UV	□ NO		☐ Dissolved			Sulfit			HUBBERT HEIGHBOOMS	F Scan		Kur	DEC		ishpoin etals in		
Cd	□ Na	□ Zn	20		☐ Rad 226 ☐ Rad 228			□pH			□ HG	I			PDES	(A	s.Cd.C		5
Co	□ Ni	☐ Hg			□ PCB			Chlor Partic			BORD TAXABLE SERVICE	eness ticulate !	Matter	□ As	t Grease	Hg			
Cr	☐ Pb	□ CrVI	100	2 TO 10 TO 1						0.000	ELSEN outside	TO SERVICE UP	ACCUSED AND RESIDENCE AND RESI	TSS	TO ME TO SERVE THE PARTY OF THE		ER		100

Customer Email/Report Recipient:

# **Chain of Custody**



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

		Report Recip	ient:	Date	Results N	eeded b	у:		P	roject/	Task/	Unit #:		Re	run request	for a	ny fla	egge	I Q
LCW	ILLIA	@santee	cooper.con	n				121	567	11	102-0	7. GØI		500	Yes	No			
																Ē	Analysi	is Gro	īΒ
Labwork (Internal only)		Sample Locati Description	ion/	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	• I	Com Method # Reporting lim Misc. sample Any other not	info		取	Į.	Mo	Ha
AF-000	693	WLF-AZ-	-6	4/8/2	1 1527	DEN	l	P	G	GW	2	B, L	i, Mo 6	010	-0 l0	X	×	X	×
AF 000	694	WLF-AZ-	6 DUP	1	1532	-			· ·	- Address of the Addr	-	Hg -	7470A	**************************************	11			1	1
AF 006	595	WAP-17			1331								***************************************	***************************************	1/2				$\dagger$
AFOCE	696	WAP-17	DUP		1336		1		1		1				-13				1
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	- Control of the Cont						**************							***************************************					
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													Sample	Receivi	ng (Internal U	Isa Onl	100		
gmon 4	shed by:	Employee#	4/12/21	1200	Fello		En	nployee #		Date 12/2	1	Time 1 200	TEMP	(°C):_		nitial:			
Relinquis		Employee#	Date	Time	Receive		En	nployee #		Date	1	Time	Correc	t pH:	Yes No				
fed ex			4/14/21	0920	Kledolo	, Rose		***************************************	97	14/21	d	1920	Preser	vative L	ot#:				
Relinquis	shed by:	Employee#	Date	Time	Receive	d by:	En	nployee #		Date		Time							
	□ <b>3.0</b> 000	CAT C (-B)											Date/T	ime/Init	for preserva	tive:			Par annual control
□ Ag	Cu	TALS (all)		rients	MIS	<u>C.</u>			sum	1		Coa	al	Fly	ash		Oil		
O Al	□ Fe	□ Se	Tio		☐ BTEX ☐ Napthalen		0	Wallboa	rd um( <i>all</i>			ltimate		□ Amn	Administrative (Control of Control of Contro	Tran	s. Oil	Qual.	
□ As	□K	□ Sn		TPO4	□ THM/HA			below				□ % Moi □ Ash	isture	E LOI	ırbon	∃ Ca	Meiste ler		
□B	□ Li	□Sr	NE	BaN	□ VOC □ Oil & Gre	ase		O AIM				Sulfur		□ % Ca		II Ac	idity		
□Ba	□Mg	☐ Ti	□ F		DE. Coli			100 Total				BTUs		A	nalysis	O (IF)			
□ Be	□ Mn	C TI	NG	2.	☐ Total Coli	form		☐ Solut	ble Mei	als		□ Volatil □ CHN	le Matter	□ Sieve			solved		
∃ Ca	□Мо	D V	Br		□ pH □ Dissolved	As		O Purit			11/2/24/7/25	er Tests		□ % M	oisture		l Oil stipen		
□ Cd	□ Na	□ Zn	- NO	3	☐ Dissolved☐ Rad 226			Sulfi			OX	RF Scan		NP	DES	L Mc	tals in	oil	
		18, 569	SO.		☐ Rad 228			□ pH □ Chlor	ndes		OF	GI neness		□ Oil &	Section 1997 Control of the Control	(A) He	s,Cd,C J	ENLP	
Co Cr	□ Ni □ Pb	☐ Hg			□ PCB			D Partic			A STATE OF THE STATE OF	rticulate I	Matter	□As □Tee		□ TX			
01	LUITU	LCIVI					9	Sulfur						UTSS		GOF	ER.		



Revised February 2018

# **Sample Receipt Verification**

Client: Sar	ntee Cooper Re	Date eceived:	4/	14/21		Work Order: ¹⁰⁴⁰⁷⁴³
Carrier Name:	Client FedEx UPS	US 1	Mail		Cou	
	Tracking Number: 80403					_
Receipt Crite	eria		Y e s	N o	N A	Comments
Shipping conta	niner / cooler intact?		Х			Damaged Leaking Other:
Custody seals i	intact?				Х	
COC included	with samples?		Х			
COC signed w	hen relinquished and received?		Х			
Sample bottles	intact?		Х			Damaged Leaking Other:
Sample ID on	COC agree with label on bottle(s)?		Х			
Date / time on	COC agree with label on bottle(s)?		Х			
Number of bot	tles on COC agrees with number of bottles rec	ceived?	Х			
Samples receiv	ved within holding time?		Х			
Sample volume	e sufficient for analysis?		Х			
VOA vials free	e of headspace (<6mm bubble)?				Х	
Samples cooled	d? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 970	050067			Х	Ice Cold Packs Dry Ice None
Note: Samples	ring pH preservation at proper pH? for metals analysis may be preserved upon receipt in the for O&G and VOA analysis – preservation checked at be	lab.	Х			
Samples dechlor the time of sam	orinated for parameters requiring chlorine rem inple collection? e checked at bench for samples requiring Bacterial, VOA	noval at			х	
	If in-house pre	eservation	used	– re	cord	Lot #
HCL	1	H ₃ P				
H ₂ SO ₄		NaC	ΟH			
$HNO_3$		Oth	ner			
Comments:						
Were non-cor	nformance issues noted at sample receipt?	Vec	5 01	<u> </u>	No	)
	ance issue other than noted above:	100	, 01		<u></u>	
Revised February	2018				Co	ompleted by: KRU

Completed by:_____





## Laboratory Services

### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Ground Water Project: Work Order: 1051017

Received: 05/19/2021 09:10

#### 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 May 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.

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

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





# **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

**Project:** Ground Water **Work Order:** 1051017

**Received:** 05/19/2021 09:10

Sample Number	Sample Description	Matrix	Sampled	Type
1051017-01	AF03568 CGYP-4	Ground Water	05/13/21 14:39	Grab
1051017-02	AF03569 CGYP-4 DUP	Ground Water	05/13/21 14:44	Grab
1051017-03	AF03570 CGYP-5	Ground Water	05/13/21 16:00	Grab
1051017-04	AF03571 CGYP-6	Ground Water	05/13/21 16:55	Grab
1051017-05	AF03572 WLF-A2-6	Ground Water	05/13/21 11:20	Grab
1051017-06	AF03573 WLF-A2-6 DUP	Ground Water	05/13/21 11:25	Grab



 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1051017

 Moncks Corner, SC 29461
 Reported:
 06/01/21 14:19

### Sample Data

Sample Number

1051017-01

Sample Description

AF03568 CGYP-4 collected on 05/13/21 14:39

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	05/27/21 11:42	EPA 7470A	S7	MLR	B1E1218
Boron	8000	75	ug/L	5.00	05/25/21 14:10	EPA 6010D		MLR	B1E0974
Lithium	58	10	ug/L	1.00	05/25/21 15:23	EPA 6010D		MLR	B1E0975
Molybdenum	ND	10	ug/L	1.00	05/25/21 15:23	EPA 6010D		MLR	B1E0975

Sample Number

1051017-02

Sample Description AF03569 CGYP-4 DUP collected on 05/13/21 14:44

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	05/27/21 11:53	EPA 7470A	S7	MLR	B1E1218
Boron	8000	75	ug/L	5.00	05/25/21 14:14	EPA 6010D		MLR	B1E0974
Lithium	59	10	ug/L	1.00	05/25/21 15:26	EPA 6010D		MLR	B1E0975
Molybdenum	ND	10	ug/L	1.00	05/25/21 15:26	EPA 6010D		MLR	B1E0975

Sample Number Sample Description 1051017-03

AF03570 CGYP-5 collected on 05/13/21 16:00

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	05/27/21 11:56	EPA 7470A	S7	MLR	B1E1218
Boron	2900	75	ug/L	5.00	05/25/21 13:40	EPA 6010D		MLR	B1E0974
Lithium	59	10	ug/L	1.00	05/25/21 15:07	EPA 6010D		MLR	B1E0975
Molybdenum	ND	10	ug/L	1.00	05/25/21 15:07	EPA 6010D		MLR	B1E0975

Sample Number

1051017-04

Sample Description AF03571 CGYP-6 collected on 05/13/21 16:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	05/27/21 11:59	EPA 7470A	S7	MLR	B1E1218
Boron	6900	75	ug/L	5.00	05/25/21 14:18	EPA 6010D		MLR	B1E0974
Lithium	130	10	ug/L	1.00	05/25/21 15:30	EPA 6010D		MLR	B1E0975
Molybdenum	ND	10	ug/L	1.00	05/25/21 15:30	EPA 6010D		MLR	B1E0975

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

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Sample Number 1051017-05

Sample Description AF03572 WLF-A2-6 collected on 05/13/21 11:20

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	05/27/21 12:02	EPA 7470A		MLR	B1E1218
Boron	420	75	ug/L	5.00	05/25/21 14:02	EPA 6010D		MLR	B1E0974
Lithium	32	10	ug/L	1.00	05/25/21 15:34	EPA 6010D		MLR	B1E0975
Molybdenum	ND	10	ug/L	1.00	05/25/21 15:34	EPA 6010D		MLR	B1E0975

Sample Number

1051017-06

Sample Description AF03573 WLF-A2-6 DUP collected on 05/13/21 11:25

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	05/27/21 12:04	EPA 7470A		MLR	B1E1218
Boron	410	75	ug/L	5.00	05/25/21 14:06	EPA 6010D		MLR	B1E0974
Lithium	33	10	ug/L	1.00	05/25/21 15:38	EPA 6010D		MLR	B1E0975
Molybdenum	ND	10	ug/L	1.00	05/25/21 15:38	EPA 6010D		MLR	B1E0975



 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1051017

 Moncks Corner, SC 29461
 Reported:
 06/01/21 14:19

# Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1E0974 - EPA 3005A										
Blank (B1E0974-BLK1)										
Boron	ND	15	ug/L							
LCS (B1E0974-BS1)										
Boron	250	15	ug/L	250		98	80-120			
Matrix Spike (B1E0974-MS1)	Source: 1051017-03									
Boron	4200	75	ug/L	1250	2900	106	75-125			
Matrix Spike Dup (B1E0974-MSD1)	Source: 1051017-03									
Boron	4200	75	ug/L	1250	2900	103	75-125	1	20	
Post Spike (B1E0974-PS1)	Source: 1051017-03									
Boron	5500	75	ug/L	2500	2900	106	75-125			
Batch B1E0975 - EPA 3005A										
Blank (B1E0975-BLK1)										
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1E0975-BS1)										
Lithium	281	10	ug/L	250		113	80-120			
Molybdenum	240	10	ug/L	250		97	80-120			
LCS Dup (B1E0975-BSD1)										
Lithium	280	10	ug/L	250		112	80-120	0.5	20	
Molybdenum	250	10	ug/L	250		98	80-120	1	20	
Matrix Spike (B1E0975-MS1)	Source: 1051017-03									
Lithium	362	10	ug/L	250	59	122	75-125			
Molybdenum	250	10	ug/L	250	ND	98	75-125			
Post Spike (B1E0975-PS1)	Source: 1051017-03									
Lithium	0.597		mg/L	0.500	ND	108	75-125			
Molybdenum	0.49		mg/L	0.500	ND	97	75-125			



# Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1E1218 - EPA 7470A										
Blank (B1E1218-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1E1218-BS1)										
Mercury	5.0	0.20	ug/L	5.00		99	80-120			
LCS Dup (B1E1218-BSD1)										
Mercury	5.1	0.20	ug/L	5.00		101	80-120	2	20	
Matrix Spike (B1E1218-MS1)	Source: 1051017-01									
Mercury	4.1	0.20	ug/L	5.00	ND	82	75-125			
Matrix Spike Dup (B1E1218-MSD1)	Source: 1051017-01									
Mercury	4.1	0.20	ug/L	5.00	ND	83	75-125	1	20	
Post Spike (B1E1218-PS1)	Source: 1051017-01									
Mercury	3.5		ug/L	4.00	ND	87	80-120			S7
Post Spike (B1E1218-PS2)	Source: 1051017-02									
Mercury	3.1		ug/L	4.00	ND	76	80-120			S7
Post Spike (B1E1218-PS3)	Source: 1051017-03									
Mercury	2.9		ug/L	4.00	ND	72	80-120			S7
Post Spike (B1E1218-PS4)	Source: 1051017-04									
Mercury	2.9		ug/L	4.00	ND	71	80-120			S7
Post Spike (B1E1218-PS5)	Source: 1051017-05									
Mercury	3.4		ug/L	4.00	ND	83	80-120			
Post Spike (B1E1218-PS6)	Source: 1051017-06									
Mercury	3.3		ug/L	4.00	ND	82	80-120			



Santee Cooper Ground Water Project: 1 Riverwood Dr. 1051017 Work Order: Moncks Corner, SC 29461 Reported: 06/01/21 14:19

### **Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst	
EPA 3005A ICP Digestion					
EPA 3005A	B1E0974	1051017-01	05/24/2021 09:36	MTH	
EPA 3005A	B1E0975	1051017-01	05/20/2021 09:49	CAL	
EPA 3005A	B1E0974	1051017-02	05/24/2021 09:36	MTH	
EPA 3005A	B1E0975	1051017-02	05/20/2021 09:49	CAL	
EPA 3005A	B1E0974	1051017-03	05/24/2021 09:36	MTH	
EPA 3005A	B1E0975	1051017-03	05/20/2021 09:49	CAL	
EPA 3005A	B1E0974	1051017-04	05/24/2021 09:36	MTH	
EPA 3005A	B1E0975	1051017-04	05/20/2021 09:49	CAL	
EPA 3005A	B1E0974	1051017-05	05/24/2021 09:36	MTH	
EPA 3005A	B1E0975	1051017-05	05/20/2021 09:49	CAL	
EPA 3005A	B1E0974	1051017-06	05/24/2021 09:36	MTH	
EPA 3005A	B1E0975	1051017-06	05/20/2021 09:49	CAL	
EPA 7470A Mercury Digestion					
EPA 7470A	B1E1218	1051017-01	05/26/2021 13:14	ELN	
EPA 7470A	B1E1218	1051017-02	05/26/2021 13:14	ELN	
EPA 7470A	B1E1218	1051017-03	05/26/2021 13:14	ELN	
EPA 7470A	B1E1218	1051017-04	05/26/2021 13:14	ELN	
EPA 7470A	B1E1218	1051017-05	05/26/2021 13:14	ELN	
EPA 7470A	B1E1218	1051017-06	05/26/2021 13:14	ELN	



### **Data Qualifiers and Definitions**

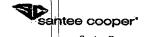
ND Analyte NOT DETECTED at or above the reporting limit

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 $\log 5 \log 17$



Customer Email	/Report Recipi	ent:	__ Date	Results No	eeded by	y:	Project/Task/Unit #:			Re	run request	for	any f	lagged Q0		
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			`					· ·			â				<u>Analy</u>	sis Group
Labworks ID # (Internal use only)	Sample Locatic Description	on/.	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- 'G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Préservative (see	• Rep	Comments thod # conting limit conting limit conting limit conting limit		E C WO II	Ca / / /	
AF-03568	CG7P-4		5/13/2	1 1439	MDG	{	P	G	GW	2	-6	1		×		
AF-03569	CGYP-4	DUP		1444							-0	<u>ب</u>				
AF03570	CEYP-5			1600		<u>.  </u>			<u> </u>		~0	•				
A+03571	CGYP-6		11	(622							- 0	Ÿ			-	
AF03572	WLF-A2-	6		1120							- 8	5	,			
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Relinquished by:	Employee#	Date	Time	Receiv	ed by:	Er	nployee	#	Date	生真	Time/	Correct pH:				
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Relinquished by:	Employee#	Date	Time	Receiv	ed by:	THE THE	nployee	###	Date	7	Time	Date/Time/Ir	it for preserva	tive:		i
□ ME □ Ag □ Cu □ Al □ Fe □ As □ K □ Ba □ Li □ Ba □ Dm □ Ca □ Mc □ Cd □ Na □ Co □ Ni □ Cr □ Pb	□ Se □ Sn □ Si □ Ti □ Ti □ Ti □ Ti □ Ti	Nut Dio Dio Dio Dio Dio Dio Dio Dio Dio Dio	C JIRO4 3 N 2 2	MIS  BTEX  Napthale THM/H  VOC OII & Gn E Coli Total Col pH Dissolvec Rad 226 Rad 228 ReB	ne AA ease liform l As l Fe		AVailboo Gyp Gyp Delo: In All In Too In Soli In Soli In Soli In Soli	psun ard sum(ar a) M S silangi wide/M Moistan ards wides			Coal Ultimate □ % Moist □ Ash □ Sulfur □ BTUs □ Volatile □ CHN ther Tests: XKF Scan HGI ineness Particulate Maren	Matter Tool	Annivini vici ydranice BDES:			IIQuel. Liure  y Listacreft ved(Gassa II sinal Lincil
			- Anna Carlotte		<u> </u>						<u> </u>	See		-:-		



Revised February 2018

# **Sample Receipt Verification**

Client: Santee Cooper	Date Received:	05,	/19/2 ⁻	1	Work Order:
Carrier Name: Client FedEx UP	S US I	Mail		Cot	urier Field Services Other:
Tracking Number: 8153679	915147				_
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Х			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Х			
COC signed when relinquished and received?		Х			
Sample bottles intact?		Х			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Х			
Date / time on COC agree with label on bottle(s)?		Х			
Number of bottles on COC agrees with number of bottle	es received?	Х			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Х			
VOA vials free of headspace (<6mm bubble)?				Χ	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN	N: 97050067	Х			Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt i  Note: Samples for O&G and VOA analysis – preservation checked	in the lab.	Х			
Samples dechlorinated for parameters requiring chlorine the time of sample collection?  Note: Chlorine checked at bench for samples requiring Bacterial, analysis.	e removal at			х	
If in-hous	e preservation	used	– re	cord	Lot#
HCL	H ₃ P				
H ₂ SO ₄ HNO ₃	NaC Oth				
Comments:			l		
Were non-conformance issues noted at sample rece	eipt? Yes	s or	(1	VO)	
Non-Conformance issue other than noted above:					

Completed by:____

Page 10 of 10





# Laboratory Services

### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project: Work Order:

Received: 08/03/2021 09:15

Ground Water

1080231

#### 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.

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

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





## **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

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



Project:

Ground Water

Work Order: Reported: 1080231 08/19/21 22:26

### Sample Data

Sample Number

1080231-01

**Sample Description** 

AF09053 WAP-4 collected on 07/19/21 11:24

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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 Sample Description	1080231-02 AF09070 WAP-15 collected on 0	7/19/21 10:30							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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 Sample Description	1080231-03 AF09065 WAP-14 collected on 0'	7/19/21 14:22							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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 Sample Description	1080231-04 AF09066 WAP-14 DUP collected	on 07/19/21	14:27						
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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 Sample Description	1080231-05 AF09067 WAP-14A collected on	07/19/21 13:4	6						
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Lithium	40	10	ug/L	1.00	08/10/21 18:40	EPA 6010D	S1	MLR	B1H0482



Project:

Ground Water

Work Order: Reported: 1080231 08/19/21 22:26

Sample Number

1080231-06

Sample Description

AF09069 WAP-14C collected on 07/19/21 15:39

Sample Description	AF09069 WAP-14C collected on	07/19/21 15:3	i9						
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Lithium	13	10	ug/L	1.00	08/10/21 15:24	EPA 6010D		MLR	B1H0147
Sample Number Sample Description	1080231-07 AF09068 WAP-14B collected on	07/19/21 16:3	34						
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Lithium	15	10	ug/L	1.00	08/10/21 15:28	EPA 6010D		MLR	B1H0147
Sample Number Sample Description	1080231-08 AF09050 WAP-1 collected on 07	7/20/21 12:28							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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 Sample Description	1080231-09 AF09051 WAP-2 collected on 07	7/20/21 13:28							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Boron	8300	75	ug/L	5.00	08/10/21 14:21	EPA 6010D		MLR	B1H0147
Sample Number Sample Description	1080231-10 AF09083 WBW-1 collected on 0	7/20/21 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
•			_						

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 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1080231

 Moncks Corner, SC 29461
 Reported:
 08/19/21 22:26

# Total Metals **Quality Control Summary**

Batch B H0147 - EPA 3005A   Blank (B H0147-BLK1)   Boson	Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Boron   ND   15   ug/L	Batch B1H0147 - EPA 3005A										
Molybdenum	Blank (B1H0147-BLK1)										
ND	Boron	ND	15	ug/L							
Company   Comp	Lithium	ND	10	ug/L							
Boron   So0   15   ug/L   So0   99   80-120	Molybdenum	ND	10	ug/L							
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 ND 120 75-125  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 ND 105 75-125  Matrix Spike Dup (B1H0147-MSD1)  Source: 1080231-05RE1  Boron 7300 75 ug/L 500 ND 120 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 ND 104 75-125  Molybdenum 2890 50 ug/L 2500 ND 114 75-125  Molybdenum 2890 50 ug/L 2500 ND 104 75-125  Molybdenum 2600 50 ug/L 2500 ND 104 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Matrix Spike (B1H0392-MS1)  Source: 1080231-08	LCS (B1H0147-BS1)										
Motybedenum         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           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         6500         145         75-125         0.5         20         S5           Lithium         634         50         ug/L         500         ND         104         75-125         0.5         20         S5           Post Spike (B1H0147-PS1)         Source: 1080231-05RE1         Ug/L         2500         6500         102         75-125         0.5         20         102         15-125         10.5         10.5         10.5         10.5         10.5         10.5         1	Boron	500	15	ug/L	500		99	80-120			
Matrix Spike (B1H0147-MS1)  Boron 7200 75 ug/L 500 ND 120 75-125 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 ND 105 75-125  Matrix Spike Dup (B1H0147-MSD1)  Source: 1080231-05RE1  Boron 7300 75 ug/L 500 ND 120 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 ND 104 75-125 0.5 20  Post Spike (B1H0147-PS1)  Source: 1080231-05RE1  Boron 9100 75 ug/L 2500 ND 114 75-125  Lithium 2890 50 ug/L 2500 ND 114 75-125  Molybdenum 2600 50 ug/L 2500 ND 114 75-125  LCS Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Lithium	519	10	ug/L	500		104	80-120			
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 (BH0147-MSD1) Source: 1080231-05RE1  Boron 7300 75 ug/L 500 ND 120 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 120 75-125 0.5 20  Molybdenum 520 50 ug/L 500 ND 104 75-125 0.5 20  Post Spike (BH0147-PS1) Source: 1080231-05RE1  Boron 9100 75 ug/L 2500 6500 102 75-125 Lithium 2890 50 ug/L 2500 ND 114 75-125 Lithium 2890 50 ug/L 2500 ND 104 75-125  Molybdenum 2600 50 ug/L 2500 ND 104 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Molybdenum	490	10	ug/L	500		99	80-120			
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 ND 120 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 120 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 114 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Matrix Spike (B1H0147-MS1)	Source: 1080231-05	5RE1								
Molybdenum	Boron	7200	75	ug/L	500	6500	142	75-125			S5
Matrix Spike Dup (B1H0147-MSD1)   Source: 1080231-05RE1	Lithium	637	50	ug/L	500	ND	120	75-125			
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-PSI) 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 114 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BSI)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MSI) Source: 1080231-08	Molybdenum	520	50	ug/L	500	ND	105	75-125			
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 114 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Matrix Spike Dup (B1H0147-MSD1)	Source: 1080231-05	5RE1								
Molybdenum   520   50   ug/L   500   ND   104   75-125   0.5   20	Boron	7300	75	ug/L	500	6500	145	75-125	0.2	20	S5
Post Spike (B1H0147-PS1) Source: 1080231-05RE1  Boron 9100 75 ug/L 2500 6500 102 75-125  Lithium 2890 50 ug/L 2500 ND 114 75-125  Molybdenum 2600 50 ug/L 2500 ND 104 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Lithium	634	50	ug/L	500	ND	120	75-125	0.5	20	
Boron 9100 75 ug/L 2500 6500 102 75-125 Lithium 2890 50 ug/L 2500 ND 114 75-125 Molybdenum 2600 50 ug/L 2500 ND 104 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Molybdenum	520	50	ug/L	500	ND	104	75-125	0.5	20	
Lithium 2890 50 ug/L 2500 ND 114 75-125  Molybdenum 2600 50 ug/L 2500 ND 104 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Post Spike (B1H0147-PS1)	Source: 1080231-05	5RE1								
Molybdenum 2600 50 ug/L 2500 ND 104 75-125  Batch B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Boron	9100	75	ug/L	2500	6500	102	75-125			
Blank (B1H0392 - EPA 7470A  Blank (B1H0392-BLK1)  Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Lithium	2890	50	ug/L	2500	ND	114	75-125			
Blank (B1H0392-BLK1)   Mercury   ND   0.20   ug/L	Molybdenum	2600	50	ug/L	2500	ND	104	75-125			
Mercury ND 0.20 ug/L  LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Batch B1H0392 - EPA 7470A										
LCS (B1H0392-BS1)  Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Blank (B1H0392-BLK1)										
Mercury 5.1 0.20 ug/L 5.00 102 80-120  Matrix Spike (B1H0392-MS1) Source: 1080231-08	Mercury	ND	0.20	ug/L							
Matrix Spike (B1H0392-MS1) Source: 1080231-08	LCS (B1H0392-BS1)										
• ` ` /	Mercury	5.1	0.20	ug/L	5.00		102	80-120			
Mercury 4.9 0.20 ug/L 5.00 ND 97 75-125	Matrix Spike (B1H0392-MS1)	Source: 1080231-08	8								
	Mercury	4.9	0.20	ug/L	5.00	ND	97	75-125			

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 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1080231

 Moncks Corner, SC 29461
 Reported:
 08/19/21 22:26

# Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
			Cinto	20101	1100011	,,,,,,	2			- 11153
Batch B1H0392 - EPA 7470A										
Matrix Spike Dup (B1H0392-MSD1)	Source: 1080231-08									
Mercury	4.9	0.20	ug/L	5.00	ND	97	75-125	0.3	20	
Post Spike (B1H0392-PS1)	Source: 1080231-08									
Mercury	3.8		ug/L	4.00	ND	95	80-120			
Batch B1H0482 - EPA 3005A										
Blank (B1H0482-BLK1)										
Lithium	ND	10	ug/L							
LCS (B1H0482-BS1)										
Lithium	499	10	ug/L	500		100	80-120			
Matrix Spike (B1H0482-MS1)	Source: 1080231-05									
Lithium	715	10	ug/L	500	40	135	75-125			S1
Matrix Spike Dup (B1H0482-MSD1)	Source: 1080231-05									
Lithium	717	10	ug/L	500	40	135	75-125	0.4	20	S1
Post Spike (B1H0482-PS1)	Source: 1080231-05									
Lithium	0.703		mg/L	0.500	ND	133	75-125			S1



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

### **Sample Preparation Data**

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



Santee Cooper Project: Ground Water

1 Riverwood Dr. Work Order: 1080231

Moncks Corner, SC 29461 Reported: 08/19/21 22:26

#### **Data Qualifiers and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not reported
RPD	Relative Percent Difference
S1	The matrix spike and / or the matrix spike duplicate sample recovery was not within control limits due to matrix interference. The Laboratory Control Sample (LCS) was within control limits.
S5	The raw sample concentration was greater than four times the spike concentration. The spike recovery was not evaluated against the control limits.

**Customer Email/Report Recipient:** 

Project/Task/Unit #:

### **Chain of Custody**

Date Results Needed by:



Rerun request for any flagged QC

LOWILLIA @santeecooper.com 121567 JM02,09.601 / 36500 Yes No **Analysis Group** Labworks ID# Sample Location/ Comments Collection Date Collection Time Preservative (see below) (Internal use Description Method # Collector only) Reporting limit Bottle type: (G/Plastic-P) 0 Matrix(see Grab (G) or Composite ( Misc. sample info Sample Total # of Any other notes Z Ľ. BRT 7/19/24 G GW 2 AF 09053 WAP-4 1124 CWS X 1030 Χ X AF09070 WAP-15 AF 09065 WAP - 14 1422 1 X X 1 AF 09066 WAP-14 DUP 1427 X X WAP- 14A 1 AF09067 1346 X X AF09069 WAP-140 1539 AF 09068 1634 1 X WAP-148 MDE, X X X AF09050 7/20/21 1228 X WAP-1 1 WAP-2 7/20/21 1328 T AF09051 1 X WBW-1 1107 × X AF 09083 7/20/21 X Sample Receiving (Internal Use Only) Relinquished by: Date Employee# Time Received by: Employee # Time TEMP (°C): 24 4 Initial: Sproun -POLEX 35594 8/2/21 1530 Correct pH: Yes Relinquished by: Employee# Date Time Received by: Employee # Date Time Preservative Lot#: FECT EX 8.3.21 0915 20 8.3.21 0915 Relinquished by: Employee# Date . Received by: Time Employee # Date Time Date/Time/Init for preservative: ☐ METALS (all ) Gypsum **Nutrients** MISC. Coal Flyash Oil □ Sb □ Ag □ Cu TOC BTEX Widthoard □ Ultimate Trans. Of Qual. □ Ammonia □ Al □ Fe □ Se DOC □ Napthalene Gypsum(all □ % Moisture %Moisture D LOI □ As  $\Box K$ □ Sn □ THM/HAA TP/TPO4 Color below) ☐ Ash El % Carbon DVOC I AIM Acidity Dielectric Str NH3-N  $\square$  B □ Li □ Sr □ Sulfur □ Mineral □ Oil & Grease TOC FF □ BTUs □ Ba DE. Coli □ Mg □ Ti Total metals TFT. OCL ☐ Volatile Matter T Sieve ☐ Total Coliform Soluble Metals □ Be □ Mn O TI NO2 Purity (CaSO4) □pH □ CHN □ % Moisture Used Oil Br ☐ Dissolved As Other Tests: Trashpoint

Metals in oil

(As.Cd.Cr.Ni.Pb □ Ca 1% Moisture □ Mo  $\Box V$ NOS ☐ Dissolved Fe Sulfites □ XRF Scan NPDES □ Cd □ Na □ Zn U SO4 □ Rad 226 pH O HGI Oil & Grease ☐ Rad 228 P Chlorides ☐ Fineness □ Co □ Ni □ Hg □ PCB □ As Particle Size ☐ Particulate Matter □ Cr □ Pb □ CrVI GOFER



Revised February 2018

## **Sample Receipt Verification**

Client: Santee Cooper Re	Date eceived:	08	/03/2	021	Work Order: ¹⁰⁸⁰²³¹
Carrier Name: Client FedEx UPS	US N	Mail		Cou	rier Field Services Other:
Tracking Number:					_
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Χ			
COC signed when relinquished and received?		Χ			
Sample bottles intact?		X			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Χ			
Date / time on COC agree with label on bottle(s)?		Χ			
Number of bottles on COC agrees with number of bottles rec	ceived?	Χ			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Χ			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 970	050067	X			Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt in the Note: Samples for O&G and VOA analysis – preservation checked at be	lab.	Х			
Samples dechlorinated for parameters requiring chlorine remains the time of sample collection?  Note: Chlorine checked at bench for samples requiring Bacterial, VOA analysis.				X	
If in-house pro	eservation	used	– re	cord	Lot #
HCL	H ₃ P				
H ₂ SO ₄ HNO ₃	NaC Oth				
Comments:					
Were non-conformance issues noted at sample receipt?  Non-Conformance issue other than noted above:	Yes	or	T (I	No	
Revised February 2018				Co	ompleted by: CSG

Completed by:_____





## Laboratory Services

## **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project:

Ground Water 1080871

Work Order: 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





## **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

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

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



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

#### Sample Data

Sample Number

1080871-01

Sample Description

AF09085 WLF-A1-1 collected on 08/05/21 12:46

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

Sample Number

1080871-02

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

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

Sample Number Sample Description 1080871-03

AF09076 WAP-20 collected on 08/10/21 15:36

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

Sample Number Sample Description 1080871-06

AF09086 WLF-A1-2 collected on 08/11/21 13:35

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

Sample Number

1080871-07

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

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

Sample Number

1080871-08

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

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



Project:

Ground Water

Work Order: Reported: 1080871 08/27/21 23:29

Sample Number

1080871-09

Sample Description

AF09089 WLF-A1-4 DUP collected on  $08/11/21\ 11:12$ 

Parameter	Resi	•	orting mit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>										
Mercury	NI	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	NI	)	10	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Molybdenum	NI	)	10	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-10 AF09052 WAP-3 collected on	07/29/21	12:35							
Parameter	Resu	1.	orting mit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>										
Boron	170	0	20	ug/L	1.00	08/17/21 18:36	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-11 AF09071 WAP-16 collected o	n 07/29/21	15:38							
Parameter	Resu	1.	orting mit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>										
Boron	150	0 2	20	ug/L	1.00	08/17/21 20:08	EPA 6010D		MLR	B1H0709
Lithium	NI	)	10	ug/L	1.00	08/17/21 20:08	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-12 AF09064 WAP-13 collected o	n 07/29/21	11:29							
Parameter	Resu	1.	orting mit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>										
Boron	420	0 2	20	ug/L	1.00	08/17/21 20:12	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-13 AF09062 WAP-12 collected o	n 07/29/21	13:54							
Parameter	Resu	•	orting mit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>										
Boron	370	) 2	20	ug/L	1.00	08/17/21 20:16	EPA 6010D		MLR	B1H0709



Project:

Ground Water

Work Order: Reported:

1080871 08/27/21 23:29

Sample Number

1080871-14

Sample Description

AF09063 WAP-12 DUP collected on 07/29/21 13:59

Sample Description	AF09063 WAP-12 DUP collected on 07/29/21 13:59											
Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch		
<b>Total Metals</b>												
Boron		390	20	ug/L	1.00	08/17/21 20:20	EPA 6010D		MLR	B1H0709		
Sample Number Sample Description	1080871-15 AF09080 WAP-24 collecte	ed on 08	8/02/21 12:50									
Parameter	F	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch		
<b>Total Metals</b>												
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 Sample Description	1080871-16 AF09059 WAP-10 collecte	ed on 08	3/02/21 11:34									
Parameter	F	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch		
<b>Total Metals</b>												
Boron	8	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 4 F09060 WA P-10 DUP co	llactad	on 08/02/21 1	1.30								

**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



Project:

Ground Water

Work Order: Reported:

1080871 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
<b>Total Metals</b>									
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



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	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	2200	20	ug/L	1.00	08/17/21 21:10	EPA 6010D		MLR	B1H0734
Lithium	ND	10	ug/L	1.00	08/17/21 21:10	EPA 6010D		MLR	B1H0734
Molybdenum	ND	10	ug/L	1.00	08/17/21 21:10	EPA 6010D		MLR	B1H0734

Sample Number

1080871-23

**Sample Description** 

AF09075 WAP-19 collected on 08/03/21 16:27

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

Sample Number

1080871-24

**Sample Description** AF09078 WAP-22 collected on 08/04/21 13:31

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

Sample Number **Sample Description**  1080871-25

AF09091 WLF-A2-6 collected on 08/04/21 15:02

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



Project:

Ground Water

Work Order: Reported:

1080871 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
<b>Total Metals</b>									
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 Sample Description 1080871-28

ription 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
<b>Total Metals</b>									
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
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1080871

 Moncks Corner, SC 29461
 Reported:
 08/27/21 23:29

# Total Metals **Quality Control Summary**

		Reporting		Spike	Source		%REC		RPD	
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1H0709 - EPA 3005A										
Blank (B1H0709-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
.CS (B1H0709-BS1)										
Boron	490	15	ug/L	500		98	80-120			
ithium	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			
ithium	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			
Nolybdenum	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 Project: Ground Water
1 Riverwood Dr. Work Order: 1080871
Moncks Corner, SC 29461 Reported: 08/27/21 23:29

# Total Metals **Quality Control Summary**

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

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 Project:
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 1 Riverwood Dr.
 Work Order:
 1080871

 Moncks Corner, SC 29461
 Reported:
 08/27/21 23:29

# Total Metals **Quality Control Summary**

Donomoton	Result	Reporting Limit	Units	Spike	Source	0/ DEC	%REC	RPD	RPD Limit	Flogs
Parameter	Kesuit	Limit	Units	Level	Result	%REC	Limits	KPD	Limit	Flags
Batch B1H0833 - EPA 7470A										
LCS (B1H0833-BS1)										
Mercury	5.0	0.20	ug/L	5.00		99	80-120			
Matrix Spike (B1H0833-MS1)	Source: 1080871-01									
Mercury	4.2	0.20	ug/L	5.00	ND	83	75-125			
Matrix Spike (B1H0833-MS2)	Source: 1080871-02									
Mercury	5.0	0.20	ug/L	5.00	ND	101	75-125			
Matrix Spike Dup (B1H0833-MSD1)	Source: 1080871-01									
Mercury	4.2	0.20	ug/L	5.00	ND	83	75-125	0.2	20	
Matrix Spike Dup (B1H0833-MSD2)	Source: 1080871-02									
Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125	0.9	20	
Post Spike (B1H0833-PS1)	Source: 1080871-01									
Mercury	3.2		ug/L	4.00	ND	81	80-120			
Post Spike (B1H0833-PS2)	Source: 1080871-02									
Mercury	3.8		ug/L	4.00	ND	95	80-120			



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

### **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	

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Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461			Project: Work Order: Reported:	Ground Water 1080871 08/27/21 23:29	
EPA 7470A Mercury Digestion					
EPA 7470A	B1H0833	1080871-01	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-02	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-03	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-06	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-07	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-08	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-09	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-25	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-26	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-28	08/18/2021 1	1:33 N	AR
EPA 7470A	B1H0833	1080871-29	08/18/2021 1	1:33 N	AR



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

#### **Data Qualifiers and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

RPD Relative Percent Difference

S5 The raw sample concentration was greater than four times the spike concentration. The spike recovery was not evaluated against the

control limits.

## **Chain of Custody**

1080871



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

Customer Email	/Report Recipi	ent:	Date R	esults No	eeded b	y:		Pr	oject/	Task/	Unit #:		F	lerun request	for ar	ny fia	igged	i QC
LCWILLIA	@santeed	cooper.com		'			[21	567	<u>/</u> _J1	иo2.c	9. GØ]		86500	Yes	No			
															£	nalys	is Grou	qι
Labworks ID #. (Internal use only)	Sample Location Description	on) 080811	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	• M • R • N • A	lethod#	limit ple info notes		W	ت	Mo	1
AF69085	WLF-AI-	10-	8/5/21	1246	BRT										×	×	×	х
AF09056	WAP-7	102	8/10/21	1500	MDG/ BSB								·	<del></del>	×	×	×	x
AF09076	WAP-20	-03		1236											×	×	x	×
AF09081	WAP-25	104		1332									_	·		x	×	
AF09082	WAP - 26	-05	L	1146	1				,							×	×	
AF09086	WLF-AI-2	ماهر	8/11/21	1335	MOG	,							-		Х	×	х	x
AF09087	WLF-A1-3	101		1205											×	Х	×	×
AF09088	WLF-A1 - 4	208		1107							-				×	×	×	×
AF09089	WLF-41-4	DUP -Day	<u> </u>	1112				-							×	×	×	×
	·											20.20.00						
Relinquished by:	3 Employee#	Date	Time	Receiv	MAN		nployee	#. 1.	Date	+	'Time			iving (Internal U			, ,	,
Sproun	35594	8/12/21	1500	& LA	W:	10	7						MP (°C)	724	initial	:_ <i>IM</i>		-
Relinquished by:	Émployee#		Time	Receiv			nployee	#	Date	-	Time	-   Co	rrect pH	Yes No				
Cro-1900	7			# //	112/		<del></del>		1/3/2	, ,	0925	Pro	eservativ	e Lot#:				
Relinquished by:	Employee#	. Date	Time	Receiv	<i>(   Noos</i> ed by:	Er	nployee		// <i>5/2</i> Date		Time			a tradition to the second of t	• •			
<u> </u>				<u></u>	<u> </u>	+-	-					_ Dat	e/Time/I	nit for preserva	tive:			
n Mic	TALS (all)	Nutra	5	교원학	e tele					2 2				(ye i ng hanaran)				
- □ Aġ . □ Cù				MIS				psun		Ser.	<u>Co</u> a Ultimate	<u>ll</u> *	200	Alvash		<u>Oi</u>		
□ Al			g	☐ BTEX ☐ Napthale	ne		odinaki) roko	annial	77		Ultimate)	sture -	e ol	ത്താൻ വ		are) Viri	ලය. ,ලබා අ	3
□ As: □ K.	□ Sn	DIRA	IPO4	□THM/H/ □ VOC	NA.		ligion	<b>3</b> )			□ %Mo □ Ash □ Sulfur	714	□%	Carbon	ያን	alter अस्ति		
DB DL	□Sr		AN .	□ Oil & Gr	ease	.	E AU							fried	Act	લીનાં મ	80 to 1	fa
□ Ba □ Mg	, OT 5	<u> </u>		□ E. Coli □ Total Co	liform			න් කුලැන්		12.	LLD IUS	e Mattei	n o	Amelysis isve	50°		eren e	2-
.□ Be □ Mr	ı, ÖTL	'E NO2		□ pH	Morin		f. Pu	ig (CES ible Me	(040)	·	B CHN		5 5	Moistone	(୯.୧୯	<b>10</b> 0		ľ
'□ Ca □ Mo	) DV	CBr		<ul><li>□ Dissolve</li><li>□ Dissolve</li></ul>	d As	7	. 的%B	Acistone		0	her Test				00 [1,1]	ask vo econs f	148	
□ Cd □ Na	□ Zn	2 NO3		☐ Rad 226			É 801 É 1911	ittes ,		NO I	iGla i A			DEES .	(1/4	Nei(16)		િલ
□ Co. □ Ni	□ Hg ੈ			□ Rad 228			LE COM	orides		, Di	B (Us. Si Wolati CHN) her liest (REScan lGla meness articulate		F CO	Receipt Market		(g)		
□.Cr □ Pb				□ PCB		. Id	Towns or the second	iele Siz							(800)			
		EXE 3/2/FE33	Fed	<u> </u>	<del>:</del>	-( <del></del>			*		<u>د المحالية</u>			عار <u>ب نیست</u>		,		
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																104	$\frac{2}{3}$	

### **Chain of Custody**



santee cooper

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

**Customer Email/Report Recipient:** Date Results Needed by: Project/Task/Unit #: Rerun request for any flagged QC LCWILLIA JM02.09.601 @santeecooper.com 1 36500 (Yes) No **Analysis Group** Labworks ID # Sample Location/ Comments (Internal use Description Fotal # of containers Matrix(see below Method # only) Preservative (: below) Reporting limit Grab (G) or Composite (C) type: ( Bottle type: ( G/Plastic-P) Misc. sample info Any other notes 8 M IJ. ADG. -10 7/29/21 P G 2 AF09052 WAP-3 GN 1235 BRI 1-F0907A WAP-16 ۱۱/ 1538 Х Х  $\mathcal{N}$ AF 09064 1129 WAP-13 Х 1/3 AF09062 WAP-12 X 1354 -14 AF09063 WAP-12 DUP 1359 MDE/ کار 1250 AF09080 8/2/21 WAP-24 X X BRI -16 X X AF09059 WAP-10 1134 -17 AF09060 WAP-10 DUP X Χ ኣ 1139 13 WAP-9 Х AF09058 1339 Х х WAP-17 Х х 1512 AF09072 Sample Receiving (Internal Use Only)
TEMP (°C): 24 Initial: M Relinquished by: Employee# Date Time Received by: Employee # Date Time. Syrgroun 35594 PX 8/12/21 1500 Correct pH: Yes Relinguished by: Received by: Employee# Date Time Date -Employee # Time Preservative Lot#: Relinquished by: Date Employee# Time Received by: Employee # Date Time Date/Time/Init for preservative: <u>Coal</u> ☐ METALS (all ) Nutrients MISC. **Gypsum** · Flyash Of 1 □ Ag 🛮 Cu : Ultimate.

10: % Moisture

10: Ash.

10: Sulfur

10: Birus

10: Wolanie Marte □ Sb I TOC D BTEX ." Wallboard Laur Oll Cuch D Ammoula `□ AI □ Fe. . 🛛 Se PDOC □ Nanthalene Cypsum(dll) COMPANIES □ As □ THM/HAA  $\Box K$ □ Sn TIRTIROA (COLOR ©%Cation □ VOC Anthe. ONTEN ... □B; 🛛 Li □ Sr □ Oil & Grease' Deciren e_em C F Analysis □ E. Coli - . 🗓 Ba □ Mg 🗓 Ti 🏻 0.0GO NO2 11 Steve ☐ Total Coliform Part telloge O Soldidle Metals .□ Be ☐ Mn □ÎI □рH © % Molsune (සෙමෙනු) e Sunty (Casto4) TBr elisheid Xallemel □ Dissolved As □ Ca ŪΨ Mo ELINIOS .. ☐ Dissolved Fe **NPDES** □ Cd □ Na □ Zn ☐ Rad 226 (COSCICTORY) 40 CI SO4 ☐ Fineness ↓ ↓ P ☐ Particulate Matter DONA Gresse ☐ Rad 228 🛮 Со □ Ni □ Hg □ PCB ©&© Cr. 🗆 Pb. □ CrVI COLL

## **Chain of Custody**

10808V

Santee cooper

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

**Customer Email/Report Recipient:** Date Results Needed by: Project/Task/Unit #: Rerun request for any flagged QC LCWILLIA 121567 / JMO2.09. GØ1 / 36500 @santeecooper.com (Yes No **Analysis Group** Labworks ID # Sample Location/ Comments Matrix(see below) (Internal use Description Collection Date container Collector Method # only) Preservative ( below) Reporting limit Ö type: Collection Grab (G) or Composite (C Misc. sample info Total # of Any other notes Š Ţ m MDS 2 P Х AF09073 WAP-17 DUP -20 8/2/21 1517 G GW X X BRI BRT. -21 AF09079 Х 8/3/21 Х WAP - 23 1236 /EWS -22 x Х AF09077 WAP-21 1130 X -13 х AF09075 1627 X WA-P-19 8/4/21 *小*1 Χ WAP-22 1331 Х AF69078 1502 Х WLF- AZ-6 AF09091 X 16 AF09092 WLF-A2-6 DUP 1507 X X X Х AF09074 1216 Х Χ WA-7-18 ter / Х X X WBW-AI-I х AF09084 8/5/2 1030 BWN AF09090 WLF-AI-5 X Х Sample Receiving (Internal Use Only) Relinguished by: Received by: Employee# Date Time Date Employee # TEMP (°C): 71.4 Initial: MA de 35594 Myroun 1500 8/12/21 Correct pH: Yes! No Relinquished by: Employee# Date Time Received by: Employee# Date Time Preservative Lot#: 0975 Time Relinquished by: Employee# Date Received by: Employee# Date Time Date/Time/Init for preservative: ☐ METALS (all ) <u>Coal</u> Nutrilents MISC. **Gypsum** Flyash '□,Cu □ Sb: 🗆 Últimate TTOC DBTEX: ... DraudliaW E Occasion Quel Ammonia Ultimate □%Moisture □Ash □ A1 □ Fe . □ Se Cypsun(all balow) ☐ Nanthalene g doc Color Color □.As ☐ THM/HAA  $\Box K$ □ Sn (L'TP/TROA) Sulfür 2%@adom □ VOC UNES N C AM C.Mineral :□ **B** □ Li 🖸 Sr 🖖 □ Oil & Grease OLTON SECURE 20T (D □ BTUs □ Volatile Matter ② GHN Other Tests: OF A Auglysis (Fe) Masedhoù Gasas □ E. Coli 🗓 Ba □Мд □ Ti : • .... "UTotal metals ne ☐ Total Coliform : Solbide Meals TI 🚉 □ Be ☐ Mn 13 NO2 Pully (Cestor) (Otto) □pH jiBr∙ Dissolved As Applied of the state of the sta □ Ca □Мо □Ý ☐ XRF Scan ☐ HGI ☐ Fineness Meri-Bol (A-Gelle Milb LINOB ☐ Dissolved Fe © දින්ගිය ඒ ල්ඩ් **NPDES** □ Cd □ Na □ Zn □ Rad 226 E 804 2018 Gresse Hitan ☐ Rad 228 Echlorides □ Ćo ΠŅi □ Hg .□ PCB · Dentialle Size: ☐ Particulate Matter ELTSS COFER □ Cr □ Pb □ CrVI



Revised February 2018

## **Sample Receipt Verification**

Client: Santee Cooper R	Date Received:	ΛR	/13/2	N21	Work Order: 1080871
Cheffit.	received.		/13/2	021	Older
Carrier Name: Client FedEx UPS	US N	Mail		Cou	urier Field Services Other:
Tracking Number:					_
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Χ			
COC signed when relinquished and received?		Χ			
Sample bottles intact?		Х			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Χ			
Date / time on COC agree with label on bottle(s)?		Χ			
Number of bottles on COC agrees with number of bottles re	eceived?	Χ			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Χ			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 97	7050067	Χ			Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt in the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G and VOA analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation checked at the Note: Samples for O&G analysis – preservation	e lab.	Х			
Samples dechlorinated for parameters requiring chlorine remains the time of sample collection?  Note: Chlorine checked at bench for samples requiring Bacterial, VOA analysis.				Х	
If in-house pa	reservation	used	– re	cord	Lot #
HCL	H ₃ P				
H ₂ SO ₄ HNO ₃	NaC Oth				
Comments:					
Comments.					
Were non-conformance issues noted at sample receipt	? Yes	or	(N	No)	
Non-Conformance issue other than noted above:					

MAW

Completed by:____





## Laboratory Services

## **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Ground Water Project: Work Order: 1090593

Received: 09/09/2021 10:30

#### Dear Client:

Rogers and Callcott appreciates the opportunity to be of service to you. The attached laboratory services report includes analytical results and chain of custody for samples that were received on September 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





## **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

Project: Ground Water
Work Order: 1090593

**Received:** 09/09/2021 10:30

Sample Number	Sample Description	Matrix	Sampled	Type
1090593-01	AF13775 CGYP-5	Ground Water	08/31/21 10:01	Grab
1090593-02	AF13776 CGYP-6	Ground Water	08/31/21 11:02	Grab
1090593-03	AF13777 WLF-A2-6	Ground Water	09/01/21 12:40	Grab
1090593-04	AF13778 WLF-A2-6 Dup	Ground Water	09/01/21 12:45	Grab
1090593-05	AF13773 CGYP-4	Ground Water	09/01/21 09:04	Grab
1090593-06	AF13774 CGYP-4 Dup	Ground Water	09/01/21 09:09	Grab



Santee Cooper Project: Ground Water
1 Riverwood Dr. Work Order: 1090593
Moncks Corner, SC 29461 Reported: 09/24/21 14:05

#### Sample Data

Sample Number

1090593-01

**Sample Description** 

AF13775 CGYP-5 collected on 08/31/21 10:01

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	09/16/21 10:10	EPA 7470A	S7	ICP	B1I0534
Boron	3200	15	ug/L	1.00	09/10/21 19:43	EPA 6010D		MTH	B1I0438
Lithium	62	10	ug/L	1.00	09/10/21 19:43	EPA 6010D		MTH	B1I0438
Molybdenum	ND	10	ug/L	1.00	09/10/21 19:43	EPA 6010D		MTH	B1I0438

Sample Number

1090593-02

Sample Description AF13776 CGYP-6 collected on 08/31/21 11:02

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	09/16/21 10:32	EPA 7470A	S7	ICP	B1I0534
Boron	6900	75	ug/L	5.00	09/10/21 20:13	EPA 6010D		MTH	B1I0438
Lithium	130	10	ug/L	1.00	09/10/21 20:48	EPA 6010D		MTH	B1I0438
Molybdenum	ND	10	ug/L	1.00	09/10/21 20:48	EPA 6010D		MTH	B1I0438

Sample Number

1090593-03

Sample Description AF13777 WLF-A2-6 collected on 09/01/21 12:40

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	09/16/21 09:53	EPA 7470A		ICP	B1I0534
Boron	370	40	ug/L	1.00	09/10/21 20:40	EPA 6010D		MTH	B1I0438
Lithium	41	10	ug/L	1.00	09/10/21 20:40	EPA 6010D		MTH	B1I0438
Molybdenum	ND	10	ug/L	1.00	09/10/21 20:40	EPA 6010D		MTH	B1I0438

Sample Number

1090593-04

Sample Description AF13778 WLF-A2-6 Dup collected on 09/01/21 12:45

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	09/16/21 10:04	EPA 7470A		ICP	B1I0534
Boron	380	40	ug/L	1.00	09/10/21 20:44	EPA 6010D		MTH	B1I0438
Lithium	43	10	ug/L	1.00	09/10/21 20:44	EPA 6010D		MTH	B1I0438
Molybdenum	ND	10	ug/L	1.00	09/10/21 20:44	EPA 6010D		MTH	B1I0438

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



Project:

Ground Water

Work Order: Reported:

1090593 09/24/21 14:05

1090593-05 Sample Number

**Sample Description** 

AF13773 CGYP-4 collected on 09/01/21 09:04

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	09/16/21 10:49	EPA 7470A	S7	ICP	B1I0534
Boron	8000	75	ug/L	5.00	09/10/21 20:17	EPA 6010D		MTH	B1I0438
Lithium	64	10	ug/L	1.00	09/10/21 20:52	EPA 6010D		MTH	B1I0438
Molybdenum	ND	10	ug/L	1.00	09/10/21 20:52	EPA 6010D		MTH	B1I0438

Sample Number

1090593-06

**Sample Description** 

AF13774 CGYP-4 Dup collected on 09/01/21 09:09

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	09/16/21 11:11	EPA 7470A	S7	ICP	B1I0534
Boron	7800	75	ug/L	5.00	09/10/21 20:21	EPA 6010D		MTH	B1I0438
Lithium	63	10	ug/L	1.00	09/10/21 20:56	EPA 6010D		MTH	B1I0438
Molybdenum	ND	10	ug/L	1.00	09/10/21 20:56	EPA 6010D		MTH	B1I0438



Santee Cooper Project: Ground Water
1 Riverwood Dr. Work Order: 1090593
Moncks Corner, SC 29461 Reported: 09/24/21 14:05

# Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B110438 - EPA 3005A										
Blank (B1I0438-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B110438-BS1)										
Boron	500	15	ug/L	500		100	80-120			
Lithium	511	10	ug/L	500		102	80-120			
Molybdenum	480	10	ug/L	500		96	80-120			
Duplicate (B1I0438-DUP1)	Source: 1090593-01	l								
Boron	3300	15	ug/L		3200			2	20	
Lithium	62	10	ug/L		62			0.1	20	
Molybdenum	ND	10	ug/L		ND				20	
Matrix Spike (B1I0438-MS1)	Source: 1090593-01	l								
Boron	3700	15	ug/L	500	3200	101	75-125			
Lithium	590	10	ug/L	500	62	106	75-125			
Molybdenum	460	10	ug/L	500	ND	92	75-125			
Post Spike (B1I0438-PS1)	Source: 1090593-01	l								
Boron	3.6		mg/L	0.500	ND	92	75-125			
Lithium	0.582		mg/L	0.500	ND	104	75-125			
Molybdenum	0.46		mg/L	0.500	ND	93	75-125			
Batch B1I0534 - EPA 7470A										
Blank (B1I0534-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1I0534-BS1)										
Mercury	4.9	0.20	ug/L	5.00		97	80-120			
Matrix Spike (B1I0534-MS1)	Source: 1090593-03	3								
Mercury	5.0	0.20	ug/L	5.00	ND	99	75-125			

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Santee Cooper Project: Ground Water
1 Riverwood Dr. Work Order: 1090593
Moncks Corner, SC 29461 Reported: 09/24/21 14:05

# Total Metals **Quality Control Summary**

D	D	Reporting Limit	TI!4-	Spike	Source	0/ DEC	%REC	DDD	RPD	DI
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1I0534 - EPA 7470A										
Matrix Spike Dup (B1I0534-MSD1)	Source: 1090593-03									
Mercury	4.9	0.20	ug/L	5.00	ND	98	75-125	1	20	
Post Spike (B1I0534-PS1)	Source: 1090593-03									
Mercury	3.9		ug/L	3.75	ND	103	80-120			
Post Spike (B1I0534-PS2)	Source: 1090593-04									
Mercury	3.9		ug/L	3.75	ND	104	80-120			
Post Spike (B1I0534-PS3)	Source: 1090593-01									
Mercury	3.7		ug/L	3.75	ND	98	80-120			
Post Spike (B1I0534-PS4)	Source: 1090593-02									
Mercury	3.6		ug/L	3.75	ND	94	80-120			
Post Spike (B1I0534-PS5)	Source: 1090593-05									
Mercury	3.6		ug/L	3.75	ND	96	80-120			
Post Spike (B1I0534-PS6)	Source: 1090593-06									
Mercury	3.5		ug/L	3.75	ND	93	80-120			

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Santee Cooper Ground Water Project: 1 Riverwood Dr. Work Order: 1090593 Moncks Corner, SC 29461 09/24/21 14:05 Reported:

#### **Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst	
EPA 3005A ICP Digestion					
EPA 3005A	B1I0438	1090593-01	09/10/2021 11:29	CAL	
EPA 3005A	B1I0438	1090593-02	09/10/2021 11:29	CAL	
EPA 3005A	B1I0438	1090593-03	09/10/2021 11:29	CAL	
EPA 3005A	B1I0438	1090593-04	09/10/2021 11:29	CAL	
EPA 3005A	B1I0438	1090593-05	09/10/2021 11:29	CAL	
EPA 3005A	B1I0438	1090593-06	09/10/2021 11:29	CAL	
EPA 7470A Mercury Digestion					
EPA 7470A	B1I0534	1090593-01	09/13/2021 12:00	NAR	
EPA 7470A	B1I0534	1090593-02	09/13/2021 12:00	NAR	
EPA 7470A	B1I0534	1090593-03	09/13/2021 12:00	NAR	
EPA 7470A	B1I0534	1090593-04	09/13/2021 12:00	NAR	
EPA 7470A	B1I0534	1090593-05	09/13/2021 12:00	NAR	
EPA 7470A	B1I0534	1090593-06	09/13/2021 12:00	NAR	



#### **Data Qualifiers and Definitions**

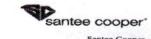
ND Analyte NOT DETECTED at or above the reporting limit

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**



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

	Customer Email/Report Recipient:		Date R	Project/Task/Unit #:					Rerun reques	Rerun request for any flagged QC					
LCMIL	LA	@santeed	cooper.com		/			1215	567	/_ JN	102.0	9.601		No	
													1090543	Analysis Group	
Labworks (Internal us only)	120 mm 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sample Location Description	on/	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	Rep     Mis	Comments thod # corting limit c. sample info or other notes	В, Сі, Мо, Нд	
AF1377	75	CGYP-5		8/31/21	1001	DEW/ML	ı	P	G	GW	2			X	
AF1377	16	CGYP-6		1	1102	1	1	1	1	1	1				
AF1377	77	WLF-A2-6	,	9/1/21	1240	1									
AF 137	78	WLF-A2-6	DUP		1245										
A+1377	3	CGYP-4			0904										
AF137	14	CGYP-4 D	UP .	1	9999	1		1	1		1			1-11	
											-				
		Michael Sough	DE 214-474	Service Re-					100						
		,													
Relinquist	hed hv:	Employee#	Date	Time	Receiv	red by:	l Er	nployee	# ]	Date		Time	Sample Receiving (Interna TEMP (°C): 23 -2	I Use Only)	
Symon		35594	9/8/24	1500	Fedt		1	inprojec		Dute			TEMP (°C): <u>3.2</u>	Initial:	
Relinquist		Employee#	Date	Time		red by:	Er	nployee	#	Date		Time	Correct pH: Yes N	0	
FedE	X		9921	1030	Cax	SU			1	9.9	21	1030	Preservative Lot#:		
Relinquisi	hed by:	Employee#	Date	Time	Receiv	ed by:	Er	nployee	#	Date		Time	NETS AND DESCRIPTION		
									L	N CONSTRUCTION		100	Date/Time/Init for preser	vative:	
□ Ag	□ ME	TALS (all)	Nuti	rients	MI	SC.		Gy	psun	<u>n</u>		Coal	Flyash	<u>Oil</u>	
	□ Fe	THE RESERVE THE PARTY OF THE PA	□ TO 0	250H0105050003050	☐ BTEX ☐ Napthale	ne.	0	Wallbo	ard sum( <i>a</i>	,	0	Ultimate	☐ Ammonia	Trans. Oil Qual.	
□ As	ΟK	□ Sn	□ TP/		□ THM/H			belo	r)			☐ % Moist ☐ Ash	ure	Color.	
□В	O Li	□Sr	O NH	3+N	□ VOC □ Oil & G	rease		E AL				□ Sulfur	☐ Mineral	Dielectric Strength	
□ Ba	□ Mg	g DTi	D F		□ E. Coli			□ Tot	al meta			□ BTUs □ Volatile	Analysis  Matter ☐ Sieve	BIFF	
□ Be	□Mr	ı 🗆 TI	□ NO	2	□ Total Co	niorm			uble Mo			CHN	1 % Moisture	Dissolved Gases Used Oil	
□ Ca	□Мо	THE RESERVE OF THE PERSON NAMED IN	□ Br		☐ Dissolve			D%1	Moistur		COLUMN TO SERVICE	ther Tests:		© Flashpoint	
□ Cd	□ Na		□ NO.		☐ Dissolve ☐ Rad 226			C Suf			SECTION AND DESCRIPTIONS	XRF Scan HGI	NPDES	D Metals in oil (As.Cd.Cr,Ni.Pt	
□ Co	□Ni	□ Hg			□ Rad 228 □ PCB			C Chi	orides			Fineness Particulate Ma	Off & Grease	Hg)	
□ Cr	□ Pb			the state of	псв			L Par Sulfur	ticle Siz	e		rafficulate Ma	ortss orts	GOFER	



Revised February 2018

### **Sample Receipt Verification**

Client: Santee Cooper	Date Received:	09	9/09/2	2021	Work Order: 1090593
Carrier Name: Client FedEx UP	-			Cou	
Tracking Number: 815367	915467				<u> </u>
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Х			
COC signed when relinquished and received?		Х			
Sample bottles intact?		Χ			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Χ			
Date / time on COC agree with label on bottle(s)?		Χ			
Number of bottles on COC agrees with number of bottle	es received?	Χ			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Х			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SI	N: 97050067	Х			Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt  Note: Samples for O&G and VOA analysis – preservation checket	in the lab.	Х			
Samples dechlorinated for parameters requiring chlorine the time of sample collection?  Note: Chlorine checked at bench for samples requiring Bacterial, analysis.	e removal at			Х	
If in-hous	se preservation	used	– re	cord l	Lot#
HCL	H ₃ P				
H ₂ SO ₄ HNO ₃	NaC Oth				
Comments:			•		
Were non-conformance issues noted at sample reconformance issue other than noted above:	eipt? Yes	s or	· (1	No)	

Completed by: CSG Page 10 of 10





### Laboratory Services

#### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project:

Received:

Ground Water

Work Order: 1091488

09/30/2021 09:50

#### 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 September 30, 2021. Rogers and Callcott maintains a formal QA/QC program. Unless otherwise noted, all analyses performed under NELAP certification have complied with all the requirements for the TNI standard. The analyses met the QA/QC confidence interval for each test method unless otherwise qualified. Estimated uncertainty is available upon request.

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

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

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Tima Resture

Report Approved By:

Tina Restivo

Project Manager





### **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

Project: Ground Water
Work Order: 1091488

**Received:** 09/30/2021 09:50

Sample Number	Sample Description	Matrix	Sampled	Type
1091488-01	AF15787 CGYP-4	Ground Water	09/27/21 09:38	Grab
1091488-02	AF15788 CGYP-4 Dup	Ground Water	09/27/21 09:43	Grab
1091488-03	AF15789 CGYP-5	Ground Water	09/27/21 11:17	Grab
1091488-04	AF15790 CGYP-6	Ground Water	09/27/21 12:32	Grab
1091488-05	AF15791 WLF-A2-6	Ground Water	09/28/21 10:21	Grab
1091488-06	AF15792 WLF-A2-6 Dup	Ground Water	09/28/21 10:26	Grab



#### Sample Data

Sample Number

1091488-01

**Sample Description** 

AF15787 CGYP-4 collected on 09/27/21 09:38

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	10/06/21 11:18	EPA 7470A		NAR	B1J0187
Boron	7800	75	ug/L	5.00	10/04/21 16:26	EPA 6010D		MTH	B1J0040
Lithium	67	10	ug/L	1.00	10/04/21 17:08	EPA 6010D		MTH	B1J0040
Molybdenum	ND	10	ug/L	1.00	10/04/21 17:08	EPA 6010D		MTH	B1J0040

Sample Number

1091488-02

Sample Description AF15788 CGYP-4 Dup collected on 09/27/21 09:43

Parameter	Result	Reporting Limit	Units	DF	Analyzed Method		Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	10/06/21 11:21	EPA 7470A		NAR	B1J0187
Boron	8200	75	ug/L	5.00	10/04/21 16:29	EPA 6010D		MTH	B1J0040
Lithium	67	10	ug/L	1.00	10/04/21 17:12	EPA 6010D		MTH	B1J0040
Molybdenum	ND	10	ug/L	1.00	10/04/21 17:12	EPA 6010D		MTH	B1J0040

Sample Number

1091488-03

Sample Description AF15789 CGYP-5 collected on 09/27/21 11:17

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	10/06/21 11:24	EPA 7470A		NAR	B1J0187
Boron	5000	75	ug/L	5.00	10/04/21 16:33	EPA 6010D		MTH	B1J0040
Lithium	84	10	ug/L	1.00	10/04/21 17:16	EPA 6010D		MTH	B1J0040
Molybdenum	ND	10	ug/L	1.00	10/04/21 17:16	EPA 6010D		MTH	B1J0040

Sample Number

1091488-04

Sample Description AF15790 CGYP-6 collected on 09/27/21 12:32

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	10/06/21 11:27	EPA 7470A		NAR	B1J0187
Boron	7300	75	ug/L	5.00	10/04/21 16:37	EPA 6010D		MTH	B1J0040
Lithium	150	10	ug/L	1.00	10/04/21 17:20	EPA 6010D		MTH	B1J0040
Molybdenum	ND	10	ug/L	1.00	10/04/21 17:20	EPA 6010D		MTH	B1J0040

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Santee Cooper 1 Riverwood Dr. Moncks Corner, SC 29461 Project:

Ground Water

Work Order: Reported: 1091488 10/07/21 14:09

Sample Number

1091488-05

Sample Description

AF15791 WLF-A2-6 collected on  $09/28/21\ 10:21$ 

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	10/06/21 11:30	EPA 7470A		NAR	B1J0187
Boron	360	15	ug/L	1.00	10/06/21 20:30	EPA 6010D		MTH	B1J0193
Lithium	31	10	ug/L	1.00	10/04/21 16:02	EPA 6010D		MTH	B1J0040
Molybdenum	ND	10	ug/L	1.00	10/06/21 20:30	EPA 6010D		MTH	B1J0193

Sample Number

1091488-06

**Sample Description** 

AF15792 WLF-A2-6 Dup collected on 09/28/21 10:26

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	10/06/21 11:07	EPA 7470A		NAR	B1J0187
Boron	340	15	ug/L	1.00	10/04/21 17:04	EPA 6010D		MTH	B1J0040
Lithium	29	10	ug/L	1.00	10/04/21 17:04	EPA 6010D		MTH	B1J0040
Molybdenum	ND	10	ug/L	1.00	10/04/21 17:04	EPA 6010D		MTH	B1J0040



## Total Metals **Quality Control Summary**

		Reporting		Spike	Source		%REC		RPD	
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1J0040 - EPA 3005A										
Blank (B1J0040-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1J0040-BS1)										
Boron	530	15	ug/L	500		106	80-120			
Lithium	525	10	ug/L	500		105	80-120			
Molybdenum	530	10	ug/L	500		106	80-120			
Matrix Spike (B1J0040-MS1)	Source: 1091488-05									
Lithium	568	10	ug/L	500	31	107	75-125			
Matrix Spike Dup (B1J0040-MSD1)	Source: 1091488-05									
Lithium	562	10	ug/L	500	31	106	75-125	1	20	
Post Spike (B1J0040-PS1)	Source: 1091488-05									
Lithium	561	10	ug/L	500	31	106	75-125			
Batch B1J0187 - EPA 7470A										
Blank (B1J0187-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1J0187-BS1)										
Mercury	5.0	0.20	ug/L	5.00		100	80-120			
Matrix Spike (B1J0187-MS1)	Source: 1091488-06									
Mercury	4.9	0.20	ug/L	5.00	ND	98	75-125			
Matrix Spike Dup (B1J0187-MSD1)	Source: 1091488-06									
Mercury	5.0	0.20	ug/L	5.00	ND	101	75-125	3	20	
Post Spike (B1J0187-PS1)	Source: 1091488-06									
Mercury	3.9		ug/L	4.00	ND	97	80-120			

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Santee Cooper
1 Riverwood Dr.
Moncks Corner, SC 29461

Total Metals **Quality Control Summary** 

Project:

Reported:

Work Order:

Ground Water

10/07/21 14:09

1091488

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1J0193 - EPA 3005A										
Blank (B1J0193-BLK1)										
Boron	ND	15	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1J0193-BS1)										
Boron	520	15	ug/L	500		104	80-120			
Molybdenum	500	10	ug/L	500		99	80-120			
Matrix Spike (B1J0193-MS1)	Source: 1091488-0	5								
Boron	890	15	ug/L	500	360	106	75-125			
Molybdenum	510	10	ug/L	500	ND	102	75-125			
Matrix Spike Dup (B1J0193-MSD1)	Source: 1091488-0	5								
Boron	890	15	ug/L	500	360	106	75-125	0.3	20	
Molybdenum	510	10	ug/L	500	ND	103	75-125	1	20	
Post Spike (B1J0193-PS1)	Source: 1091488-0	5								
Boron	900	15	ug/L	500	360	108	75-125			
Molybdenum	530	10	ug/L	500	ND	107	75-125			

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Santee Cooper Ground Water Project: 1 Riverwood Dr. Work Order: 1091488 Moncks Corner, SC 29461 Reported: 10/07/21 14:09

#### **Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst	
EPA 3005A ICP Digestion					
EPA 3005A	B1J0040	1091488-01	10/04/2021 08:11	MTH	
EPA 3005A	B1J0040	1091488-02	10/04/2021 08:11	MTH	
EPA 3005A	B1J0040	1091488-03	10/04/2021 08:11	MTH	
EPA 3005A	B1J0040	1091488-04	10/04/2021 08:11	MTH	
EPA 3005A	B1J0040	1091488-05	10/04/2021 08:11	MTH	
EPA 3005A	B1J0193	1091488-05	10/06/2021 09:28	MLR	
EPA 3005A	B1J0040	1091488-06	10/04/2021 08:11	MTH	
EPA 7470A Mercury Digestion					
EPA 7470A	B1J0187	1091488-01	10/06/2021 08:54	NAR	
EPA 7470A	B1J0187	1091488-02	10/06/2021 08:54	NAR	
EPA 7470A	B1J0187	1091488-03	10/06/2021 08:54	NAR	
EPA 7470A	B1J0187	1091488-04	10/06/2021 08:54	NAR	
EPA 7470A	B1J0187	1091488-05	10/06/2021 08:54	NAR	
EPA 7470A	B1J0187	1091488-06	10/06/2021 08:54	NAR	



#### **Data Qualifiers and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

RPD Relative Percent Difference

### **Chain of Custody**

1091488



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

	ILLIA	@santee	ecooper.cor		/		γ:	121				Unit #:		Rerun requ ≅ <u>∽                                    </u>			
(Internationally)		Sample Locat Description	ion/	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	• M • Ra • M	cethod # eporting linisc. sample ny other no	info		D, Ll, Mo, Hg	вегоир
AF   5	787	CGYP-4		9/27/2	1 0938	DEN!	l	P	G	GW	2	-01			×		
AF15	188	CGYP-4 D	VIP.	1		1	1	-		1	1	-02				+	-
N 13	100	CG11-4 L	чт		0943											+	
AF15	789	CGYP-5			1117							-03	3				
AFI5	7-90	CGYP-6		11	1232	1		1				-04					
				21			,	1		1	1				-	1	_
AF157	F91	WLF-A2-6		9/28/21	1021			+				-05	***			1	
AF157	-92	WLF-A2-6	DUP	1	1026	1	1	1	1		1	-00	0				
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			- Wn - war-	1							-				_	++	-
				-									·····		2		
											-	Track	ing:				
									_	_	$\neg$	Cita	arig.		+	+	
												8167	020	4 2076			
Relinqu	ished by:	Employee#	Date	Time	Receive	ed by:	Em	ployee !	,	Date		Time		Receiving (Interne			
Symon	en	35594	9/29/21	1500	1/20/21 PS	Fea	(E)	4					IEMI	(°C):	Initia	d:	-
Relinqu	ished by:	Employee#	Date	Time	Receive	ed by:	Em	ployee #	4 86	Date		Time	Correc	et pH: Yes N	No		
JAS	5 Fec	HEX	9/30/21	0950	Me.	est	304		9/	130/1	110	950	Preser	vative Lot#:			
Relinqu	ished by:	Employee#	Date	Time	Receive	d by:	Em	ployee #		Date		Time					
													Date/T	ime/Init for prese	rvative:		
	□ ME	TALS (all)							0.00			7.01656					
□ Ag	□ Cu	□ Sb	BTO	rients	MIS D BTEX	<u>C.</u>		Vallboa	sum			Coal		<u>Flyash</u>		Oil	
O Al	□ Fe	□ Se	D DC	C	□ Napthalen				um(all		36	Itimate  3 % Mois	nire .	☐ Ammonia ☐ LO!		us. Oil (	
□ As	□ K	□Sn	THE RESERVE THE PARTY OF THE PA		☐ THM/HA. ☐ VOC	A		below:				2 Ash		12 % Carbon	- 0		
ОВ	□ Li	□ Sr	D F		□ Oil & Gre	ase		DIOC				Sulfur		☐ Mineral			mgth
□ Ba	□Mg	□ Ti	n Gi		□ E. Coli □ Total Coli	form			l metals ble Meta			☐ BTUs☐ Volatile	Matter	Analysis   Steve			Claver
□ Be	□ Mn	□ TI	Br No	2	□рН			Purit	y (CaSC		(	CHN		0 % Moisture	21.5	ed Oil	
□ Ca	□ Mo	O V	NO		<ul><li>□ Dissolved</li><li>□ Dissolved</li></ul>			D % M				er Tests: RF Scan					
□ Cd	□Na	□ Zn	Uso	A PROPERTY OF THE PARTY OF THE	☐ Rad 226 ☐ Rad 228		103	□pH			DHO	31		NPDES			
□ Co	□Ni	□ Hg			PCB			Chlor Partic	rides cle Size		222 30 700	neness rticulate Ma	itter	□ Oil & Grease □ As			3.73
□ Cr	□ Pb	□ CrVI	THE RESERVE				00	ulfur	THE BOOK	100-53	12000		(2) A 11 (1) A 1	DTSS		EER	12.000

5=Na₂S₂O₃ 6-Other (Specify)

Page 9 of 10



Revised February 2018

### **Sample Receipt Verification**

Client: Sante	ee Cooper		ate eived:	09	/30/2	:021	Work Order:1091488
Carrier Name:		UPS 0204 2076	US N	Mail		Cou	ourier Field Services Other:
Receipt Crite	eria			Y e s	N o	N A	Comments
Shipping contai	iner / cooler intact?			Х			Damaged Leaking Other:
Custody seals in	ntact?					Х	
COC included	with samples?			Χ			
COC signed wh	nen relinquished and received?			Х			
Sample bottles	intact?			Х			Damaged Leaking Other:
Sample ID on C	COC agree with label on bottle(s)?			Х			
Date / time on 0	COC agree with label on bottle(s)?			Х			
Number of bott	cles on COC agrees with number of bo	ottles recei	ved?	Х			
Samples receive	ed within holding time?			Χ			
Sample volume	e sufficient for analysis?			Χ			
VOA vials free	of headspace (<6mm bubble)?					Х	
Samples cooled	Temp at receipt recorded on COC Temp measured with IR thermometer	· - SN: 97050	067	Х			Ice Cold Packs Dry Ice None
Note: Samples	ing pH preservation at proper pH? for metals analysis may be preserved upon rece for O&G and VOA analysis – preservation che	eipt in the lab	).	Х			
Samples dechlor the time of sam	orinated for parameters requiring chlor	rine remov	al at			х	
	If in-h	ouse prese	rvation	used	– re	cord	d Lot#
HCL			$H_3P$				
H ₂ SO ₄			NaC				
HNO ₃			Oth	er			
Comments:							
Were non-con	nformance issues noted at sample r	eceipt?	Yes	or	. (1	No)	)
	nce issue other than noted above:						

Completed by:____ Page 10 of 10

NAR





### Laboratory Services

#### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project:

Ground Water 1110388

Work Order: Received:

11/03/2021 09:35

#### 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 November 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





### **Certificate of Analysis**

Client Santee Cooper

11/12/2021 08:22

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

Project: Ground Water
Work Order: 1110388

**Received:** 11/03/2021 09:35

Sample Number	Sample Description	Matrix	Sampled	Type
1110388-01	AF18534 CGYP-4	Ground Water	10/26/21 10:00	Grab
1110388-02	AF18535 CGYP-4 Dup	Ground Water	10/26/21 10:05	Grab
1110388-03	AF18536 CGYP-5	Ground Water	10/26/21 11:55	Grab
1110388-04	AF18537 CGYP-6	Ground Water	10/26/21 12:54	Grab
1110388-05	AF18539 WLF-A2-6	Ground Water	10/27/21 10:27	Grab
1110388-06	AF18540 WLF-A2-6 Dup	Ground Water	10/27/21 10:32	Grab



Santee Cooper Ground Water Project: 1 Riverwood Dr. Work Order: 1110388 Moncks Corner, SC 29461 11/12/21 08:22 Reported:

#### Sample Data

Sample Number

1110388-01

**Sample Description** 

AF18534 CGYP-4 collected on 10/26/21 10:00

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/09/21 12:34	EPA 7470A	S7	MLR	B1K0469
Boron	6800	75	ug/L	5.00	11/04/21 17:20	EPA 6010D		MTH	B1K0301
Lithium	53	10	ug/L	1.00	11/04/21 17:50	EPA 6010D		MTH	B1K0301
Molybdenum	ND	10	ug/L	1.00	11/04/21 17:50	EPA 6010D		MTH	B1K0301

Sample Number

1110388-02

**Sample Description** AF18535 CGYP-4 Dup collected on 10/26/21 10:05

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/09/21 12:45	EPA 7470A	S7	MLR	B1K0469
Boron	6900	75	ug/L	5.00	11/04/21 17:23	EPA 6010D		MTH	B1K0301
Lithium	57	10	ug/L	1.00	11/04/21 17:54	EPA 6010D		MTH	B1K0301
Molybdenum	ND	10	ug/L	1.00	11/04/21 17:54	EPA 6010D		MTH	B1K0301

Sample Number

1110388-03

**Sample Description** AF18536 CGYP-5 collected on 10/26/21 11:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/09/21 12:54	EPA 7470A	S7	MLR	B1K0469
Boron	4500	15	ug/L	1.00	11/04/21 17:57	EPA 6010D		MTH	B1K0301
Lithium	76	10	ug/L	1.00	11/04/21 17:57	EPA 6010D		MTH	B1K0301
Molybdenum	ND	10	ug/L	1.00	11/04/21 17:57	EPA 6010D		MTH	B1K0301

Sample Number

1110388-04

**Sample Description** AF18537 CGYP-6 collected on 10/26/21 12:54

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/09/21 12:57	EPA 7470A	S7	MLR	B1K0469
Boron	6700	75	ug/L	5.00	11/04/21 17:32	EPA 6010D		MTH	B1K0301
Lithium	110	10	ug/L	1.00	11/04/21 18:00	EPA 6010D		MTH	B1K0301
Molybdenum	ND	10	ug/L	1.00	11/04/21 18:00	EPA 6010D		MTH	B1K0301

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Sample Number 1110388-05

Sample Description AF18539 WLF-A2-6 collected on 10/27/21 10:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/09/21 12:59	EPA 7470A		MLR	B1K0469
Boron	420	15	ug/L	1.00	11/04/21 18:03	EPA 6010D		MTH	B1K0301
Lithium	36	10	ug/L	1.00	11/04/21 18:03	EPA 6010D		MTH	B1K0301
Molybdenum	ND	10	ug/L	1.00	11/04/21 18:03	EPA 6010D		MTH	B1K0301

Sample Number

1110388-06

Sample Description

AF18540 WLF-A2-6 Dup collected on 10/27/21 10:32

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/09/21 13:02	EPA 7470A		MLR	B1K0469
Boron	360	15	ug/L	1.00	11/04/21 17:02	EPA 6010D		MTH	B1K0301
Lithium	36	10	ug/L	1.00	11/04/21 17:02	EPA 6010D		MTH	B1K0301
Molybdenum	ND	10	ug/L	1.00	11/04/21 17:02	EPA 6010D		MTH	B1K0301



## Total Metals **Quality Control Summary**

Batch B1K0301 - EPA 3005A  Blank (B1K0301-BLK1)  Beron ND 15 ug/L Lithium ND 10 ug/L Lithium ND 10 ug/L  LCS (B1K0301-BS1)  Beroa 470 15 ug/L 500 94 80-120 Lithium 508 10 ug/L 500 97 80-120  Molybdenum 480 10 ug/L 500 97 80-120  Matrix Spike (B1K0301-MS1) Source: 1110388-06  Beroa 840 15 ug/L 500 36 103 75-125 Lithium 552 10 ug/L 500 36 103 75-125  Matrix Spike Dup (B1K0301-MSD1) Source: 1110388-06  Beroa 840 15 ug/L 500 36 103 75-125  Matrix Spike Dup (B1K0301-MSD1) Source: 1110388-06  Beroa 800 15 ug/L 500 36 97 75-125 4 20  Matrix Spike Bup (B1K0301-MSD1) Source: 1110388-06  Beroa 800 15 ug/L 500 36 97 75-125 4 20  Matrix Spike Bup (B1K0301-MSD1) Source: 1110388-06  Beroa 800 15 ug/L 500 36 97 75-125 4 20  Matrix Spike Bup (B1K0301-PS1) Source: 1110388-06  Beroa 800 15 ug/L 500 36 97 75-125 4 20  Molybdenum 480 10 ug/L 500 ND 66 75-125 4 20  Molybdenum 520 10 ug/L 500 ND 76 75-125 4 20  Molybdenum 0.58 mg/L 0.500 ND 76 75-125  Beroa 800 0.92 mg/L 0.500 ND 76 75-125  Batch B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BLK1)  Mercury A9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-BS1)	Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Blank (BIK0301-BLK1)   Blance   ND   15   ug/L		<u>·</u>									6
ND											
Lithium ND 10 ug/L  LCS (BIK0301-BS1)  Boron 470 15 ug/L 500 94 80-120 Lithium 480 10 ug/L 500 102 80-120  Matrix Spike (BIK0301-MS1)  Source: 1110388-06  Boron 840 15 ug/L 500 360 94 75-125 Lithium 552 10 ug/L 500 36 103 75-125 Matrix Spike (BIK0301-MSD1)  Source: 1110388-06  Boron 800 15 ug/L 500 360 94 75-125 Matrix Spike (BIK0301-MSD1)  Source: 1110388-06  Boron 800 15 ug/L 500 360 97 75-125 Matrix Spike (BIK0301-MSD1)  Source: 1110388-06  Boron 800 15 ug/L 500 360 87 75-125 Matrix Spike (BIK0301-MSD1)  Source: 1110388-06  Boron 800 15 ug/L 500 360 87 75-125 4 20 Molybdenum 820 10 ug/L 500 36 87 75-125 4 20 Molybdenum 840 10 ug/L 500 ND 96 75-125 4 20 Molybdenum 852 10 ug/L 500 ND 96 75-125 4 20 Molybdenum 800 15 ug/L 500 ND 96 75-125 4 20 Molybdenum 800 15 ug/L 500 ND 96 75-125 4 20  Molybdenum 900 ND 900 ND 900 75-125 4 20  Molybdenum 900 ND 900		ND	1.5	7							
Molybdenum				_							
LCS (B1K0301-BS1)   Boron											
Baron	woiyodenum	ND	10	ug/L							
Matrix Spike (BIK0469-BSI)   Source:   1110388-06   Source:   1110	LCS (B1K0301-BS1)										
Matrix Spike (B1K0301-MS1)   Source: 1110388-06	Boron	470	15	ug/L	500		94	80-120			
Matrix Spike (B1K0301-MS1)   Source: 1110388-06	Lithium	508	10	ug/L	500		102	80-120			
Boron 840 15 ug/L 500 360 94 75-125 Lithium 552 10 ug/L 500 36 103 75-125 Molybdenum 500 10 ug/L 500 ND 100 75-125  Matrix Spike Dup (B1K0301-MSD1) Source: 1110388-06  Boron 800 15 ug/L 500 360 87 75-125 4 20 Lithium 520 10 ug/L 500 36 97 75-125 6 20 Molybdenum 480 10 ug/L 500 36 97 75-125 6 20 Molybdenum 480 10 ug/L 500 ND 96 75-125 4 20  Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125 4 20  Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125  Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Molybdenum	480	10	ug/L	500		97	80-120			
Lithium 552 10 ug/L 500 36 103 75-125  Molybdenum 500 10 ug/L 500 ND 100 75-125  Matrix Spike Dup (B1K0301-MSD1) Source: 1110388-06  Boron 800 15 ug/L 500 360 87 75-125 4 20  Lithium 520 10 ug/L 500 36 97 75-125 6 20  Molybdenum 480 10 ug/L 500 ND 96 75-125 6 20  Molybdenum 480 10 ug/L 500 ND 96 75-125 4 20  Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125 4 20  Edihium 0.416 mg/L 0.500 ND 76 75-125 MOlybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Matrix Spike (B1K0301-MS1)	Source: 1110388-06									
Matrix Spike Dup (B1K0301-MSD1) Source: 1110388-06  Boron 800 15 ug/L 500 360 87 75-125 4 20 Lithium 520 10 ug/L 500 36 97 75-125 6 20 Molybdenum 480 10 ug/L 500 ND 96 75-125 4 20  Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125 4 20  Molybdenum 0.416 mg/L 0.500 ND 16 75-125  Molybdenum 0.58 mg/L 0.500 ND 16 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Boron	840	15	ug/L	500	360	94	75-125			
Matrix Spike Dup (B1K0301-MSD1)   Source: 1110388-06	Lithium	552	10	ug/L	500	36	103	75-125			
Boron 800 15 ug/L 500 360 87 75-125 4 20 Lithium 520 10 ug/L 500 36 97 75-125 6 20 Molybdenum 480 10 ug/L 500 ND 96 75-125 4 20  Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125 Lithium 0.416 mg/L 0.500 ND 76 75-125 Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1)  Source: 1110388-01	Molybdenum	500	10	ug/L	500	ND	100	75-125			
Lithium 520 10 ug/L 500 36 97 75-125 6 20 Molybdenum 480 10 ug/L 500 ND 96 75-125 4 20 Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125	Matrix Spike Dup (B1K0301-MSD1)	Source: 1110388-06									
Molybdenum 480 10 ug/L 500 ND 96 75-125 4 20  Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125  Lithium 0.416 mg/L 0.500 ND 76 75-125  Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Boron	800	15	ug/L	500	360	87	75-125	4	20	
Post Spike (B1K0301-PS1) Source: 1110388-06  Boron 0.92 mg/L 0.500 ND 112 75-125  Lithium 0.416 mg/L 0.500 ND 76 75-125  Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Lithium	520	10	ug/L	500	36	97	75-125	6	20	
Boron 0.92 mg/L 0.500 ND 112 75-125 Lithium 0.416 mg/L 0.500 ND 76 75-125 Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Molybdenum	480	10	ug/L	500	ND	96	75-125	4	20	
Lithium 0.416 mg/L 0.500 ND 76 75-125  Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Post Spike (B1K0301-PS1)	Source: 1110388-06									
Molybdenum 0.58 mg/L 0.500 ND 116 75-125  Batch B1K0469 - EPA 7470A  Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Boron	0.92		mg/L	0.500	ND	112	75-125			
Blank (B1K0469-BLK1)  Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Lithium	0.416		mg/L	0.500	ND	76	75-125			
Mercury   ND   0.20   ug/L	Molybdenum	0.58		mg/L	0.500	ND	116	75-125			
Mercury ND 0.20 ug/L  LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Batch B1K0469 - EPA 7470A										
LCS (B1K0469-BS1)  Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Blank (B1K0469-BLK1)										
Mercury 4.9 0.20 ug/L 5.00 98 80-120  Matrix Spike (B1K0469-MS1) Source: 1110388-01	Mercury	ND	0.20	ug/L							
Matrix Spike (B1K0469-MS1) Source: 1110388-01	LCS (B1K0469-BS1)										
,	Mercury	4.9	0.20	ug/L	5.00		98	80-120			
Mercury 4.4 0.20 ug/L 5.00 ND 89 75-125 S7	Matrix Spike (B1K0469-MS1)	Source: 1110388-01									
	Mercury	4.4	0.20	ug/L	5.00	ND	89	75-125			S7

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## Total Metals **Quality Control Summary**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC	RPD	RPD Limit	Flags
	resuit		- Jinta	2010	ACSUIT	, JREC	Limits			1 1053
Batch B1K0469 - EPA 7470A										
Matrix Spike Dup (B1K0469-MSD1)	Source: 1110388-01									
Mercury	4.4	0.20	ug/L	5.00	ND	87	75-125	2	20	S7
Post Spike (B1K0469-PS1)	Source: 1110388-01									
Mercury	3.7		ug/L	4.00	ND	91	80-120			S7
Post Spike (B1K0469-PS2)	Source: 1110388-02									
Mercury	3.6		ug/L	4.00	ND	89	80-120			S7
Post Spike (B1K0469-PS3)	Source: 1110388-03									
Mercury	3.4		ug/L	4.00	ND	84	80-120			S7
Post Spike (B1K0469-PS4)	Source: 1110388-04									
Mercury	3.6		ug/L	4.00	ND	88	80-120			S7
Post Spike (B1K0469-PS5)	Source: 1110388-05									
Mercury	4.1		ug/L	4.00	ND	101	80-120			
Post Spike (B1K0469-PS6)	Source: 1110388-06									
Mercury	4.1		ug/L	4.00	ND	104	80-120			

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#### **Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst	
EPA 3005A ICP Digestion					
EPA 3005A	B1K0301	1110388-01	11/04/2021 10:01	MTH	
EPA 3005A	B1K0301	1110388-02	11/04/2021 10:01	MTH	
EPA 3005A	B1K0301	1110388-03	11/04/2021 10:01	MTH	
EPA 3005A	B1K0301	1110388-04	11/04/2021 10:01	MTH	
EPA 3005A	B1K0301	1110388-05	11/04/2021 10:01	MTH	
EPA 3005A	B1K0301	1110388-06	11/04/2021 10:01	MTH	
EPA 7470A Mercury Digestion					
EPA 7470A	B1K0469	1110388-01	11/08/2021 15:00	MLR	
EPA 7470A	B1K0469	1110388-02	11/08/2021 15:00	MLR	
EPA 7470A	B1K0469	1110388-03	11/08/2021 15:00	MLR	
EPA 7470A	B1K0469	1110388-04	11/08/2021 15:00	MLR	
EPA 7470A	B1K0469	1110388-05	11/08/2021 15:00	MLR	
EPA 7470A	B1K0469	1110388-06	11/08/2021 15:00	MLR	



#### **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.

## santee cooper

#### **Chain of Custody**

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

Rerun request for any flagged QC Project/Task/Unit #: **Customer Email/Report Recipient:** Date Results Needed by: 121567 / JMO2.09.60 / 36500 (Yes) No LCWILLIA @santeecooper.com **Analysis Group** Comments Labworks ID# Sample Location/ 7 Matrix(see below Preservative (see below) Collection Date (Internal use Description Method # Collection Tim Sample Collecto No. (Gla otal # of contain Reporting limit only) Grab (G) or Composite (C) Bottle type: ( G/Plastic-P) Misc. sample info Ľ. Any other notes m ন্যা DEN, X G 1 P GW 2 B, Li, Mo - 6010 10/26/21 0859 ML 1000 Hg-7470 CGYP-4 OLAF18534 CGYP -4 DUP 1005 -02 AF 18535 CGYP-5 1155 AF18536 1254 CGYP-6 -04 AF 18537 WLF-A2-6 10/27/21 1027 AF18539 T 1032 AF1 8540 WLF-AZ-6 DUP Sample Receiving (Internal Use Only) Time Received by: Employee # Date Time Relinquished by: Employee# TEMP (°C): 18.2 Initial: FEARX 35594 Smoun 11/2/21 Correct pH: Yes Time Received by: Date Relinquished by: Time Employee # Employee# Date Preservative Lot#: 0935 11.3-21 FEELEX 11321 0935 Received by: Employee # Date Time Relinquished by: Date Time Employee# Date/Time/Init for preservative: ☐ METALS (all ) Oil Gypsum Coal **Nutrients** MISC. Flyash □ Cu □Sb □ Ag Trans. Oll Qual. Wallboard TOC DRTEX ☐ Ultimate Ammonia □ AI □ Fe □ Se Moisture Gypsum(all DOC □ Napthalene ☐ % Moisture DLOI ☐ THM/HAA below) □ Sn  $\Box K$ □ As TP/TPO4 □ Ash % Carbon OVOC AIM Mineral ☐ Sulfur NH3-N  $\Box$  B □ Li □ Sr □ Oil & Grease TOC Analysis □ BTUs □ E. Coli Total metals □ Ba □ Mg □ Ti Dissolved Gases CI ☐ Volatile Matter C Sieve ☐ Total Coliform Soluble Metals Used Oil Purity (CaSO4) CHN □ % Moisture □ Be □ Mn U TI NO2 ПоН Plashpoint Metals in oil (As,Cd,Cr,Nt,Pb Other Tests: ☐ Dissolved As Вт 3% Moisture □Мо OV □ Ca ☐ Dissolved Fe ☐ Sulfites □ XRF Scan NO3 NPDES ☐ Rad 226 O HGI □ Zn pH □ Cd □ Na **SO4** □ Oil & Grease Hg) ☐ Rad 228 Chlorides. ☐ Fineness □ Co □ Ni ☐ Hg ☐ Particulate Matter □ PCB ☐ Particle Size UTSS COFER □ Pb □ CrVI □ Cr



Revised February 2018

### **Sample Receipt Verification**

Cliente	Santee Coo	ppor		Date ceived:	1.	1/03/2	2021	Work Order: 1110388		
Client:	Samee Coc	ррег	Rec	cerveu.		1/03/2	2021	Order: 1110300		
Carrier Name:	Client	FedEx	UPS	US I	Mail		Cou	urier Field Services Other:		
	Tracl	king Number:	815367913	946				<u> </u>		
Receipt Crite	eria				Y e s	N o	N A	Comments		
Shipping conta	iner / cooler in	tact?			Х			Damaged Leaking Other:		
Custody seals intact?										
COC included	with samples?				Х					
COC signed w	hen relinquishe	ed and received?			Х					
Sample bottles	intact?				Х			Damaged Leaking Other:		
Sample ID on 0	COC agree wit	h label on bottle(s)	?		Х					
Date / time on	COC agree wit	th label on bottle(s)	?		Х					
Number of bott	tles on COC ag	grees with number of	of bottles rece	eived?	Х					
Samples receiv	ed within hold	ing time?			Х					
Sample volume	e sufficient for	analysis?			Х					
VOA vials free	of headspace	(<6mm bubble)?					Х			
Samples cooled		receipt recorded on CO easured with IR thermor		50067	Χ			Ice Cold Packs Dry Ice None		
Note: Samples	for metals analysis	ration at proper pH ² s may be preserved upor A analysis – preservation	n receipt in the la	ıb. ch.	Х					
Samples dechlor the time of same	orinated for par ple collection?	rameters requiring o	chlorine remo	oval at			x			
		If	in-house pres	servation	used	– re	cord	Lot#		
HCL				H ₃ P	$O_4$					
H ₂ SO ₄ HNO ₃				NaC Oth						
Comments:										
Were non-cor	Were non-conformance issues noted at sample receipt? Yes or No									
		r than noted above:	1							
Revised February	2018						Co	ompleted by: CSG		

Completed by:_____





### Laboratory Services

#### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Ground Water Project: Work Order: 1111325

Received: 11/23/2021 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 November 23, 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 Elisabeth Noblet, your Project Manager, at enoblet@rcenviro.com, (864)-232-1556 if you have any questions about this report.

CC: Jeanette Gilmetti, Sherri Brown, Courtney Ames Watkins

Elisabeth Noblet

Report Approved By:

Elisabeth Noblet

Project Manager





### **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

**Project:** Ground Water Work Order: 1111325

**Received:** 11/23/2021 10:20

Sample Number	Sample Description	Matrix	Sampled	Type
1111325-01	AF20415 CGYP-4	Ground Water	11/17/21 10:18	Grab
1111325-02	AF20416 CGYP-4 DUP	Ground Water	11/17/21 10:23	Grab
1111325-03	AF20417 CGYP-5	Ground Water	11/17/21 11:51	Grab
1111325-04	AF20418 CGYP-6	Ground Water	11/17/21 13:04	Grab
1111325-05	AF20419 WLF-A2-6	Ground Water	11/18/21 11:27	Grab
1111325-06	AF20420 WLF-A2-6 DUP	Ground Water	11/18/21 11:32	Grab

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#### Sample Data

Sample Number 1111325-01

Sample Description AF20415 CGYP-4 collected on 11/17/21 10:18

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/29/21 18:32	EPA 7470A		ELN	B1K1244
Boron	7100	75	ug/L	5.00	11/24/21 15:38	EPA 6010D		MLR	B1K1218
Lithium	52	10	ug/L	1.00	11/24/21 16:09	EPA 6010D		MLR	B1K1218
Molybdenum	ND	10	ug/L	1.00	11/30/21 16:41	EPA 6010D		MLR	B1K1218

Sample Number

1111325-02

Sample Description AF20416 CGYP-4 DUP collected on 11/17/21 10:23

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/29/21 18:40	EPA 7470A		ELN	B1K1244
Boron	7200	75	ug/L	5.00	11/24/21 15:41	EPA 6010D		MLR	B1K1218
Lithium	53	10	ug/L	1.00	11/24/21 16:12	EPA 6010D		MLR	B1K1218
Molybdenum	ND	10	ug/L	1.00	11/30/21 16:44	EPA 6010D		MLR	B1K1218

Sample Number Sample Description 1111325-03

AF20417 CGYP-5 collected on 11/17/21 11:51

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/29/21 18:43	EPA 7470A		ELN	B1K1244
Boron	4400	75	ug/L	5.00	11/24/21 15:44	EPA 6010D		MLR	B1K1218
Lithium	77	10	ug/L	1.00	11/24/21 16:15	EPA 6010D		MLR	B1K1218
Molybdenum	ND	10	ug/L	1.00	11/30/21 16:47	EPA 6010D		MLR	B1K1218

Sample Number

1111325-04

Sample Description AF20418 CGYP-6 collected on 11/17/21 13:04

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/29/21 18:46	EPA 7470A		ELN	B1K1244
Boron	5200	75	ug/L	5.00	11/24/21 15:47	EPA 6010D		MLR	B1K1218
Lithium	110	10	ug/L	1.00	11/24/21 16:18	EPA 6010D		MLR	B1K1218
Molybdenum	ND	10	ug/L	1.00	11/30/21 16:50	EPA 6010D		MLR	B1K1218

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Sample Number 1111325-05

Sample Description AF20419 WLF-A2-6 collected on 11/18/21 11:27

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/29/21 18:49	EPA 7470A		ELN	B1K1244
Boron	410	15	ug/L	1.00	11/24/21 15:20	EPA 6010D		MLR	B1K1218
Lithium	41	10	ug/L	1.00	11/24/21 15:20	EPA 6010D		MLR	B1K1218
Molybdenum	ND	10	ug/L	1.00	11/30/21 16:26	EPA 6010D		MLR	B1K1218

Sample Number

1111325-06

Sample Description AF20420 WLF-A2-6 DUP collected on 11/18/21 11:32

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	11/29/21 17:59	EPA 7470A		ELN	B1K1244
Boron	480	15	ug/L	1.00	11/24/21 16:21	EPA 6010D		MLR	B1K1218
Lithium	40	10	ug/L	1.00	11/24/21 16:21	EPA 6010D		MLR	B1K1218
Molybdenum	ND	10	ug/L	1.00	11/30/21 16:53	EPA 6010D		MLR	B1K1218



## Total Metals **Quality Control Summary**

D	D	Reporting Limit	IIi.	Spike	Source	0/ DEC	%REC	DDD	RPD	El
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1K1218 - EPA 3005A										
Blank (B1K1218-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1K1218-BS1)										
Boron	500	15	ug/L	500		100	80-120			
Lithium	518	10	ug/L	500		104	80-120			
Molybdenum	500	10	ug/L	500		101	80-120			
Matrix Spike (B1K1218-MS1)	Source: 1111325-05									
Boron	920	15	ug/L	500	410	101	75-125			
Lithium	574	10	ug/L	500	41	107	75-125			
Molybdenum	530	10	ug/L	500	ND	106	75-125			
Matrix Spike Dup (B1K1218-MSD1)	Source: 1111325-05									
Boron	900	15	ug/L	500	410	97	75-125	2	20	
Lithium	558	10	ug/L	500	41	104	75-125	3	20	
Molybdenum	530	10	ug/L	500	ND	105	75-125	0.5	20	
Post Spike (B1K1218-PS1)	Source: 1111325-05									
Boron	0.89		mg/L	0.500	ND	95	75-125			
Lithium	0.523		mg/L	0.500	ND	96	75-125			
Molybdenum	0.50		mg/L	0.500	ND	99	75-125			
Batch B1K1244 - EPA 7470A										
Blank (B1K1244-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1K1244-BS1)										
Mercury	4.8	0.20	ug/L	5.00		96	80-120			
Matrix Spike (B1K1244-MS1)	Source: 1111325-06									
Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125			
			-							

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## Total Metals **Quality Control Summary**

		Reporting		Spike	Source		%REC		RPD	
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags

#### Batch B1K1244 - EPA 7470A

Matrix Spike Dup (B1K1244-MSD1) Source: 1111325-06

Mercury 5.0 0.20 ug/L 5.00 ND 101 75-125 0.2 20

#### **Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst	
EPA 3005A ICP Digestion					
EPA 3005A	B1K1218	1111325-01	11/24/2021 10:24	MLR	
EPA 3005A	B1K1218	1111325-02	11/24/2021 10:24	MLR	
EPA 3005A	B1K1218	1111325-03	11/24/2021 10:24	MLR	
EPA 3005A	B1K1218	1111325-04	11/24/2021 10:24	MLR	
EPA 3005A	B1K1218	1111325-05	11/24/2021 10:24	MLR	
EPA 3005A	B1K1218	1111325-06	11/24/2021 10:24	MLR	
EPA 7470A Mercury Digestion					
EPA 7470A	B1K1244	1111325-01	11/24/2021 15:37	MTH	
EPA 7470A	B1K1244	1111325-02	11/24/2021 15:37	MTH	
EPA 7470A	B1K1244	1111325-03	11/24/2021 15:37	MTH	
EPA 7470A	B1K1244	1111325-04	11/24/2021 15:37	MTH	
EPA 7470A	B1K1244	1111325-05	11/24/2021 15:37	MTH	
EPA 7470A	B1K1244	1111325-06	11/24/2021 15:37	MTH	

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#### **Data Qualifiers and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

RPD Relative Percent Difference

#### **Chain of Custody**



1111325

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

Customer Email/Report Recipient: Date Results Needed by: Project/Task/Unit #: Rerun request for any flagged QC LCWILLIA 121567 / JM02.09.601 / 36500 @santeecooper.com Yes No **Analysis Group** Labworks ID# Sample Location/ Comments 五 Matrix(see below) (Internal use Description Collection Date Collection Time Total # of container Method # Sample Collector Gla Z° only) Preservative ( Grab (G) or Composite (C) Reporting limit Bottle type: ( G/Plastic-P) Misc. sample info Ľ. Any other notes m' DEW CGYP-4 11/17/21 2 AF20415 1018 ML X GW B, Li, Mo - 6010 16 CGYP-4 DUP Hg 7470 1023 17 CGYP-5 1151 18 CGYP-6 1304 一年 WLF - 42 - 6 11/18/21 1127 20 WLF-A2-6 DUP 1132 Sample Receiving (Internal Use Only) Relinquished by: Employee# Date Time Received by: Employee # Date Time TEMP (°C): Initial: ENEX Fracking Somoun 35594 11/22/21 8108 05/26 1200 781 Correct pH: Yes Relinquished by: Employee# Time Received by: Employee # Date Time Fed Preservative Lot#: 10:20 water 11/23/21 est 10:20 11/23/21 Relinquished by: **Employee#** Date Time Received by: Employee # Date Time Date/Time/Init for preservative: ☐ METALS (all) **Nutrients** MISC. Gypsum Coal Oil **Flyash** □ Cu □ Ag □ Sb TOC O BTEX Wallboard □ Ultimate D AI Ammonia □ Fe ☐ Se ☐ Napthalene DOC Gypsum(all ☐ % Moisture LOI ☐ As  $\Box K$ □ Sn TP/TPO4 D THM/HAA below) □ Ash % Carbon OVOC O AIM NH3-N OB D Li ☐ Sr ☐ Sulfur Mineral □ Oil & Grease TOC TI BTUE □ Ba Analysis DE Coli □ Mg □ Ti Total metals (1 ☐ Volatile Matter ☐ Total Coliform Sieve Soluble Metals □ Be □ Mn O TI NO2 □pH □ CHN % Moisure Purity (CaSO4) Br ☐ Dissolved As Other Tests: □ Ca □ Mo  $\Box V$ % Moisture ☐ Dissolved Fe NU3 Sulfites ☐ XRF Scan **NPDES** O Cd □ Na Zn □ Rad 226 504 O HGI pH ☐ Rad 228 Oil & Grease Chlorides □ Fineness □ Co □ Ni □ Hg □ PCB Particle Size C Particulate Matter □ Cr □ Pb □ CrVI



Revised February 2018

### **Sample Receipt Verification**

Client: Santee Cooper R	Date eceived:	1′	1/23/2	2021	Work Order: 1111325
Carrier Name: Client FedEx UPS 81080526	US N	Mail		Cou	nrier Field Services Other:
Tracking Number:	7015				_
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?		Χ			
COC included with samples?		Χ			
COC signed when relinquished and received?		Χ			
Sample bottles intact?		Χ			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Χ			
Date / time on COC agree with label on bottle(s)?		Χ			
Number of bottles on COC agrees with number of bottles re-	ceived?	Χ			
Samples received within holding time?		Χ			
Sample volume sufficient for analysis?		Χ			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN: 97	050067	Χ			Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt in the Note: Samples for O&G and VOA analysis – preservation checked at both samples for O&G.	lab.	Х			
Samples dechlorinated for parameters requiring chlorine ren the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA analysis.	noval at			х	
If in-house pr	eservation	used	– re	cord	Lot #
HCL	H ₃ Pe				
H ₂ SO ₄	NaC				
HNO ₃	Oth	er			
Comments:					
Were non-conformance issues noted at sample receipt?	? Yes	or		NO)	
Non-Conformance issue other than noted above:					

CSG

Page 9 of 9

Completed by:____



### **Report of Analysis**

Santee Cooper - ABS Lab

One Riverwood Drive Moncks Corner, SC 29461 Attention: Sherri Brown

Lot Number: XA14014

Date Completed:01/20/2022

01/20/2022 4:06 PM Approved and released by:

Project Manager I: Blaire M. Gagne





The electronic signature above is the equivalent of a handwritten signature.

This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

#### PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

# Case Narrative Santee Cooper – ABS Lab Lot Number: XA14014

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report. Where sampling is conducted by the client, results relate to the accuracy of the information provided, and as the samples are received.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

Pace is a TNI accredited laboratory; however, the following analyses are currently not listed on our TNI scope of accreditation: Drinking Water: VOC (excluding BTEX, MTBE, Naphthalene, & 1,2-dichloroethane) EPA 524.2, E. coli and Total coliforms SM 9223 B-2004, Solid Chemical Material: TOC Walkley-Black, Biological Tissue: All, Non-Potable Water: SGT-HEM EPA 1664B, Silica EPA 200.7, Boron, Calcium, Silicon, Strontium EPA 200.8, Bicarbonate, Carbonate, and Hydroxide Alkalinity SM 2320 B-2011, SM 9221 C E-2006 & SM 9222D-2006, Strontium SW-846 6010D, VOC SM 6200 B-2011, Fecal Coliform Colilert-18.

If you have any questions regarding this report, please contact the Pace Project Manager listed on the cover page.

### PACE ANALYTICAL SERVICES, LLC

## Sample Summary Santee Cooper – ABS Lab

Lot Number: XA14014 Project Name: Project Number:

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	AF21736	Aqueous	12/06/2021 0954	01/14/2022
002	AF21737	Aqueous	12/06/2021 0959	01/14/2022
003	AF21738	Aqueous	12/06/2021 1113	01/14/2022
004	AF21739	Aqueous	12/06/2021 1215	01/14/2022
005	AF21740	Aqueous	12/07/2021 1036	01/14/2022
006	AF21741	Aqueous	12/07/2021 1041	01/14/2022

(6 samples)

### PACE ANALYTICAL SERVICES, LLC

#### Detection Summary Santee Cooper – ABS Lab

Lot Number: XA14014 Project Name: Project Number:

Sampl	e Sample ID	Matrix	Parameter	Method	Result	Q Units	Page
001	AF21736	Aqueous	Arsenic	6020B	5.8	ug/L	5
001	AF21736	Aqueous	Barium	6020B	33	ug/L	5
001	AF21736	Aqueous	Beryllium	6020B	19	ug/L	5
001	AF21736	Aqueous	Calcium	6020B	310000	ug/L	5
001	AF21736	Aqueous	Cobalt	6020B	43	ug/L	5
001	AF21736	Aqueous	Lead	6020B	12	ug/L	5
001	AF21736	Aqueous	Selenium	6020B	15	ug/L	5
002	AF21737	Aqueous	Arsenic	6020B	6.0	ug/L	6
002	AF21737	Aqueous	Barium	6020B	32	ug/L	6
002	AF21737	Aqueous	Beryllium	6020B	19	ug/L	6
002	AF21737	Aqueous	Calcium	6020B	300000	ug/L	6
002	AF21737	Aqueous	Cobalt	6020B	41	ug/L	6
002	AF21737	Aqueous	Lead	6020B	12	ug/L	6
002	AF21737	Aqueous	Selenium	6020B	15	ug/L	6
003	AF21738	Aqueous	Barium	6020B	130	ug/L	7
003	AF21738	Aqueous	Beryllium	6020B	10	ug/L	7
003	AF21738	Aqueous	Calcium	6020B	250000	ug/L	7
003	AF21738	Aqueous	Cobalt	6020B	68	ug/L	7
003	AF21738	Aqueous	Selenium	6020B	7.2	ug/L	7
004	AF21739	Aqueous	Barium	6020B	1200	ug/L	8
004	AF21739	Aqueous	Beryllium	6020B	25	ug/L	8
004	AF21739	Aqueous	Calcium	6020B	380000	ug/L	8
004	AF21739	Aqueous	Cobalt	6020B	100	ug/L	8
004	AF21739	Aqueous	Lead	6020B	3.9	ug/L	8
004	AF21739	Aqueous	Selenium	6020B	10	ug/L	8
005	AF21740	Aqueous	Arsenic	6020B	12	ug/L	9
005	AF21740	Aqueous	Barium	6020B	44	ug/L	9
005	AF21740	Aqueous	Calcium	6020B	130000	ug/L	9
006	AF21741	Aqueous	Arsenic	6020B	10	ug/L	10
006	AF21741	Aqueous	Barium	6020B	43	ug/L	10
006	AF21741	Aqueous	Calcium	6020B	140000	ug/L	10

(31 detections)

Client: Santee Cooper - ABS Lab

Laboratory ID: XA14014-001 Description: AF21736 Matrix: Aqueous

Date Sampled:12/06/2021 0954 Project Name: Date Received: 01/14/2022 Project Number:

Run Prep Method **Analytical Method** Dilution **Analysis Date Analyst Prep Date Batch** 3005A 6020B 01/18/2022 1716 BNW 01/18/2022 0842 28629 2 3005A 6020B 20 01/19/2022 0946 BNW 01/18/2022 0842 28629

Parameter	CAS Number	Analytical Method	Result Q	LOQ	Units	Run
- raiailletei	Number	Method		LOQ	Ullits	Kuii
Antimony	7440-36-0	6020B	ND	2.0	ug/L	1
Arsenic	7440-38-2	6020B	5.8	2.0	ug/L	1
Barium	7440-39-3	6020B	33	5.0	ug/L	1
Beryllium	7440-41-7	6020B	19	0.40	ug/L	1
Cadmium	7440-43-9	6020B	ND	0.50	ug/L	1
Calcium	7440-70-2	6020B	310000	8000	ug/L	2
Chromium	7440-47-3	6020B	ND	5.0	ug/L	1
Cobalt	7440-48-4	6020B	43	5.0	ug/L	1
Lead	7439-92-1	6020B	12	1.0	ug/L	1
Selenium	7782-49-2	6020B	15	5.0	ug/L	1
Thallium	7440-28-0	6020B	ND	0.50	ug/L	1

LOQ = Limit of Quantitation ND = Not detected at or above the LOQ H = Out of holding time

B = Detected in the method blank N = Recovery is out of criteria W = Reported on wet weight basis E = Quantitation of compound exceeded the calibration range P = The RPD between two GC columns exceeds 40%

Q = Surrogate failure L = LCS/LCSD failure S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

Client: Santee Cooper - ABS Lab

Laboratory ID: XA14014-002

Description: AF21737

2

Project Name:

Date Sampled:12/06/2021 0959

3005A

Matrix: Aqueous

Date Received: 01/14/2022

Project Number:

RunPrep MethodAnalytical MethodDilutionAnalysis DateAnalyst13005A6020B101/18/2022 1719BNW

 ytical Method
 Dilution
 Analysis Date
 Analyst
 Prep Date
 Batch

 6020B
 1
 01/18/2022 1719
 BNW
 01/18/2022 0842
 28629

 6020B
 20
 01/19/2022 0949
 BNW
 01/18/2022 0842
 28629

Parameter	CAS Number	Analytical Method	Result Q	LOQ	Units	Run
Antimony	7440-36-0	6020B	ND	2.0	ug/L	1
Arsenic	7440-38-2	6020B	6.0	2.0	ug/L	1
Barium	7440-39-3	6020B	32	5.0	ug/L	1
Beryllium	7440-41-7	6020B	19	0.40	ug/L	1
Cadmium	7440-43-9	6020B	ND	0.50	ug/L	1
Calcium	7440-70-2	6020B	300000	8000	ug/L	2
Chromium	7440-47-3	6020B	ND	5.0	ug/L	1
Cobalt	7440-48-4	6020B	41	5.0	ug/L	1
Lead	7439-92-1	6020B	12	1.0	ug/L	1
Selenium	7782-49-2	6020B	15	5.0	ug/L	1
Thallium	7440-28-0	6020B	ND	0.50	ug/L	1

LOQ = Limit of Quantitation

ND = Not detected at or above the LOQ

H = Out of holding time

B = Detected in the method blank
N = Recovery is out of criteria
W = Reported on wet weight basis

E = Quantitation of compound exceeded the calibration range P = The RPD between two GC columns exceeds 40% Q = Surrogate failure L = LCS/LCSD failure S = MS/MSD failure

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)* 

Client: Santee Cooper - ABS Lab

Laboratory ID: XA14014-003

Description: AF21738 Matrix: Aqueous

Date Sampled:12/06/2021 1113 Project Name:
Date Received: 01/14/2022 Project Number:

Run Prep Method **Analytical Method** Dilution **Analysis Date Analyst Prep Date Batch** 3005A 6020B 01/18/2022 1723 BNW 01/18/2022 0842 28629 2 3005A 6020B 20 01/19/2022 0953 BNW 01/18/2022 0842 28629

Parameter	CAS Number	Analytical Method	Result	Q LOQ	Units	Run
						17411
Antimony	7440-36-0	6020B	ND	2.0	ug/L	1
Arsenic	7440-38-2	6020B	ND	2.0	ug/L	1
Barium	7440-39-3	6020B	130	5.0	ug/L	1
Beryllium	7440-41-7	6020B	10	0.40	ug/L	1
Cadmium	7440-43-9	6020B	ND	0.50	ug/L	1
Calcium	7440-70-2	6020B	250000	8000	ug/L	2
Chromium	7440-47-3	6020B	ND	5.0	ug/L	1
Cobalt	7440-48-4	6020B	68	5.0	ug/L	1
Lead	7439-92-1	6020B	ND	1.0	ug/L	1
Selenium	7782-49-2	6020B	7.2	5.0	ug/L	1
Thallium	7440-28-0	6020B	ND	0.50	ug/L	1

LOQ = Limit of Quantitation

ND = Not detected at or above the LOQ

H = Out of holding time

B = Detected in the method blank
N = Recovery is out of criteria
W = Reported on wet weight basis

E = Quantitation of compound exceeded the calibration range P = The RPD between two GC columns exceeds 40% Q = Surrogate failure L = LCS/LCSD failure S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

Client: Santee Cooper - ABS Lab

Laboratory ID: XA14014-004

Description: AF21739

Matrix: Aqueous

Date Sampled:12/06/2021 1215

Project Name:

Date Received: 01/14/2022

Project Number:

Run	Prep Method
1	3005A
2	2005 4

**Analytical Method** 

Dilution **Analysis Date Analyst** 01/18/2022 1734 BNW

**Prep Date Batch** 01/18/2022 0842 28629

6020B 6020B 20 01/19/2022 0957 BNW 01/18/2022 0842 28629 3005A Analytical

Parameter	CAS Number	Analytical Method	Result	Q LOQ	Units	Run
Antimony	7440-36-0	6020B	ND	2.0	ug/L	1
Arsenic	7440-38-2	6020B	ND	2.0	ug/L	1
Barium	7440-39-3	6020B	1200	5.0	ug/L	1
Beryllium	7440-41-7	6020B	25	0.40	ug/L	1
Cadmium	7440-43-9	6020B	ND	0.50	ug/L	1
Calcium	7440-70-2	6020B	380000	8000	ug/L	2
Chromium	7440-47-3	6020B	ND	5.0	ug/L	1
Cobalt	7440-48-4	6020B	100	5.0	ug/L	1
Lead	7439-92-1	6020B	3.9	1.0	ug/L	1
Selenium	7782-49-2	6020B	10	5.0	ug/L	1
Thallium	7440-28-0	6020B	ND	0.50	ug/L	1

LOQ = Limit of Quantitation ND = Not detected at or above the LOQ H = Out of holding time

B = Detected in the method blank N = Recovery is out of criteria W = Reported on wet weight basis E = Quantitation of compound exceeded the calibration range P = The RPD between two GC columns exceeds 40%

Q = Surrogate failure L = LCS/LCSD failure S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

Client: Santee Cooper - ABS Lab

6020B

10

Laboratory ID: **XA14014-005**Matrix: **Aqueous** 

01/18/2022 0842 28629

Description: AF21740

Run Prep Method

2

3005A

3005A

Date Sampled:12/07/2021 1036 Project Name:

Date Received: 01/14/2022 Project Number:

 Analytical Method
 Dilution
 Analysis Date
 Analyst
 Prep Date
 Batch

 6020B
 1
 01/18/2022 1738
 BNW
 01/18/2022 0842
 28629

01/19/2022 1001 BNW

Parameter	CAS Number	Analytical Method	Result Q	LOQ	Units	Run
Antimony	7440-36-0	6020B	ND	2.0	ug/L	1
Arsenic	7440-38-2	6020B	12	2.0	ug/L	1
Barium	7440-39-3	6020B	44	5.0	ug/L	1
Beryllium	7440-41-7	6020B	ND	0.40	ug/L	1
Cadmium	7440-43-9	6020B	ND	0.50	ug/L	1
Calcium	7440-70-2	6020B	130000	4000	ug/L	2
Chromium	7440-47-3	6020B	ND	5.0	ug/L	1
Cobalt	7440-48-4	6020B	ND	5.0	ug/L	1
Lead	7439-92-1	6020B	ND	1.0	ug/L	1
Selenium	7782-49-2	6020B	ND	5.0	ug/L	1
Thallium	7440-28-0	6020B	ND	0.50	ug/L	1

LOQ = Limit of Quantitation

ND = Not detected at or above the LOQ

H = Out of holding time

B = Detected in the method blank
N = Recovery is out of criteria

E = Quantitation of compound exceeded the calibration range

Q = Surrogate failure L = LCS/LCSD failure

W = Reported on wet weight basis

P = The RPD between two GC columns exceeds 40%

S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

Client: Santee Cooper - ABS Lab

Laboratory ID: XA14014-006

Description: AF21741

Matrix: Aqueous

Date Sampled: 12/07/2021 1041 Project Name: Date Received: 01/14/2022 Project Number:

Run Prep Method **Analytical Method** Dilution **Analysis Date Analyst Prep Date Batch** 3005A 6020B 01/18/2022 1742 BNW 01/18/2022 0842 28629 2 3005A 6020B 10 01/19/2022 1004 BNW 01/18/2022 0842 28629

Parameter	CAS Number	Analytical Method	Result Q	LOQ	Units	Run
Antimony	7440-36-0	6020B	ND	2.0	ug/L	1
Arsenic	7440-38-2	6020B	10	2.0	ug/L	1
Barium	7440-39-3	6020B	43	5.0	ug/L	1
Beryllium	7440-41-7	6020B	ND	0.40	ug/L	1
Cadmium	7440-43-9	6020B	ND	0.50	ug/L	1
Calcium	7440-70-2	6020B	140000	4000	ug/L	2
Chromium	7440-47-3	6020B	ND	5.0	ug/L	1
Cobalt	7440-48-4	6020B	ND	5.0	ug/L	1
Lead	7439-92-1	6020B	ND	1.0	ug/L	1
Selenium	7782-49-2	6020B	ND	5.0	ug/L	1
Thallium	7440-28-0	6020B	ND	0.50	ug/L	1

LOQ = Limit of Quantitation ND = Not detected at or above the LOQ H = Out of holding time

B = Detected in the method blank N = Recovery is out of criteria

E = Quantitation of compound exceeded the calibration range P = The RPD between two GC columns exceeds 40%

Q = Surrogate failure L = LCS/LCSD failure S = MS/MSD failure

W = Reported on wet weight basis

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.) 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com **QC Summary** 

#### **ICP-MS Metals - MB**

Sample ID: XQ28629-001 Batch: 28629

Analytical Method: 6020B

Matrix: Aqueous Prep Method: 3005A

Prep Date: 01/18/2022 0842

Parameter	Result	Q	Dil	LOQ	Units	Analysis Date
Antimony	ND		1	2.0	ug/L	01/18/2022 1604
Arsenic	ND		1	2.0	ug/L	01/18/2022 1604
Barium	ND		1	5.0	ug/L	01/18/2022 1604
Beryllium	ND		1	0.40	ug/L	01/18/2022 1604
Cadmium	ND		1	0.50	ug/L	01/18/2022 1604
Calcium	ND		1	400	ug/L	01/18/2022 1604
Chromium	ND		1	5.0	ug/L	01/18/2022 1604
Cobalt	ND		1	5.0	ug/L	01/18/2022 1604
Lead	ND		1	1.0	ug/L	01/18/2022 1604
Selenium	ND		1	5.0	ug/L	01/18/2022 1604
Thallium	ND		1	0.50	ug/L	01/18/2022 1604

LOQ = Limit of Quantitation

ND = Not detected at or above the LOQ

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

#### **ICP-MS Metals - LCS**

**Sample ID:** XQ28629-002

**Batch:** 28629

Matrix: Aqueous Prep Method: 3005A

Prep Date: 01/18/2022 0842

Analytical Method: 6020B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
Antimony	100	97		1	97	80-120	01/18/2022 1608
Arsenic	100	98		1	98	80-120	01/18/2022 1608
Barium	100	96		1	96	80-120	01/18/2022 1608
Beryllium	100	96		1	96	80-120	01/18/2022 1608
Cadmium	100	98		1	98	80-120	01/18/2022 1608
Calcium	1000	850		1	85	80-120	01/18/2022 1608
Chromium	100	100		1	100	80-120	01/18/2022 1608
Cobalt	100	95		1	95	80-120	01/18/2022 1608
Lead	100	94		1	94	80-120	01/18/2022 1608
Selenium	100	98		1	98	80-120	01/18/2022 1608
Thallium	100	96		1	96	80-120	01/18/2022 1608

LOQ = Limit of Quantitation

ND = Not detected at or above the LOQ

N = Recovery is out of criteria

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

# Chain of Custody and Miscellaneous Documents

#### PACE ANALYTICAL SERVICES, LLC

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#### PACE ANALYTICAL SERVICES, LLC

Pace Analytical

#### Samples Receipt Checklist (SRC) (ME0018C-15) Issuing Authority: Pace ENV - WCOL

Revised:9/29/2020 Page 1 of 1

Sample Presint Charles (CD C)

	Sample Receipt Checklist (SRC)	
Client: SANTEE		XA14014
Means of receipt: Pace	Client UPS FedEx Other:	72.1140.14
Yes V No I	Were custody seals present on the cooler?	
Yes No NA 2	If custody seals were present, were they intact and unbroken?	
DH Strib ID: 21-032	Chlorine Strip ID: NA	
Original temperature upon re	ccipt / Derived (Corrected) temperature upon propint 440-1140	
104 /104	C NA /NA C NA /NA C	p-Cup ID: NA
Method: Temperature Bla	ank Against Bottles IR Gun ID: 5 IR Gun Correction F	0 00
Method of coolant: We	t lee 🔲 lee Packs 🔲 Dry lee 🗹 None	actor; O°C
✓ Yes No No NA 3.	If temperature of any cooler exceeded 6.0°C, was Project Manager N	-ater 10
	PM was Notified by: phone (entail / face-to-face (circle one).	brined?
Yes No NA 4.	Is the commercial courier's packing slip attached to this form?	
14 163 NO 5.	Were proper custody procedures (relinquished/received) followed?	
V TES L NO	Were sample IDs listed on the COC?	
Yes No 7,	Were sample IDs listed on all sample containers?	
Y Yes LINO 8.	Was collection date & time listed on the COC?	
Yes [ No 9.	Was collection date & time listed on all sample containers?	
A res Noi 10	Did all container label information (ID, date, time) agree with the Co	VCM
✓ Yes No 11	. Were tests to be performed listed on the COC?	<i>y</i> C:
Yes No (ui	Did all samples arrive in the proper containers for each test and/or in throken, lids on, etc.)?	good condition
	Was adequate sample volume available?	
Yes✓ No   14.	Were any samples received within ½ the holding time or 48 hours, wh	
Yes V No 15.	Were any samples containers missing/excess (circle one) samples No	ichever comes first?
TYes TNO VINA 16.	For VOA and RSK-175 samples, were bubbles present > "pea-size" (	f listed on COC?
	and an area of Alais:	4"or 6mm in diameter)
Yes  No NA 17.	Were all DRO/metals/mrtriant camples encoived at a all 10 and	
E 144 E 144 19.	were all cyanide samples received at a pH > 12 and ovice.	
☐ Yes ☐ No ☑NA 19.	Were all applicable NH ₃ /TKN/cyanide/phenoi/625.1/608.3 (< 0.5mg/	Colved at a pH > 9?
1001	anai emornie;	1
☐Yes ☐ No ☑NA 20.	Were client remarks/requests (i.e. requested dilutions, MS/MSD designed transcribed from the COO internal control of the COO in the coordinate of the coordina	motions of a
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	mations, etc)
Yes No 21.	Was the quote number listed on the container label? If yes, Quote #	
Sample Preservation (Must	be completed for any sample(s) incorrectly preserved or with headspr	
Sample(s) NA	and an income can be served or with headspa	ice,)
in sample receiving with NA	were received incorrectly preserved and we	re adjusted accordingly
Time of preservation NA	- "- " The trans of the transfer of the transfer of the NA	
	. If more than one preservative is needed, please note in the comm	ents below.
Sample(s) NA	were received with bubbles >	6 mm in diameter
Samples(s) NA		o man in diameter.
idjusted accordingly in sample	were received with TRC > 0.5 mg/L (If #1 receiving with sodium thiosulfate (Na ₂ S ₂ O ₃ ) with Sheaty ID: NA	9 is no) and were
SR barcode labels applied by: 9	BP Date: 01/14/2022	
Comments:	Date.	
omments.		
	·	ı





#### Laboratory Services

#### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project: Work Order: Ground Water 1120813

Received: 12/10/2021 10:27

#### 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 December 10, 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

Lauren Hollister

Report Approved By:

Lauren Hollister Project Manager





#### **Certificate of Analysis**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

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

**Project:** Ground Water Work Order: 1120813

**Received:** 12/10/2021 10:27

Sample Number	Sample Description	Matrix	Sampled	Type
1120813-01	AF21736 CGYP-4	Ground Water	12/06/21 09:54	Grab
1120813-02	AF21737 CGYP-4DUP	Ground Water	12/06/21 09:59	Grab
1120813-03	AF21738 CGYP-5	Ground Water	12/06/21 11:13	Grab
1120813-04	AF21739 CGYP-6	Ground Water	12/06/21 12:15	Grab
1120813-05	AF21740 WLF-A2-6	Ground Water	12/07/21 10:36	Grab
1120813-06	AF21741 WLF-A2-6DUP	Ground Water	12/07/21 10:41	Grab



Santee Cooper Ground Water Project: 1 Riverwood Dr. Work Order: 1120813 Moncks Corner, SC 29461 12/21/21 16:12 Reported:

#### Sample Data

Sample Number

1120813-01

**Sample Description** 

AF21736 CGYP-4 collected on 12/06/21 09:54

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	12/16/21 11:24	EPA 7470A	S7	ELN	B1L0817
Boron	7500	75	ug/L	5.00	12/20/21 15:05	EPA 6010D		MTH	B1L1025
Lithium	76	10	ug/L	1.00	12/20/21 15:37	EPA 6010D		MTH	B1L1025
Molybdenum	ND	10	ug/L	1.00	12/17/21 02:44	EPA 6010D		MTH	B1L0730

Sample Number

1120813-02

**Sample Description** AF21737 CGYP-4DUP collected on 12/06/21 09:59

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	12/16/21 11:13	EPA 7470A	S7	ELN	B1L0817
Boron	7100	75	ug/L	5.00	12/20/21 15:08	EPA 6010D		MTH	B1L1025
Lithium	75	10	ug/L	1.00	12/20/21 15:41	EPA 6010D		MTH	B1L1025
Molybdenum	ND	10	ug/L	1.00	12/17/21 03:52	EPA 6010D		MTH	B1L0730

Sample Number **Sample Description**  1120813-03

AF21738 CGYP-5 collected on 12/06/21 11:13

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	12/16/21 11:27	EPA 7470A	S7	ELN	B1L0817
Boron	4100	75	ug/L	5.00	12/20/21 15:12	EPA 6010D		MTH	B1L1025
Lithium	91	10	ug/L	1.00	12/20/21 15:45	EPA 6010D		MTH	B1L1025
Molybdenum	ND	10	ug/L	1.00	12/17/21 03:56	EPA 6010D		MTH	B1L0730

Sample Number

1120813-04

**Sample Description** AF21739 CGYP-6 collected on 12/06/21 12:15

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	12/16/21 11:30	EPA 7470A	S7	ELN	B1L0817
Boron	6200	75	ug/L	5.00	12/20/21 15:16	EPA 6010D		MTH	B1L1025
Lithium	150	10	ug/L	1.00	12/20/21 15:48	EPA 6010D		MTH	B1L1025
Molybdenum	ND	10	ug/L	1.00	12/17/21 04:00	EPA 6010D		MTH	B1L0730

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Santee CooperProject:Ground Water1 Riverwood Dr.Work Order:1120813Moncks Corner, SC 29461Reported:12/21/2116:12

Sample Number 1120813-05

Sample Description AF21740 WLF-A2-6 collected on 12/07/21 10:36

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	12/16/21 11:32	EPA 7470A		ELN	B1L0817
Boron	740	15	ug/L	1.00	12/20/21 14:40	EPA 6010D		MTH	B1L1025
Lithium	66	10	ug/L	1.00	12/20/21 14:40	EPA 6010D		MTH	B1L1025
Molybdenum	ND	10	ug/L	1.00	12/17/21 03:45	EPA 6010D		MTH	B1L0730

Sample Number

1120813-06

Sample Description

AF21741 WLF-A2-6DUP collected on 12/07/21 10:41

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	12/16/21 11:41	EPA 7470A		ELN	B1L0817
Boron	690	15	ug/L	1.00	12/20/21 14:58	EPA 6010D		MTH	B1L1025
Lithium	62	10	ug/L	1.00	12/20/21 14:58	EPA 6010D		MTH	B1L1025
Molybdenum	ND	10	ug/L	1.00	12/17/21 03:49	EPA 6010D		MTH	B1L0730



 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1120813

 Moncks Corner, SC 29461
 Reported:
 12/21/21 16:12

## Total Metals **Quality Control Summary**

		Reporting		Spike	Source		%REC	RPD		
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1L0730 - EPA 3005A										
Blank (B1L0730-BLK1)										
Molybdenum	ND	10	ug/L							
LCS (B1L0730-BS1)			C							
Molybdenum	490	10	ug/L	500		97	80-120			
•		10	ug/L	300		91	80-120			
Duplicate (B1L0730-DUP1)	Source: 1120813-01									
Molybdenum	ND	10	ug/L		ND				20	
Matrix Spike (B1L0730-MS1)	Source: 1120813-01									
Boron	6900	15	ug/L	500	7500	NR	75-125			S3
Lithium	631	10	ug/L	500	76	111	75-125			
Molybdenum	440	10	ug/L	500	ND	89	75-125			
Post Spike (B1L0730-PS1)	Source: 1120813-01									
Molybdenum	520	10	ug/L	500	ND	103	75-125			
Batch B1L0817 - EPA 7470A										
Blank (B1L0817-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1L0817-BS1)										
Mercury	4.9	0.20	ug/L	5.00		98	80-120			
Matrix Spike (B1L0817-MS1)	Source: 1120813-02									
Mercury	4.3	0.20	ug/L	5.00	ND	84	75-125			S7
Matrix Spike Dup (B1L0817-MSD1)	Source: 1120813-02									
Mercury	4.3	0.20	ug/L	5.00	ND	85	75-125	2	20	S7
Post Spike (B1L0817-PS1)	Source: 1120813-02									
Mercury	3.4		ug/L	4.00	ND	83	80-120			S7



Santee CooperProject:Ground Water1 Riverwood Dr.Work Order:1120813Moncks Corner, SC 29461Reported:12/21/21 16:12

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

		Reporting		Spike	Source		%REC		RPD	
Parameter	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Flags
Batch B1L0817 - EPA 7470A										
Post Spike (B1L0817-PS2)	Source: 1120813-01									
Mercury	3.5		ug/L	4.00	ND	86	80-120			S7
Post Spike (B1L0817-PS3)	Source: 1120813-03									
Mercury	3.5		ug/L	4.00	ND	87	80-120			S7
Post Spike (B1L0817-PS4)	Source: 1120813-04									
Mercury	3.4		ug/L	4.00	ND	84	80-120			S7
Post Spike (B1L0817-PS5)	Source: 1120813-05									
Mercury	4.0		ug/L	4.00	ND	99	80-120			
Post Spike (B1L0817-PS6)	Source: 1120813-06									
Mercury	4.0		ug/L	4.00	ND	99	80-120			
Batch B1L1025 - EPA 3005A										
Blank (B1L1025-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
LCS (B1L1025-BS1)										
Boron	520	15	ug/L	500		105	80-120			
Lithium	567	10	ug/L	500		113	80-120			
Matrix Spike (B1L1025-MS1)	Source: 1120813-05									
Boron	1200	15	ug/L	500	740	94	75-125			
Lithium	650	10	ug/L	500	66	117	75-125			
Matrix Spike Dup (B1L1025-MSD1)	Source: 1120813-05									
Boron	1200	15	ug/L	500	740	101	75-125	3	20	
Lithium	662	10	ug/L	500	66	119	75-125	2	20	
Post Spike (B1L1025-PS1)	Source: 1120813-05									
Boron	1200	15	ug/L	500	740	92	75-125			
Lithium	594	10	ug/L	500	66	106	75-125			

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Santee Cooper Ground Water Project: 1 Riverwood Dr. Work Order: 1120813 Moncks Corner, SC 29461 12/21/21 16:12 Reported:

#### **Sample Preparation Data**

Parameter	Batch	Sample ID	Prepared	Analyst	
EPA 3005A ICP Digestion					
EPA 3005A	B1L0730	1120813-01	12/13/2021 12:12	CAL	
EPA 3005A	B1L1025	1120813-01	12/20/2021 11:01	CAL	
EPA 3005A	B1L0730	1120813-02	12/13/2021 12:12	CAL	
EPA 3005A	B1L1025	1120813-02	12/20/2021 11:01	CAL	
EPA 3005A	B1L0730	1120813-03	12/13/2021 12:12	CAL	
EPA 3005A	B1L1025	1120813-03	12/20/2021 11:01	CAL	
EPA 3005A	B1L0730	1120813-04	12/13/2021 12:12	CAL	
EPA 3005A	B1L1025	1120813-04	12/20/2021 11:01	CAL	
EPA 3005A	B1L0730	1120813-05	12/13/2021 12:12	CAL	
EPA 3005A	B1L1025	1120813-05	12/20/2021 11:01	CAL	
EPA 3005A	B1L0730	1120813-06	12/13/2021 12:12	CAL	
EPA 3005A	B1L1025	1120813-06	12/20/2021 11:01	CAL	
EPA 7470A Mercury Digestion					
EPA 7470A	B1L0817	1120813-01	12/15/2021 09:28	CAL	
EPA 7470A	B1L0817	1120813-02	12/15/2021 09:28	CAL	
EPA 7470A	B1L0817	1120813-03	12/15/2021 09:28	CAL	
EPA 7470A	B1L0817	1120813-04	12/15/2021 09:28	CAL	
EPA 7470A	B1L0817	1120813-05	12/15/2021 09:28	CAL	
EPA 7470A	B1L0817	1120813-06	12/15/2021 09:28	CAL	



Santee Cooper Project: Ground Water
1 Riverwood Dr. Work Order: 1120813
Moncks Corner, SC 29461 Reported: 12/21/21 16:12

#### **Data Qualifiers and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

RPD Relative Percent Difference

S3 Estimated value - the spike result exceeded the calibration range. The spike recovery was not evaluated against the control limits.

S7 Result calculated by Method of Standard Addition due to sample matrix interference and initial spike failures.

Contract Lab Due Date (Lab Only): 12 / 17 / 21 Send report to <a href="mailto:lcwillia@santeecooper.com">lcwillia@santeecooper.com</a> <a href="mailto:sibrown@santeecooper.com">sibrown@santeecooper.com</a> <a href="mailto:sibrown@santeecooper.com">sibrown@santeecooper.co

Chain of Custody Tracking#: 8162 4067 1753 Santee cooper

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

Custo	mer Emai	/Report Recip	ient:	Date	Date Results Needed by:			Project/Task/Unit #: Reru						Rerun reques	t for any	flagged Q0	
	WILLIA	@santee	cooper.com		J			1215	567	1 JM	02.0	9.60	]_36	Sec Yes	No		
															Analysis Group		
	orks ID # nal use	Sample Locati Description	on/	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)	Me     Rep     Mi     An	thod # porting linesc. sampley other no	e info	B, Li, Mo, Hg		
OLAF Z	1736	CGYP-4		12/6/2	0754	DEN	1	P	6	6-74	2.	B, L. I	No- 6	C(0	X		
22	37	CGYP-40	UP		머위		1	1			1	Hg 74	70				
03	38	USTP-F			1113												
cy	39	CEMP-6		I	1215												
05	40	WLF- A2-6		12/7/21	1036												
06	41	NLF-A2-6	DUP	1	1041	L	1	1	1	1	1						
Relin	quished by:	Employee#	Date	Time	Receive	ed by:	En	nployee #		Date	100	Time	Samp	le Receiving (Internal P (°C): 20- 2°	Use Only)		
8919		35594	12/9/21	1500		Lex								ect pH: Yes No			
	quished by:	Employee#	Date	Time	Receive	ed by:	En	nployee #	S S.	Date		Time		rvative Lot#:			
	quished by:	Employee#	17/10/21 Date	1027 Time	Receive	ed by:	En	nployee #		/10/2 Date	1	Time					
		TALS (all )												Time/Init for preserv	ative:		
□ Ag	□ Cu	□Sb	I TO	rients	MIS D BTEX	<u>C.</u>		Wallboa	osum			Coal		<u>Flyash</u>	The Section Co.	)il	
□ Al	☐ Fe		DO	c	□ Napthale				um( <i>all</i>			Utimate ☐ % Moist	ure	☐ Ammonia ☐ LOI		Olf Qual. Inters	
□ As	O K	□Sn	THE RESERVE OF THE PARTY OF THE	TPO4	☐ THM/HA☐ VOC	A		below All				□ Ash		□ % Carbon			
□В	□ Li	□ Sr	U.F.	3-N	□ Oil & Gre	ease		□ TOC				☐ Sulfur ☐ BTUs		☐ Mineral			
□ Ba	□ Mg		CI		☐ E. Coli ☐ Total Col	iform			l metals		Residence of	□ Volatile	Matter	Analysis  Sieve	IFT Disto		
□ Be	□ Mr		I NO		□ pH □ Dissolved	pH		☐ Purit	y (CaSe		41	CHN er Tests:		□ % Moisture	Used C	H	
□ Ca	□ Mo		DNO		☐ Dissolved			☐ Sulfi	oisture tes		ОХ	RF Scan		NPDES			
□ Cd	□ Na		SO ₂		☐ Rad 226 ☐ Rad 228			D pH Chlo	rides		DF	GI		D Oil & Grease			
□ Co	□ Ni □ Pb	☐ Hg			□ PCB			D Parti	cle Size			articulate Ma	itter	□ As			
LCI	LPD	□ CrVI				-11	10,12	Sulfur						□ TSS	GOFER		



Revised February 2018

#### **Sample Receipt Verification**

Client: Santee Cooper	Date Received:	12/10/2021			Work Order: 1120813
Carrier Name: Client FedEx UPS  Tracking Number: 8162 4067	US N	Mail		Cou	urier Field Services Other:
Tracking Number	1733			1	
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		Χ			Damaged Leaking Other:
Custody seals intact?				Х	
COC included with samples?		Х			
COC signed when relinquished and received?		Χ			
Sample bottles intact?		Χ			Damaged Leaking Other:
Sample ID on COC agree with label on bottle(s)?		Χ			
Date / time on COC agree with label on bottle(s)?		Χ			
Number of bottles on COC agrees with number of bottles	received?	Х			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Χ			
VOA vials free of headspace (<6mm bubble)?				Х	
Samples cooled? Temp at receipt recorded on COC Temp measured with IR thermometer - SN:	97050067	Χ			Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proper pH?  Note: Samples for metals analysis may be preserved upon receipt in the Note: Samples for O&G and VOA analysis – preservation checked at	the lab.	Х			
Samples dechlorinated for parameters requiring chlorine rethe time of sample collection?  Note: Chlorine checked at bench for samples requiring Bacterial, Vonanalysis.				Х	
If in-house	preservation	used	– re	cord	Lot #
HCL	H ₃ P				
H ₂ SO ₄	NaC	DΗ			
HNO ₃	Oth	er			
Comments:					
Were non-conformance issues noted at sample receip	ot? Yes	or	(1)	(ol	
Non-Conformance issue other than noted above:					

KAB

Completed by:_____











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

gel.com

March 19, 2021

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

Re: ABS Lab Analytical Work Order: 535320

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 19, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

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

Sincerely,

Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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.

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

**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"									
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:											

MethodDescriptionAnalyst Comments1EPA 904.0/SW846 9320 Modified

2 Calculation
3 EPA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analy	st Date	Time	Batch	Method
Rad Gas Flow Proporti	onal Counting	5											
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, Liq	uid "As Recei	ved"											
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:													

The following	Analytical Methods were performed.	
Method	Description	Analyst Comments

EPA 904.0/SW846 9320 Modified Calculation

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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-22											
Radium-226+228 Sum		0.877	+/-1.00			pCi/L		1	AEA 03/16/21	0416 2094594	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226	U	0.327	+/-0.358	0.588	1.00	pCi/L			MXH8 03/12/21	0841 2094556	3
The following Analytic	al Methods w	ere perfo	ormed:								

Method Description Analyst Comments

EPA 904.0/SW846 9320 Modified Calculation

Calculation 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Matrix: Ground Water
Collect Date: 15-FEB-21 13:37
Receive Date: 19-FEB-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"									
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	FPA 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	onal 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-2	arent 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, Liqu	uid "As Recei	ved"									
Radium-226		5.07	+/-1.09	0.817	1.00	pCi/L		MXH8	03/12/21	0841 2094556	3
The following Analytic	The following Analytical Methods were performed:										

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	•
2.	Calculation	

EPA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date: March 19, 2021

SOOP00119

SOOP001

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96412 Project:
Sample ID: 535320006 Client ID:

Matrix: Ground Water
Collect Date: 15-FEB-21 12:21
Receive Date: 19-FEB-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "A	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, Liqu	uid "As Recei	ved"									
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:											

The following Analytical Methods were performed:										
Method	Description	Analyst Comments								
1	EPA 904.0/SW846 9320 Modified	•								
2	Calculation									

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

EPA 903.1 Modified

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 Project: SOOP00119 Sample ID: 535320007 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 17-FEB-21 13:57
Receive Date: 19-FEB-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		2.96	+/-1.42	2.12	3.00	pCi/L		LXB3	03/03/21	0620 2094595	1
Radium-226+Radium-22	arent 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, Liqu	id "As Recei	ved"									
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:											

The following	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 RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date: March 19, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96389 Project: SOOP00119 Sample ID: 535320008 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 17-FEB-21 14:02
Receive Date: 19-FEB-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"									
Radium-226		1.63	+/-0.584	0.600	1.00	pCi/L		MXH8	03/12/21	0915 2094556	3
The following Analytic	al Methods w	ere perfo	ormed:								

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

Report Date: March 19, 2021

Santee Cooper Company: 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

19-FEB-21 Receive Date: Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	rent 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, Liqu	uid "As Recei	ved"									
Radium-226		0.646	+/-0.377	0.381	1.00	pCi/L			MXH8 03/12/21	0915 2094556	3
The following Analytic	al Methods w	ere perfo	rmed:								

8	. J	
Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	•

2 Calculation 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%)

#### Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma). Column headers are defined as follows:

**Notes:** 

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**QC Summary** 

Report Date: March 19, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

Contact: Ms. Jeanette Gilmetti

Workorder: 535320

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 2094595								
QC1204757495 535320004 DUP								
Radium-228	U	1.34 U	0.520	pCi/L	N/A		N/A LXB3	03/03/21 06:19
	Uncertainty	+/-1.01	+/-0.847					
QC1204757496 LCS								
Radium-228	54.7		61.6	pCi/L		113	(75%-125%)	03/03/21 06:19
	Uncertainty		+/-3.92					
QC1204757494 MB								
Radium-228			1.50	pCi/L				03/03/21 06:19
	Uncertainty		+/-0.829					
<b>Rad Ra-226</b> 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.

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Page 1 of 2

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#### **QC Summary**

Page 2 of 2

Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н 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 if above MDC and less than LLD M REMP Result > MDC/CL and < RDL M

N/A RPD or %Recovery limits do not apply.N1 See case narrative

Workorder:

- 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

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- 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.

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## 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).

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
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

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

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

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

#### **Data Summary:**

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

#### **Quality Control (QC) Information**

#### **Method Blank Criteria**

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

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

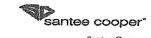
#### **Certification Statement**

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

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# **Chain of Custody**

535320



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

Labworks ID# (Internal use only)  Common line only)  Sample Location/  Common line only)  Sample Location/  Common line only only only only only only only only	nents	No 9727	T	ısis Gra	
(Internal use Description 9 9 9 9 9 9 Method #	t nfo		T		
(Internal use Description 9 9 9 9 9 9 Method #	t nfo	226	\ \ \	J C	īT
A		<b>₩</b>	0 0 0	SAS CAS	and the same
AE 96403 WAP-18 2/16/21 1133 MDG 2 P G GW 2		X	X		T
AE96404 WAP-19 1425 1 1					
AE96405 WAP-20 1530 1		$\prod$		$\prod$	
AE 96379 WAP-1 2/15/21 1337 MDE DBN					
AE 96380 WAP-2 1 1440 1					
4E 96412 WBW-1 2/15/21 1221 1 - 1	3. 138.4. J.Y.				
AE96388 WAP-10 2/17/21 1357 DEW 85B 2			1		
AE 96389 WAP -10 DUP 1402					
AE96406 WAP-21 1235 1 1 1				II	
	Receiving (Internal				
89moan 35594 2/19/21 184 10 GEL 2/19/21 0954 TEMP(	°C):	Initia	l:		_
	pH: Yes No				
Preserva	ative Lot#:				
Relinquished by: Employee# Date Time Received by: Employee# Date Time					
Date/Tin	ne/Init for preserv	ative:			
METALS (all)  Nutrients  MISC.  Gypsum  Coal	I		-	.,	
LAG LCu LSb CTOC CARTEN	Flyash  Ammonia	Tra	<u>Ω</u> n	U II Oua	ı
□ As □ K □ Sn □ TENTRO 1 □ THM/HAA	o LOI	ý	Moi		
DR DI DSc UNH3-N DVOC DAIM DSuffer	□ % Carbon □ Mineral	A	elər cidity		
□ Ba □ FM   □ Ti □ F □ E Coli □ Total projets □ BTUs	Analysis	i ii	1	c Siton	
D Be D Me D TI D NO2 D Total Coliform D Soluble Metals D Volatile Matter	□ Sieve □ % Moisture		issols d Oi	ed Ga A	res .
☐ Ca ☐ Mo ☐ V ☐ Br ☐ Dissolved As ☐ % Moisture Other Tests:	/U INIVISIUIC	. 1	astqu	йnt -	
□ Cd □ Na □ Zn □ SO4 □ Rad 226 □ PH □ HGI	NPDES			m oil LCr.Ni	Ph
D Cal D N D N D Pineness D Fineness D	∃Oil & Grease ∃As	- 1	()) X		
	□ TSS		FER		

প্রিভ্রম্ভ Laboratories LLC			SAMPLE RECEIPT & REVIEW FORM
Client:			SDG/AR/COCAVork Orders 535370
Received By: TVE			Date Received: 219121
Carrier and Trucking Number	,		Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Suspected Hazard Information	Yes	s S	"If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		V	Hazard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo
B) Did the client designate the samples are to be received as radioactive?		V	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		V	Maximum Net Counts Observed "(Observed Counts - Area Background Counts):CPM / mR/Hr / Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?			COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		V	ff D or E is yes, select Hazarts below. PCB's Flanmable Foreign Soil RCRA Asbestos Beryllium Other.
Sample Receipt Criteria	Yes	芝	Z Comments/Qualifiers (Required for Non-Conforming Items)
Shipping containers received intact and scaled?			Circle Applicable: Swals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?			Circle Applicable: Circuit contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		1	Preservation Method: Wet fee fee Packs Dry fee None Other:  "all temperatures are recorded in Celsius TEMP: 100 C
Daily check performed and passed on IR temperature gun?	V		Temperature Device Serial #:IR3-19 Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?		7.55	Circle Applicable: Scals broken Daniaged container Leaking container Other (describe)
Samples requiring chemical preservation at proper off?	1		Sample (D's and Containers Affected:  If Proservation added, Lat#:
Do any samples require Volatile Analysis?	TO STATE OF THE PARTY OF THE PA	ı	If Yes are Encores or Soil Kits present for solids? YesNoNA((If yes, take to VOA Fuezer):  Do liquid VOA vials contain acid preservation? YesNoNA((If unknown, select No)  Are liquid VOA vials fue of headspace? YesNoNA  Sample IO's and containers affected:
Samples received within holding time?			ID's crif tests afforted;
Sample ID's on COC match ID's on bottles?	1		ID's and containers affected:
Date & time on COC match date & time on bottles?	1		Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
Number of containers received match number indicated on COC?			Circle Applicable: No container count on COC Other (describe)
Are sample containers identifiable as GEL provided by use of GEL labels?  COC form is properly signed in		V	
relinquished/received sections?			Circle Applicable: Not relinquished Other (describe)
nments (Use Continuation Form if needed):			
PM (or PMA) o			ND(

List of current GEL Certifications as of 19 March 2021

Alabama	State	Certification
Alaska Drinking Water		
Arkansas	Alaska	17-018
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 (A133904)           Maine         2019020           Maryland         270           Massachusetts         M-SC012           Massachusetts PFAS Approv         Letter           Michigan         9976           Mississippi         SC00012           New Hampshire NELAP         2054           New Hampshire NELAP         2054           New Hampshire NELAP         11501 <t< td=""><td>Alaska Drinking Water</td><td>SC00012</td></t<>	Alaska Drinking Water	SC00012
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 (A133904)           Maine         2019020           Maryland         270           Massachusetts         M-SC012           Massachusetts PFAS Approv         Letter           Michigan         9976           Mississippi         SC00012           Nebraska         NE-OS-26-13           Newada         SC000122           New Hampshire NELAP         2054           New Hampshire NELAP         2054           New	Arkansas	88-0651
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           Ildaho         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 (A133904)           Maine         2019020           Maryland         270           Massachusetts         M-SC012           Massachusetts PFAS Approv         Letter           Michigan         9976           Mississisppi         SC00012           Nebraska         NE-OS-26-13           Nevada         SC00012           New Hampshire NELAP         2054           New Jersey NELAP         SC000           New Mexico         SC00012           N	CLIA	42D0904046
Connecticut	California	2940
DoD ELAP/ ISO17025 A2LA	Colorado	SC00012
Florida NELAP	Connecticut	PH-0169
Foreign Soils Permit	DoD ELAP/ ISO17025 A2LA	2567.01
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         SC000122           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 <t< td=""><td>Florida NELAP</td><td>E87156</td></t<>	Florida NELAP	E87156
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 (A133904)     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     Sanitation Districts of L   9255651     South Carolina Chemistry   10120001     Tennessee   TN 02934     Texas NELAP   T104704235-21-19	Foreign Soils Permit	P330-15-00283, P330-15-00253
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	Georgia	SC00012
Idaho	Georgia SDWA	967
Illinois NELAP   200029     Indiana	Hawaii	SC00012
Indiana	Idaho	SC00012
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	Illinois NELAP	200029
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	Indiana	C-SC-01
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	Kansas NELAP	E-10332
Louisiana Drinking Water	Kentucky SDWA	90129
Louisiana Drinking Water	Kentucky Wastewater	90129
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		LA024
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		03046 (AI33904)
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	Maine	
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	Maryland	270
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		M-SC012
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	Massachusetts PFAS Approv	Letter
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	Michigan	9976
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		SC00012
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	Nebraska	NE-OS-26-13
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	Nevada	SC000122021-1
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	New Hampshire NELAP	2054
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		SC002
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	New Mexico	SC00012
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	New York NELAP	11501
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	North Carolina	233
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	North Carolina SDWA	45709
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	North Dakota	R-158
Puerto Rico         SC00012           S. Carolina Radiochem         10120002           Sanitation Districts of L         9255651           South Carolina Chemistry         10120001           Tennessee         TN 02934           Texas NELAP         T104704235-21-19	Oklahoma	2019–165
S. Carolina Radiochem         10120002           Sanitation Districts of L         9255651           South Carolina Chemistry         10120001           Tennessee         TN 02934           Texas NELAP         T104704235-21-19	Pennsylvania NELAP	68-00485
S. Carolina Radiochem         10120002           Sanitation Districts of L         9255651           South Carolina Chemistry         10120001           Tennessee         TN 02934           Texas NELAP         T104704235-21-19	1	
Sanitation Districts of L         9255651           South Carolina Chemistry         10120001           Tennessee         TN 02934           Texas NELAP         T104704235-21-19		
South Carolina Chemistry         10120001           Tennessee         TN 02934           Texas NELAP         T104704235-21-19		
Tennessee         TN 02934           Texas NELAP         T104704235-21-19		
Texas NELAP T104704235-21-19		
Utali NELAI   SCUU122020-34	Utah NELAP	SC000122020-34
Vermont VT87156		
Virginia NELAP 460202	Virginia NELAP	
Washington C780		











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

gel.com

March 26, 2021

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

Re: ABS Lab Analytical Work Order: 536093

Dear Ms. Gilmetti:

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

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

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

Sincerely,

Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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.

	Julie	Robinson	
Reviewed by			

Page 2 of 13 SDG: 536093

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

**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "A	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-22	28 Calculatio	n "See Pa	arent 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, Liqu	id "As Recei	ved"									
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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 13 SDG: 536093

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

**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Ana	lyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting	5									
GFPC, Ra228, Liquid "	'As Received"	•									
Radium-228	U	-0.123	+/-0.815	1.57	3.00	pCi/L		LXI	3 03/23/21	0645 2097455	1
Radium-226+Radium-2	228 Calculation	n "See Pa	rent 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, Liq	uid "As Recei	ved"									
Radium-226		1.47	+/-0.578	0.661	1.00	pCi/L		MX	H8 03/04/21	0838 2097342	3
The following Analytic	cal Methods w	vere perfo	rmed:								

The following Analytical Methods were performed:

Description

EPA 904.0/SW846 9320 Modified
Calculation
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:

Method

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 4 of 13 SDG: 536093

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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 Project: SOOP00119 Sample ID: 536093003 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 23-FEB-21 12:49
Receive Date: 26-FEB-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF A	nalyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228		2.59	+/-1.57	2.45	3.00	pCi/L		L	KB3 03/23/21	0645 2097455	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		3.65	+/-1.63			pCi/L		1 A	EA 03/24/21	1133 2097459	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		1.07	+/-0.422	0.364	1.00	pCi/L		M	XH8 03/04/21	0838 2097342	3
The following Analytic	al Methods w	ere perfo	ormed:								

**Analyst Comments** 

The following 71	narytical Methods were pe	monnea.	
Method	Description		

1 EPA 904.0/SW846 9320 Modified 2 Calculation

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 5 of 13 SDG: 536093

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

**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

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

Matrix: Ground Water
Collect Date: 23-FEB-21 14:28
Receive Date: 26-FEB-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	U	0.524	+/-0.903	1.58	3.00	pCi/L		LXB3	03/23/21	0645 209745	5 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 209745	9 2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	id "As Recei	ved"									
Radium-226		1.45	+/-0.495	0.421	1.00	pCi/L		MXH8	03/04/21	0838 209734	2 3
The following Analytic	The following Analytical Methods were performed:										

The following Th	iary tieur metrious were perrorineu.	
Method	Description	

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 6 of 13 SDG: 536093

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

**QC Summary** 

Report Date: March 26, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 536093

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

#### **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.

Page 7 of 13 SDG: 536093

Page 1 of 2

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# **QC Summary**

Workorder: 536093 Page 2 of 2 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н 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 REMP Result > MDC/CL and < RDL M N/A RPD or %Recovery limits do not apply. N1 See case narrative ND Analyte concentration is not detected above the detection limit Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ One or more quality control criteria have not been met. Refer to the applicable narrative or DER. Q 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.
- ٨ 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.

Page 8 of 13 SDG: 536093

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 536093

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2097455

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

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

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

#### **Data Summary:**

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

Product: Lucas Cell, Ra226, Liquid Analytical Method: EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2097342

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

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

Page 9 of 13 SDG: 536093

#### **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.

Page 10 of 13 SDG: 536093

536093

# **Chain of Custody**



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

Custon	ustomer Email/Report Recipient:			Date R	Date Results Needed by:				P	roject/	Task/	Unit #:		Rerun request for any flagged QC				QC		
LCW	u	lA-		@santee	cooper.com		' <i>'</i>			1215	567	JJM	02.09	1.GØ1	<u> </u>	Yes	No			
																	A	nalysi	s Grou	ID.
Labwor (Interno only)				ple Location	on/	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass-G/Plastic-P)	Grab (G) or	Matrix(see below)	Preservative (see	Re   Mi	Comme  thod # porting limit sc. sample info y other notes		RAD 22C	RAD 228	TOTAL RAD CALC	
<u>≁</u> E96	38	5	WA	P-7		2/24/21	1102	DEW	2	P	6	G-W	2				Х	х	Х	
AE96	3 8	31	WA	P-3		1	1318	T	2.	1	L	T	1				×	х	χ	
AE 963	38	7	WA	P-9		2/23/21	1249	DEW	2	)							X	×	х	
AE963	38	2.	WA	P-4		1	1429	1	2								×	Х	X	
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लिंचर	Laboratories i.i.c
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SAMPLE RECEIPT & REVIEW FORM Client: SDG/AR/COC/Work Order: Received By: Date Received: FedEx Express FedEx Ground UPS Field Services Courier Carrier and Tracking Number O Suspected Hazard Information *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. ž Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___No___ A)Shipped as a DOT Hazardous? B) Did the client designate the samples are to be COC notation or radioactive stickers on containers equal elient designation. rexived as radioactive? Maximum Net Counts Observed* (Observed Ceums - Area Background Counts): _______CPM / mR/Hr C) Did the RSO classify the samples as radioactive? Classified as: Rad 1 Rad 2 Rad 3 COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. PCB's Flammable E) Dil the RSO identify possible hazards? Foreign Soil RCRA Asbestos Beryllium , Sampie Receipt Criteria . S Z Z Comments/Qualifiers (Tregulars) for Non-Conforming Items) Shipping containers received intact and Circle Applicable: Seals broken Daniaged container Ceaking container Other (describe) sealed? Chain of custody documents included Circle Applicable: Client contested and provided CGC. COC preated upon receipt with shipment? Preservation Method: Wet Ice Ice Packs Dry ice None Other. Samples requiring cold preservation "all temperatures are recorded in Celsius 1 6 TEMP: withis  $(0 \le 6 \text{ deg. C})$ ?* Temperature Device Serial #: 3 10 20 Daily check performed and passed on IR 4 temperature gun? Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Seals broker. Damaged container Leaking container Other (describe) Sample containers intact and sealed? Sample ID's and Containers Affected: Samples requiring chemical preservation 6 at proper pH? If Preservation added, Loth:

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) · Do any samples require Volatile 7 Are liquid VOA vials free of headspace? Yes___ No__ NA__ Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? ID's and containers affected: Sample ID's on COC match ID's on bottles? Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time 10 on bottles? Circle Applicable: No container count on COC Other (describe) Number of containers received match number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? Circle Applicable: Not relinquished Other (describe) COC form is properly signed in relinquished/received sections? Comments (Use Continuation Form if needed): PM (or PMA) review: Initials NRB

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
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#### a member of The GEL Group INC







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

gel.com

April 01, 2021

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

Re: ABS Lab Analytical Work Order: 536991

Dear Ms. Gilmetti:

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

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

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

Sincerely,

Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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

# Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 536991 GEL Work Order: 536991

#### The Qualifiers in this report are defined as follows:

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

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

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

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

	Irlie	Robinson	
Reviewed by			

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

**Certificate of Analysis** 

Report Date: April 1, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96394 Project: SOOP00119 Sample ID: 536991001 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 25-FEB-21 11:10
Receive Date: 05-MAR-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting									
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	arent 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, Liqu	iid "As Recei	ved"								
Radium-226		0.982	+/-0.297	0.247	1.00	pCi/L		MXH8 04/01/21	0909 2100100	3
The following Analytic	al Methods w	ere perfo	ormed:							
Method	Description					A	Analys	t Comments		

Michiou	Description	Anary	St 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 27 SDG: 536991

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

**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

Report Date: April 1, 2021

Santee Cooper Company: 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

05-MAR-21 Receive Date: Collector: Client

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

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	

Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" (15%-125%) 88

Column headers are defined as follows:

**Notes:** 

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

Report Date: April 1, 2021

Santee Cooper Company: 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 05-MAR-21 Receive Date: Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Da	e Time Batch	Method
Rad Gas Flow Proportion	onal 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 Analytic	cal Methods w	ere perfoi	rmed:							

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	-

2 Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer 85.2 (15%-125%) GFPC, Ra228, Liquid "As Received"

#### **Notes:**

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

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proporti	onal Counting									
GFPC, Ra228, Liquid '	'As Received"									
Radium-228		1.96	+/-0.969	1.35	3.00	pCi/L		LXB3 03/23/2	0645 2097455	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		3.36	+/-1.03			pCi/L		1 GXR1 04/01/2	1330 2102994	. 2
Rad Radium-226										
Lucas Cell, Ra226, Liq	uid "As Recei	ved"								
Radium-226		1.40	+/-0.352	0.170	1.00	pCi/L		MXH8 04/01/2	0909 2100100	3
The following Analytic	cal Methods w	ere perfor	med:							

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

Calculation
EPA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid "A	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, Liqu	uid "As Recei	ved"								
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 RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst D	ate	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228		3.31	+/-1.12	1.34	3.00	pCi/L		LXB3 03/2	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 04/0	1/21	1330 2102994	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		1.42	+/-0.355	0.234	1.00	pCi/L		MXH8 04/0	1/21	0909 2100100	3
The following Analytic	al Methods w	ere perfo	rmed:								

Method	Description	Analyst Comments
1	EDA 004 0/CW04C 0220 M - 1:C - 1	· ·

2 Calculation

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

EPA 903.1 Modified

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proport	ional 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, Lio	quid "As Recei	ved"									
Radium-226		1.49	+/-0.390	0.197	1.00	pCi/L		MXH8	04/01/21	0909 2100100	3
The following Analyti	ical Methods w	ere perfo	ormed:								
Method	Description						Analys	st Comments	3		

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method	
Rad Gas Flow Proportio	nal 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, Liqu	id "As Recei	ved"									
Radium-226		0.624	+/-0.254	0.191	1.00	pCi/L		MXH8 04/01/21	0909 2100100	3	
The following Analytica	The following Analytical Methods were performed:										

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 RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal 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, Liqu	uid "As Recei	ved"								
Radium-226		0.970	+/-0.283	0.158	1.00	pCi/L		MXH8 04/01/21	1211 2100100	3
The following Analytic	eal Mathode w	ara narfo	rmad.							

The following Analytical Methods were performed:

Method Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	very Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received"

83.8 (15%-125%)

# Notes:

1

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Da	e Time Batch	Method
Rad Gas Flow Proportion	nal Counting									
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"								
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 RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid "A	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, Liqu	uid "As Recei	ved"								
Radium-226		0.308	+/-0.183	0.210	1.00	pCi/L		MXH8 04/01/21	0945 2100100	3
The following Analytic	al Methods w	ere perfo	ormed:							

Method Description

1	EPA 904.0/SW846 9320 Modified
2	Calculation
3	EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits 88.5 (15%-125%)

Barium-133 Tracer GFPC, Ra228, Liquid "As Received"

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

Column headers are defined as follows:

**Notes:** 

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** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Da	e Time Batch	Method
Rad Gas Flow Proportio	nal Counting									
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"								
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:										

MethodDescriptionAnalyst Comments1EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

Report Date: April 1, 2021

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analys	st Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	arent 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, Liqu	uid "As Recei	ved"									
Radium-226	U	0.139	+/-0.140	0.220	1.00	pCi/L		MXH8	04/01/21	0945 2100100	3
The following Analytic	al Methods w	ere perfo	ormed:								

Method

Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer 88 (15%-125%) GFPC, Ra228, Liquid "As Received"

#### **Notes:**

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Dat	e Time Batch	Method
Rad Gas Flow Proportion	onal 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-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		2.15	+/-1.61			pCi/L		1 GXR1 04/01/	1 1330 2102994	. 2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		0.518	+/-0.221	0.172	1.00	pCi/L		MXH8 04/01/	21 0945 2100100	3
The following Analytic	eal Mathode w	ara narfo	rmad.							

The following Analytical Methods were performed:

Description

1	EI	PA 904.0/SW846 9320 Modified
2	Ca	alculation
3	EF	PA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, Ra228, Liquid "As Received"87.3(15%-125%)

# Notes:

Method

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid "A	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, Liqu	uid "As Recei	ved"								
Radium-226		0.694	+/-0.264	0.222	1.00	pCi/L		MXH8 04/01/21	0945 2100100	3
The following Analytic	al Methods w	ere perfo	ormed:							

Method **Analyst Comments** Description EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits Barium-133 Tracer

**Notes:** 

90.1 (15%-125%) GFPC, Ra228, Liquid "As Received"

# 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

Page 17 of 27 SDG: 536991

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: April 1, 2021

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF .	Analyst Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "A	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:											

The following Analytical Methods were performed.						
Method	Description	Analyst Comments				
_	TD 1 001 0 (0777) 1 5 0000 3 5 1/0 1	- · · · · · · · · · · · · · · · · · · ·				

EPA 904.0/SW846 9320 Modified Calculation

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**QC Summary** 

Report Date: April 1, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 536991

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

#### **Notes:**

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

The Qualifiers in this report are defined as follows:

** Analyte is a Tracer compound

Result is less than value reported <

> Result is greater than value reported

BDResults are either below the MDC or tracer recovery is low

FA Failed analysis.

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Page 1 of 2

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### **QC Summary**

Workorder: 536991 Page 2 of 2 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н 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 if above MDC and less than LLD M REMP Result > MDC/CL and < RDL M N/A RPD or %Recovery limits do not apply. N1 See case narrative ND Analyte concentration is not detected above the detection limit Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ One or more quality control criteria have not been met. Refer to the applicable narrative or DER. Q 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.

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# 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).

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

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

#### **Data Summary:**

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

#### **Technical Information**

#### **Recounts**

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

Product: Lucas Cell, Ra226, Liquid Analytical Method: EPA 903.1 Modified

Analytical Procedure: GL-RAD-A-008 REV# 15

Page 21 of 27 SDG: 536991

#### Analytical Batch: 2100100

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

GEL Sample ID#	<b>Client Sample Identification</b>
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**

Page 22 of 27 SDG: 536991

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.

Page 23 of 27 SDG: 536991

**Customer Email/Report Recipient:** 

# **Chain of Custody**



Custome	er Emai	l/Report Reci _l	pient:	Date I	Results N	eeded b	y:		P	roject/	Task/	'Unit #:	Reru	n request	for a	ny fla	gged QC
LCWI	LLA	@sante	ecooper.com	-	/	/		121	567	<u> </u>	02.0	9.601	<u> </u>	Yes	No		
						e e e e e e e e e e e e e e e e e e e									Ē	nalysi	s Group
Labwork (Internal only)		Sample Local Description	tion/	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	Me     Re     Mi     An	Comments  ethod # porting limit sc. sample info y other notes		RAD 226	RAD 228	TOTAL RAD CALC.
AE963	394	WAP-14		2/25/21	1110	DEW MD6	2	P	G	GW	2				X	メ	<u> </u>
AE963	195	WAP-14	DUP		1115		1		1				***************************************		1	1	1
AE763	199	WAP-15			1540									<del></del>			+
AE 963	93	WAP-18		3/4/24	1122	DEW ML	١	1	1	1	1						+
AE 963°	91	WAP-12		1 1	1309								1			$\dagger \dagger$	
AE963	92	WAP-12 [	XIP .		1314											$\dagger \dagger$	
4E9640	x0	WAP-16		11	1427											$\parallel$	<u> </u>
4E9641	4	WLF-AI-	1	3/2/21		DEW TG/DJ										$\dagger \dagger$	
4E9641	9	WLF-AI-	5	Ţ	1401	L	1			1	1				1	$\parallel$	
						:											
Relinqui	shed by:	Employee#	Date	Time	Receiv	ed by:	En	nployee	#	Date		Time	Sample Receiving				
Sgrawi		35594	3/5/21	0959	Me	7		SEL	ē	3/5/2	4 6	959	TEMP (°C):	ome.	nitial:	N	2
Relinquis	shed by:	Employee#	Date	Time	Reteiv	ed by:	En	nployee	#	Date		Time	Correct pH: (Y	es No			
11		661	3.5-21	17.15	H. A		Gi	EL	3	らて		1345	Preservative Lot	<b>!</b>			
Kelinquis	shed by:	Employee#	Daté	Time	Receiv	ed by:	En	iployee l		Date		Time					
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□ <b>B</b>	OLi	□Sr	D TP/	I-N	□ VOC	- 1		belon □ AIN	SON SECRETARIO		AND RESIDENCE PROPERTY.	☐ Ash	□ % Carb		- Co Ac	en diss	
□ Ba	400		— □F		□ Oil & Gro □ E. Coli	ease		UTOC	1			☐ Sulfur ☐ BTUs	Li Mineral Ana		D ₂ O	esuis S	trongth
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□Be	□Mn		□ NO2 □ Br		□ pH □ Dissolved			🛭 Puri	ty (CaS	O4)		□ CHN	☐ % Mois	ture	Usec	Oil	
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□ Cd	□Na	□ Zn	U SO4	1	□ Rad 226			□pH			DH	IGI .	NPDE	0.00	. A.	Cdt	Ni.145
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# **Chain of Custody**



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

Custom	er Email,	Report Recip	oient:	Date F	Results N	eeded	by:		P	roject,	/Task/	'Unit #:	Rer	un request	for a	nv fla	agged (
LCW	LLIA	@santee	ecooper.com		/	-		121	567	<u>/</u> _Jn	102.C	9.Gø1		Yes	No	•	50
															£	\nalysi	is Group
Labwork (Internal only)	AND	Sample Locat Description	ion/	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	• Re	Comments ethod # eporting limit isc. sample info ny other notes		RAD 226	RAD 228	TOTAL RAD CALC.
AE 96	401	WAP-17		3/2/21	1048	DEW TG/D	2	P	G	GW	2				×	X	X
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AE964	-16	WLF-AI-E	3		1231											+	$\dagger \dagger$
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110		661	2000		neceive L	u uy.		iployee #	+	Date	<del>.  </del> .	Time	Preservative Lo				
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								ar air.					Date/Time/Init fo	or preservat	ive:		
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SAMPLE RECEIPT & REVIEW FORM

Cli	ent: 460P			SD		Work Order: 53(991)
Rec	reived By: MLS			1	te Received	1 - 4 - 0 :
Carrier and Tracking Number						Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courie Other
Sus	pected Hazard Information	Yes	ž	*If	Net Counts >	100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)S	hipped as a DOT Hazardous?		1	Haz	ard Class Shi	pped: UN#: JN2910, Is the Radioactive Shipment Survey Compliant? Yes No
	Did the client designate the samples are to be ived as radioactive?		/	co	2 notation or	radioactive stickers on containers equal client designation.
	Did the RSO classify the samples as pactive?		/	Ма		ounts Observed* (Observed Counts - Area Background Counts): CPM/mR/Hr ed as: Rad 1 Rad 2 Rad 3
D) I	Did the client designate samples are hazardous?		/			hazard labels on containers equal client designation.
E) [	old the RSO identify possible hazards?				PCB's	elect Hazards below. Flammable Foreign Soil RCRA Asbestos Beryllium Other:
	Sample Receipt Criteria	Yes	NA A	ž		Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	1				able: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	1				Able: Client contacted and provided COC COC created upon receipt  Method: Wet Ice Ice Packs Dry ice (None Other:
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*		1		*all temp	eratures are recorded in Celsius  TEMP: 15
4	Daily check performed and passed on IR temperature gun?	1			Secondary T	re Device Serial #: _IR3-18  emperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	_				able: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	/	<b>*</b>		If Preservatio	nd Containers Affected: n added, Lot#:
7	Do any samples require Volatile Analysis?				Do liquid V Are liquid V	ncores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer)  OA vials contain acid preservation? YesNoNA(If unknown, select No)  OA vials free of headspace? YesNoNA  Ind containers affected:
8	Samples received within holding time?	j			ID's and test	s affected:
9	Sample ID's on COC match ID's on bottles?	1				lainers affected:
10	Date & time on COC match date & time on bottles?	/	MODERN D. M.			cable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	1			Circle Appli	eable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?  COC form is properly signed in				Circle Appli	cable: Not relinquished Other (describe)
13	relinquished/received sections?	Ľ			<u> </u>	
Con	ments (Use Continuation Form if needed):					
<u> </u>		·····			<del></del>	210131

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
vv asinington	C/00











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

gel.com

May 05, 2021

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

Re: ABS Lab Analytical Work Order: 540416

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 09, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

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

Sincerely,

Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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.

	Irlie	Roberson		
Reviewed by				

Page 2 of 13 SDG: 540416

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

**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"									
Radium-226	U	0.244	+/-0.234	0.374	1.00	pCi/L		LXP1	04/22/21	0947 2114169	3
The following Analytica	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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 13 SDG: 540416

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Propor	tional Counting	5									
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 Calculatio	n "See Pa	arent 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, Li	quid "As Recei	ved"									
Radium-226		0.214	+/-0.154	0.182	1.00	pCi/L		LXP1	04/22/21	0947 2114169	3
The following Analys	tical Mathada u	ioro norfo	rmad.								

The following Analytical Methods were performed:

Method Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	erv Test	Result	Nominal	Recoverv%	Acceptable Limits

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).

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

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

09-APR-21 Receive Date: Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Ana	lyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "	As Received"										
Radium-228		3.85	+/-1.62	2.15	3.00	pCi/L		LXB	3 04/20/21	1021 2114215	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent 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, Liqu	uid "As Recei	ved"									
Radium-226	U	0.172	+/-0.207	0.348	1.00	pCi/L		LXP	1 04/22/21	1020 2114169	3
The following Applytic	ol Mothode w	oro porfe	rmad.								

The following Analytical Methods were performed:

Description

**Analyst Comments** EPA 904.0/SW846 9320 Modified 1 2 Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits Barium-133 Tracer 54.2 (15%-125%) GFPC, Ra228, Liquid "As Received"

#### **Notes:**

Method

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

Page 5 of 13 SDG: 540416

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**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 Project: SOOP00119 Sample ID: 540416004 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 08-APR-21 13:36
Receive Date: 09-APR-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		4.17	+/-1.91	3.00	3.00	pCi/L		LXB3	04/20/21	1204 2114215	1
Radium-226+Radium-2	28 Calculation	n "See Pa	arent 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, Liqu	iid "As Recei	ved"									
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 RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**QC Summary** 

Report Date: May 5, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 540416

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow Batch 2114215 ——											
QC1204793535 540415006 DUP											
Radium-228	U	2.33		4.22	pCi/L	57.7		(0% - 100%)	LXB3	04/20/2	21 10:21
	Uncertainty	+/-1.60		+/-1.79							
QC1204793536 LCS											
Radium-228	53.8			52.3	pCi/L		97.2	(75%-125%)		04/20/2	21 10:24
	Uncertainty			+/-3.29							
QC1204793534 MB											
Radium-228			U	-1.71	pCi/L					04/20/2	21 10:20
	Uncertainty			+/-1.16							
<b>Rad Ra-226</b> Batch 2114169 ———											
QC1204793424 540415001 DUP											
Radium-226		0.713		0.672	pCi/L	5.99		(0% - 100%)	LXP1	04/22/2	21 10:20
	Uncertainty	+/-0.274		+/-0.268							
QC1204793426 LCS											
Radium-226	27.0			22.8	pCi/L		84.3	(75%-125%)		04/22/2	1 10:20
	Uncertainty			+/-1.49							
QC1204793423 MB											
Radium-226			U	0.133	pCi/L					04/22/2	21 10:20
	Uncertainty			+/-0.184							
QC1204793425 540415001 MS											
Radium-226	135	0.713		105	pCi/L		77.2	(75%-125%)		04/22/2	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

BDResults are either below the MDC or tracer recovery is low

Failed analysis. FA

Page 7 of 13 SDG: 540416

Page 1 of 2

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### **QC Summary**

Workorder: 540416 Page 2 of 2 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н 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 REMP Result > MDC/CL and < RDL M N/A RPD or %Recovery limits do not apply. N1 See case narrative ND Analyte concentration is not detected above the detection limit Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ One or more quality control criteria have not been met. Refer to the applicable narrative or DER. Q 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.

Page 8 of 13 SDG: 540416

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 540416

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2114215

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

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

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

#### **Data Summary:**

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

#### **Preparation Information**

#### **Homogenous Matrix**

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

#### **Technical Information**

#### Recounts

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

<u>Product:</u> Lucas Cell, Ra226, Liquid Analytical Method: EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2114169

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

GEL Sample ID# Client Sample Identification

540416001 AF00693

540416002	AF00694
540416003	AF00695
540416004	AF00696
1204793423	Method Blank (MB)
1204793424	540415001(AF00633) Sample Duplicate (DUP)
1204793425	540415001(AF00633) Matrix Spike (MS)
1204793426	Laboratory Control Sample (LCS)

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

#### **Data Summary:**

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

#### **Miscellaneous Information**

#### **Additional Comments**

The matrix spike, 1204793425 (AF00633MS), aliquot was reduced to conserve sample volume.

#### **Certification Statement**

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

Page 10 of 13 SDG: 540416

Chain of Custody 540416



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

Customer Email/Report Recipient:		Dat	Date Results Needed by:			Project/Task/Unit #:					Rei	Rerun request for any flagged Qu							
<u>LCWI</u>	ША	@sai	nteed	cooper.com			J		121	567	- J _ J I	402.	09. <del>6</del> ø	1 / 36500	Yes	No			
	III.	War and the same of the same o														4	Analysi	s Grou	ō
Labwork (Internal only)		Sample Lo Description		on/	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	• M • R • M	Comments lethod # eporting limit lisc. sample info ny other notes		FAP 226	RAD 228	TOTAL RAD COLC	
AF006	593	WLF-	A-2	-6	4/8/	21 152	7 MOG	2	P	6	GW	2				X	×	X	
AF-006	594	WLF -	42-	6 DUP		1532	2	1				1				1	1		
AFOO 6	,95	WAP-1	7			las													
AFOCE	-96	WAP-	17 D	uP		1336		1		I		1						1	
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Relinqui	shed by:	Employ	ee#	Date	Time	Rece	ved by:	Er	nployee	#	Date		Time	Sample Receivir	ng (Internal U	se Oni	<u> </u>		6.00
Amor	un	3559	(4	4/9/21	1015	N.	5		EL		1/9/2	,	1015	TEMP (°C):		nitial:			
Relinqui	shed by:	Employ	ee#	Date	Time	Recei	ved by:	Er	nployee		Date		Time	Correct pH:	Yes No				
4//	1	661		42.	1320	115	B	6	iEL	4	92	1 /	324	Preservative L	ot#:				
Kelinqui	shed by:	Employ	ee#	Date	Time	Recei	ved by:	En	nployee	#	Date		Time						
			28-99-1						PROTESTON DO TOTAL				OPENSTATION DISCONDENSITY	Date/Time/Init	tor preserva	ive:	1784 ggs		
□Ag		TALS (al		<u>Nuti</u>	ients	<u>MI</u>	sc.		Gy	psum	1	1	Coa	Flv	ash		Oil		
□ Al	□Fe	□ Si	A second section of the	DTO		□ BTEX		7.0	Wallbo	ard		∥ at	Iltimate	□ Amn		Tran	. Oii i	Onal.	
□As	ΘK	□Si	100	DO		☐ Napthal ☐ THM/H				um(al	<i>t</i>		□ % Mois	ture [5 LO]			Moisto	re.	
□В	│ □ Li	□ Sr		(2 TP/ 		□ voc			belor II All				□ Ash	D % Ca		SECURIOR SE	lor idity		
				— BF		□ Oil & G	rease		TO TO	C		96 (1990) PSE POTENTI	□ Sulfur □ BTUs	□ Mine	ral nalysis	: Die	outrie :	irength	
□ Ba	□Mg		60.00	(i) Ci			☐ E. Coli ☐ Total Coliform			il inetal. Ible Me			□ Volatile	Matter		1F)		Gases	
□ Be	☐ Mn	□ TI		E NO:	2	□рН			🖸 Pun	ıy (Ca8	O4)	-	□ CHN	□%M		User	I OII		
□ Ca	□Мо	□V		□ C Br □ NO:	ı.	☐ Dissolve				loisture			ter Tests:				shpoin		
□ Cd	□Na	□ Zı	1	U SO4		☐ Rad 226			D Sali D pH	nes		∥ ⊔∧ He ∥	RF Scan GI	<u>NPI</u>	SERVICE SERVIC		tals in c.C.d.C	cul r.Ni.Ph	
D Co	□Ni	□ H ₁	2			☐ Rad 228			н Сы			OF	ineness	DOI &	Grease	119	) ·		
□ Cr	□РЬ	□ Ci				□PCB			U Part Sulfur	iele Siza		II DP	articulate M	atter □ As □ TSS		GOI			
						I .		J[	COMPTER			JL					_		

CEED | Laboratories LLC

Client: Soas			SAMPLE RECEIPT & REVIEW FORM						
DOOP			SDG/AR/COC/Work Order: 540410						
Received By: STACY BOO	INE	9 9 	Date Received: 9-APRIL-21						
Carrier and Tracking Number			Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other						
Suspected Hazard Information	Yes	å	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.						
A)Shipped as a DOT Hazardous?		~	Hazard Class Shipped:  UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No						
B) Did the client designate the samples are to be received as radioactive?		/	COC notation or radioactive stickers on containers equal client designation.						
C) Did the RSO classify the samples as radioactive?		/	Maximum Net Counts Observed* (Observed Counts - Area Background Counts):CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3						
D) Did the client designate samples are hazardous?	,		TOC notation or hazard labels on containers equal client designation.						
E) Did the RSO identify possible hazards?		1	lf D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other;						
Sample Receipt Criteria	Yes	NA							
Shipping containers received intact and sealed?			Z Comments/Qualifiers (Required for Non-Conforming Items)  Circle Applicable: Seals broken Damaged container Leaking container Other (describe)						
2 Chain of custody documents included with shipment?	1		Circle Applicable: Client contacted and provided COC COC created upon receipt						
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		+	Preservation Method: Wet Ice Ice Packs Dry ice None Other:  *all temperatures are recorded in Celsius  TEMP: 13						
Daily check performed and passed on IR temperature gun?			Temperature Device Serial #:						
Sample containers intact and sealed?			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)						
Samples requiring chemical preservation at proper pH?	1		Sample ID's and Containers Affected:  If Preservation added, Lot#:						
Do any samples require Volatile Analysis?			If Yes, are Encores or Soil Kits present for solids? YesNoNA (If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? YesNoNA (If unknown, select No)  Are liquid VOA vials free of headspace? YesNoNA Sample ID's and containers affected:						
Samples received within holding time?	7	4	ID's and tests affected:						
Sample ID's on COC match ID's on bottles?	1		ID's and containers affected:						
Date & time on COC match date & time on bottles?	1		Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)						
Number of containers received match number indicated on COC?	1		Circle Applicable: No container count on COC Other (describe)						
Are sample containers identifiable as GEL provided by use of GEL labels?	j	/							
COC form is properly signed in relinquished/received sections?			Circle Applicable: Not relinquished Other (describe)						
nments (Use Continuation Form if needed):									
PM (or PMA)			NRI- Whatai						

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 05 May 2021

State	Certification
Alabama	42200
Alaska	17–018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122021-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2019–165
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122020-34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
·· dollington	2.00











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

gel.com

June 14, 2021

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

Re: ABS Lab Analytical Work Order: 544910

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 18, 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



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

# Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 544910 GEL Work Order: 544910

#### 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.

	Irlie	Robinson	
Reviewed by			

Page 2 of 15 SDG: 544910

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

**Certificate of Analysis** 

Report Date: June 14, 2021

SOOP00119

SOOP001

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: AF03568 Project:
Sample ID: 544910001 Client ID:

Matrix: Ground Water
Collect Date: 13-MAY-21 14:39
Receive Date: 18-MAY-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		4.82	+/-1.56	2.09	3.00	pCi/L		LXB3	06/04/21	0853 2132499	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		5.84	+/-1.61			pCi/L		1 AEA	06/11/21	0421 2133508	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	id "As Recei	ved"									
Radium-226		1.02	+/-0.399	0.446	1.00	pCi/L		LXP1	06/02/21	0835 2131978	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 RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, Ra228, Liquid "As Received"86.5(15%-125%)

#### Notes:

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 15 SDG: 544910

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**Certificate of Analysis** 

Report Date: June 14, 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: AF03569 Project: SOOP00119 Sample ID: 544910002 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 13-MAY-21 14:44
Receive Date: 18-MAY-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Ana	lyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		3.55	+/-1.40	1.98	3.00	pCi/L		LXB	3 06/04/21	0853 2132499	1
Radium-226+Radium-22	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		4.60	+/-1.45			pCi/L		1 AEA	06/11/21	0421 2133508	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226		1.05	+/-0.378	0.304	1.00	pCi/L		LXP	06/02/21	0835 2131978	3
The following Analytic	al Methods w	ere perfo	ormed:								

The following Analytical Methods were performed:

Method Description Analyst Comments

EPA 904.0/SW846 9320 Modified Calculation

3 EPA 903.1 Modified
Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received"

Result Nominal Recovery Acceptable Limits

87.4 (15%-125%)

#### Notes:

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

Report Date: June 14, 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: AF03570
Sample ID: 544910003
Matrix: Ground Water
Collect Date: 13-MAY-21 16:00

Receive Date: 18-MAY-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF A	nalyst Date	Time Batch	Method
Rad Gas Flow Proportio	onal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	U	0.581	+/-1.16	2.03	3.00	pCi/L		L	XB3 06/04/21	0853 2132499	1
Radium-226+Radium-22	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		1.50	+/-1.21			pCi/L		1 A	EA 06/11/21	0421 2133508	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226		0.915	+/-0.338	0.233	1.00	pCi/L		L	XP1 06/02/21	0907 2131978	3
The following Analytic	al Methods w	ere perfo	ormed:								

Method Description Analyst Comments

EPA 904.0/SW846 9320 Modified Calculation

EPA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, 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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

Report Date: June 14, 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: AF03571
Sample ID: 544910004
Matrix: Ground Water
Collect Date: 13-MAY-21 16:55

Receive Date: 18-MAY-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Ana	lyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		4.79	+/-1.16	1.17	3.00	pCi/L		LXB	3 06/04/21	0853 2132499	1
Radium-226+Radium-22	28 Calculation	n "See Par	rent Products"								
Radium-226+228 Sum		6.31	+/-1.23			pCi/L		1 AEA	06/11/21	0421 2133508	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	id "As Recei	ved"									
Radium-226		1.52	+/-0.417	0.323	1.00	pCi/L		LXP	06/02/21	0907 2131978	3
The following Analytic	al Methods w	ere perfor	rmed:								

EPA 904.0/SW846 9320 Modified Calculation

3 EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.4	(15%-125%)

#### Notes:

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

SOOP00119

SOOP001

Report Date: June 14, 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: AF03572
Sample ID: 544910005
Matrix: Ground Water
Collect Date: 13-MAY-21 11:20

Receive Date: 18-MAY-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting	;									
GFPC, Ra228, Liquid ".	As Received"										
Radium-228	U	0.377	+/-1.03	1.82	3.00	pCi/L		LXB3	06/04/21	0853 2132499	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		0.691	+/-1.04			pCi/L		1 AEA	06/11/21	0421 2133508	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		0.313	+/-0.192	0.200	1.00	pCi/L		LXP1	06/02/21	0907 2131978	3
The following Analytic	al Methods w	vere perfo	ormed:								

Method Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	erv Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 91.5 (15%-125%)

#### Notes:

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

SOOP00119

SOOP001

Report Date: June 14, 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: AF03573
Sample ID: 544910006
Matrix: Ground Water
Collect Date: 13-MAY-21 11:25

Receive Date: 18-MAY-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	U	0.310	+/-1.22	2.18	3.00	pCi/L		LXB3	06/04/21	0853 2132499	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		0.540	+/-1.24			pCi/L		1 AEA	06/11/21	0421 2133508	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226	U	0.230	+/-0.194	0.282	1.00	pCi/L		LXP1	06/02/21	0907 2131978	3
The following Analytic	al Methods w	ere perf	rmed:								

The following Analytical Methods were performed:

MethodDescriptionAnalyst Comments1EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer RecoveryTestResultNominalRecovery%Acceptable LimitsBarium-133 TracerGFPC, Ra228, Liquid "As Received"87.2(15%-125%)

Notes:

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**QC Summary** 

Report Date: June 14, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 544910

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range A	Anlst	Date	Time
Rad Gas Flow Batch 2132499											
QC1204831024 544910004 DUP		4.70		4.25	C:/I	11.0		(00/ 1000/)	LVD2	06/04/2	1 00 52
Radium-228	Uncertainty	4.79 +/-1.16		4.25 +/-1.19	pCi/L	11.9		(0% - 100%)	LXB3	06/04/2	1 08:52
QC1204831025 LCS											
Radium-228	52.1 Uncertainty			49.6 +/-3.38	pCi/L		95.1	(75%-125%)		06/04/2]	1 08:52
QC1204831023 MB Radium-228			U	0.0515	pCi/L					06/04/21	1 08:52
	Uncertainty			+/-0.799							
<b>Rad Ra-226</b> Batch 2131978											
QC1204829924 544910001 DUP Radium-226		1.02		1.10	pCi/L	7.73		(0%-20%)	LXP1	06/02/2	1 09:07
	Uncertainty	+/-0.399		+/-0.350							
QC1204829926 LCS Radium-226	26.8			21.2	pCi/L		79.1	(750/ 1250/)		06/02/21	1 00.29
Radium-220	Uncertainty			+/-1.46	pCI/L		79.1	(75%-125%)		06/02/2	1 09:38
QC1204829923 MB Radium-226			U	0.000	pCi/L					06/02/21	1 09:07
Kadium-220	Uncertainty			+/-0.127	pel/L					00/02/2	1 05.07
QC1204829925 544910001 MS Radium-226	130	1.02		105	pCi/L		79.8	(75%-125%)		06/02/21	1 09:38
Rudum 220	Uncertainty	+/-0.399		+/-7.55	PC#E		77.0	(7370 12370)		00,02,2	. 05.50

#### **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.

Page 9 of 15 SDG: 544910

Page 1 of 2

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

### **QC Summary**

Workorder: 544910 Page 2 of 2 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н 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 REMP Result > MDC/CL and < RDL M N/A RPD or %Recovery limits do not apply. N1 See case narrative ND Analyte concentration is not detected above the detection limit Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ One or more quality control criteria have not been met. Refer to the applicable narrative or DER. Q 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.

Page 10 of 15 SDG: 544910

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 544910

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2132499

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

GEL Sample ID#	Client Sample Identification
544910001	AF03568
544910002	AF03569
544910003	AF03570
544910004	AF03571
544910005	AF03572
544910006	AF03573
1204831023	Method Blank (MB)
1204831024	544910004(AF03571) Sample Duplicate (DUP)
1204831025	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:** 2131978

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

GEL Sample ID#	Client Sample Identification
544910001	AF03568
544910002	AF03569
544910003	AF03570
544910004	AF03571
544910005	AF03572
544910006	AF03573
1204829923	Method Blank (MB)
1204829924	544910001(AF03568) Sample Duplicate (DUP)
1204829925	544910001(AF03568) Matrix Spike (MS)
1204829926	Laboratory Control Sample (LCS)

Page 11 of 15 SDG: 544910

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, 1204829925 (AF03568MS), 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.

Page 12 of 15 SDG: 544910

**Customer Email/Report Recipient:** 

# **Chain of Custody**



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

Custo	mer Emai	/Report Recip	ient:	Date	Results N	eeded b	y:		P	roject,	/Task,	/Unit #	:		Rerun request for any flagge				agged C
LCV	VILLIA	@santee	ecooper.com	n	J	/		12/5	<del>567</del>	<u> </u>	102.0	9.6ø		3650	0_	Yes	No		•
Labora	rks ID#	T 6 1 1			YOUR SOUNDS				4-1								į	Analys	is Group
(Internonly)		Sample Locat Description	ion/	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	(Mojag	Misc.	Commod # rting limit sample in other notes	fo		KAD 226	RAD 228	TOTAL RAD CALC
AF03	568	CGYP-4		5/13/21	1439	MDE	2	P	G	GW	2						Х	X	Х
AFOE	3569	cealb-it i	DUP		1444	(	}		1	(	-						1	1	
Atos	i5 70	Celb-2			1600								***************************************				$\prod$		
AF03	57	CGYP-6			16 55														
AF03	572	WLF - A2 -	6		1120	1													
AF03	573	WLF-A-2-6	DUP		1125					1									1
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genety.	ished by:	Employee#	SIGN.	157 s	July (1) Receive	Bata	leu (	EQ ployee #	<b>-</b>	Date	M I	わか Time	5	Preservat	ive Lot#:				
Choune Service						000000000000000000000000000000000000000								Date/Time	e/Init for	preservat	tive:		
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□ Al	□ Fe	□ Se	± 10		D BTEX		EΝ	Vallboa	rď			Atimat	e	- 10	Ammoni	20 to 10 to	Tran	. On (	Qual.
□As	□K	□Sn	DO	TPO4	☐ Napthalen☐ THM/HA.			Gypsi below				□ % M □ Ash	oisture	D	LOL	100	% 400	Moistu Ior	ire
□В	□ Li	□Sr	□ NH	3-N	□ VOC □ Oil & Gre	ace		O AIM			# AT \$100 Sept 500 Se	□ Asii □ Sulfu	r		% Carbo Mineral	n	Ac	dety	
□ <b>В</b> а	□Mg	□Ti	D CI		🗆 E. Coli			☐ TOC ☐ Total	metals			D BTU			Analy	sis	0.4F1		nength
□ Be	□Mn	□ TI	TINO		☐ Total Coli ☐ pH	form		C Solul C Purit	ile Mei:	ılš		□ Volat □ CHN		200000000000000000000000000000000000000	Sieve % Moisn				Gases
□ Ca	□Мо	DV	L Br		☐ Dissolved			⊕%M	dsture	, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	Ott	ier Tes	ts:		70 IVIOISII	nc	Used	i <b>O</b> II dipola	ı
□ Cd	□Na	□ Zn	□ NO □ SO-	NEWSCHOOL STREET	☐ Dissolved ☐ Rad 226	re		⊖ Sulfit UpH	es:		D X	RF Scan GI			NPDE:	2	Me	lals in	
The second second second second	□Ni	□Hg			<ul><li>□ Rad 228</li><li>□ PCB</li></ul>			Chlor Partic			ΠF	neness articulate			Dil & Grea As	se 🏻	110	1	
□ Co	I man	FIGURE STATE AND STATE OF THE PROPERTY OF THE					<ul> <li>AND STREET, STREE</li></ul>						00000000000000000000000000000000000000	BOOM PRODUCES OF THE PRODUCES	PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS	enveltion that the bridge	· TX	MARKET AND AND ADDRESS OF THE PARKET	STATE OF THE PARTY

GEE Laboratories u.c.	SAMPLE PROPERTY OF THE PROPERT
Clienti	SAMPLE RECEIPT & REVIEW FORM
Received By: TVE	SDG/AR/COC/Work Onlers SHY110/544911
Carrier and Tracking Number	Date Received:  Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Suspected Hazard Information	The 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? YesNo
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?	Haximum Net Counts Observed (Observed Counts - Area Background Counts): CPM / mR/Efr Classified us: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?	COC notation or hazard labels on containers equal client designation.  150 or E is yes, select Hazards below.
E) Did the RSO identify possible hazards?	PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other
Sample Receipt Criteria	[2] <   0
Shipping containers received intact and seated?	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
Chain of custody documents included with shipment?	Circle Applicable: Ctient contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	Preservation Method Wet fee Ice Packs Dry ice None Other:  "all temperatures are consided in Celsius TEMP: C. I. C
Daily check performed and passed on IR temperature gun?	Temperature Device Serial #: IR3:19 Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and scaled?	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
Samples requiring chemical preservation at proper pH?	Sample ID's and Containers Affected:
Do any samples require Volatile Analysis?	If Preservation added, Lott:  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:
Samples received within holding time?	ID's and tests affected:
Sample ID's on COC match ID's on bottles?	LD's and containers affected:
Date & time on COC match date & time on bottles?	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
Number of containers received match number indicated on COC?  Are sample containers identifiable as	Circle Applicable: No container count on COC Other (describe)
COC form is properly signed in	
relinquished/received sections?  Innents (Use Continuation Form if needed):	Circle Applicable: Not relinquished Other (describe)
in a needed);	
PM (or PMA) n	rejonatorista NTC - Calculation (

List of current GEL Certifications as of 14 June 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
usinington	2.00











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

gel.com

August 26, 2021

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

Re: ABS Lab Analytical Work Order: 551182

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 30, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

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

Sincerely,

Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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.

	Irlie	Robinson	
Reviewed by			

Page 2 of 16 SDG: 551182

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

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09053
Sample ID: 551182001
Matrix: Ground Water
Collect Date: 19-JUL-21 11:24
Receive Date: 30-JUL-21

Client ID: SOOP001

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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, Liqu	id "As Recei	ved"									
Radium-226		1.40	+/-0.463	0.290	1.00	pCi/L		LXP1	08/22/21	0714 2157760	3
The following Analytical Methods were performed:											

Method	Description	Analyst Comments
	ED 1 00 1 0 (GIV 0 1 0 0 0 0 1 1 1 1 1 1	

EPA 904.0/SW846 9320 Modified Calculation

3 EPA 903.1 Modified

Collector:

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

Page 3 of 16 SDG: 551182

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

**Certificate of Analysis** 

Report Date: August 26, 2021

SOOP00119

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09070 Sample ID: 551182002 Matrix: Ground Water Collect Date: 19-JUL-21 10:30 Receive Date: 30-JUL-21

Client ID: SOOP001

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF	Analy	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting											
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	arent 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, Liqu	iid "As Recei	ved"										
Radium-226		0.983	+/-0.378	0.351	1.00	pCi/L			LXP1	08/22/21	0714 2157760	3
The following Analytic	al Methods w	ere perfo	ormed:									
Method	Description					A	Analys	st Coı	mment	s		

Surrogate/Tracer Recov	erv Test	Result	Nominal	Recoverv%	Acceptable Limits
3	EPA 903.1 Modified				
2	Calculation				
1	EPA 904.0/SW846 9320 Modified				

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:

Collector:

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

Page 4 of 16 SDG: 551182

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

Client

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

Client ID: SOOP001

**Analyst Comments** 

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proport	ional 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 Calculatio	n "See Par	rent 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, Lie	quid "As Recei	ved"									
Radium-226	•	1.21	+/-0.439	0.415	1.00	pCi/L		LXP1	08/22/21	0714 2157760	3
The following Analyt	ical Methods w	ere nerfor	rmed·								

The following Analytical Methods were performed:

Description

	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 81.1 (15%-125%)

#### **Notes:**

Method

1

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date: August 26, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

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

Client ID: SOOP001

SOOP00119

44.8

(15%-125%)

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "A	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, Liqu	iid "As Recei	ved"									
Radium-226		1.15	+/-0.418	0.373	1.00	pCi/L		LXP1	08/22/21	0714 2157760	3
The following Analytical Methods were performed:											

Method	Description	Description						
1	EPA 904.0/SW846 9320 Modified		-					
2	Calculation							
3	EPA 903.1 Modified							
Surrogate/Tracer 1	Recovery Test	Result	Nominal	Recoverv%	Acceptable Limits			

#### **Notes:**

Barium-133 Tracer

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

Column headers are defined as follows:

Collector:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

GFPC, Ra228, Liquid "As Received"

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

Report Date: August 26, 2021

SOOP00119

SOOP001

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 Sample ID: 551182005 Matrix: Ground Water Collect Date: 20-JUL-21 12:28 Receive Date: 30-JUL-21

Client Collector:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analys	st Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "A	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, Liqu	uid "As Recei	ved"									
Radium-226		1.05	+/-0.475	0.559	1.00	pCi/L		LXP1	08/22/21	0714 2157760	3
The following Analytical Methods were performed:											

The following	Anaiyucai	Methods	were	performed:

Description

	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 85.5 (15%-125%)

# **Notes:**

Method

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date: August 26, 2021

SOOP00119

SOOP001

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09051
Sample ID: 551182006
Matrix: Ground Water
Collect Date: 20-JUL-21 13:28
Receive Date: 30-JUL-21

d Water

Project:

Client ID:

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Propor	tional Counting										_
GFPC, Ra228, Liquid	l "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 Calculatio	n "See Par	rent 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, Li	iquid "As Recei	ved"									
Radium-226		4.72	+/-0.810	0.505	1.00	pCi/L		LXP1	08/22/21	0714 2157760	3

The following Analytical Methods were performed:

Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limit Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 90.5 (15%-125%)

#### **Notes:**

Method

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 8 of 16 SDG: 551182

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**Certificate of Analysis** 

Report Date: August 26, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

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

Project: SOOP00119 Client ID: SOOP001

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	arent 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, Liqu	iid "As Recei	ved"									
Radium-226		0.602	+/-0.361	0.463	1.00	pCi/L		LXP1	08/22/21	0714 2157760	3
The following Analytical Methods were performed:											

Method	Description	
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	

3 EPA 903.1 Modified

Collector:

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

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

**QC Summary** 

Report Date: August 26, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 551182

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 2157720 ——									
QC1204877893 551609004 DUP									
Radium-228	U	1.13	U	0.433	pCi/L	N/A		N/A JXC9	08/17/21 09:29
	Uncertainty	+/-1.19		+/-0.901					
QC1204877894 LCS									
Radium-228	51.5			45.9	pCi/L		89.2	(75%-125%)	08/17/21 11:13
	Uncertainty			+/-3.67					
QC1204877892 MB									
Radium-228			U	-0.0456	pCi/L				08/17/21 09:28
	Uncertainty			+/-0.829					
<b>Rad Ra-226</b> 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

BDResults are either below the MDC or tracer recovery is low

Failed analysis. FA

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Page 1 of 2

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

# **QC Summary**

Page 2 of 2 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н Analytical holding time was exceeded J See case narrative for an explanation J Value is estimated

J value is estimated

Workorder:

- 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

551182

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

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

- ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
- * Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

Page 11 of 16 SDG: 551182

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 551182

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2157720

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

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

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

Analytical Procedure: GL-RAD-A-008 REV# 15

**Analytical Batch:** 2157760

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

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

Page 12 of 16 SDG: 551182

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.

Page 13 of 16 SDG: 551182

# Chain of Custody

551182



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

Customer Email/Report Recipient: Date Results Needed by: Project/Task/Unit #: Rerun request for any flagged QC LCWILLIA @santeecooper.com 121567/JM02.09.601 Yes No **Analysis Group** Labworks ID# Sample Location/ (Internal use Comments Description Collection Date Collection Time Matrix(see below 43 Sample Collector Total # of container Preservative (see only) Method # Grab (G) or Composite (C) Reporting limit Bottle type: ( G/Plastic-P) 226 228 RAD Misc. sample info Any other notes SAD A ZZA TOTAL BRT 4F09053 WAP-4 7/19/21 P 6 1124 2 cws AF09070 7/19/21 WAP-15 1030 AF09065 W4P-14 1422 AF09066 WAP-14 DUP 1427 AF 09050 MOS WAP-1 7/20/21 1228 AF 09051 WAP-2 1328 AF09083 MBM-1 1107 Relinquished by: Employee# Date Time Sample Receiving (Internal Use Only) Received by: Employee# Date Time TEMP (°C):_____ Initial:_ Amoun 35574 7/30/21 1230 GEL 7/30/21 1230 Relinquished by: Employee# Date Time Employee # Correct pH: Yes Date Time 4/30/21 132 Preservative Lot#: Relinquished by: Employee# Received by: Employee # Date Time Date/Time/Init for preservative: O METALS (all Nutrients MISC. Gypsum □ Cu □ Sb Coal Flyash 0.0 TOC  $\Box$  A1 □Fe O BTEX Wallboard □ Se □ Ultimate Ammonia Francial Children DOC ☐ Napthalene Gypsum(all □ As □ % Moisture  $\Box \mathbf{K}$ □ Sn Tildescore Color □ THM/HAA LOI TP/TPO4 below) □ Ash DVOC % Carbon  $\Box B$ □ NH3-N ΩLi □ Sr i) AM ☐ Sulfur ☐ Oil & Grease Mineral F ODC Deserve Seeses 173 □ Ba □ Ti 🗆 E. Coli D BTUs Analysis CII out metals ☐ Total Coliform ☐ Volatile Matter □ Be □ Mn Solidite Metals (4 Sieve 🛛 TI the contract 3 NO2 □pH □ CHN Clearity (CaSt04) 4 Moisture Died Oil l Br □ Ca □Мо  $\Box V$ ☐ Dissolved As 0% Moistale Other Tests: The resident NO3 ☐ Dissolved Fe O Sollines □ Cd U XRF Scan □ Na □ Zn ☐ Rad 226 NPDES ○ SO4 2pH CHGI EARCH CONCRE ☐ Rad 228 □ Co □Ni Oil & Grease □ Hg 2 Chlorides ☐ Fineness FIPCR J Particle Size D Particulate Matter □ Cr □ CrVI OTSS

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)

,		Laboratories LLC				SAMPLE RECEIPT & F	DEVIEW FORM
Cı	ier	in the same of the	D		Sr	G/AR/COC/Work Order:	SILE O
Re	cei	ved By:	21			te Received:	70 7071
		Carrier and Tracking Number					Circle Applicable: FedEx Ground UPS Field Services Courier Other
Su	spe	cted Hazard Information	Yes	ž	*11	Net Counts > 100cpm on samples not ma	arked "radioactive", contact the Radiation Safety Group for further investigation.
A):	Shij	ped as a DOT Hazardous?		/	Ha	ard Class Shipped: If UN2910, Is the Radioactive	UN#: e Shipment Survey Compliant? YesNo
B) rec	Dic	the client designate the samples are to be d as radioactive?		/	cc	C notation or radioactive stickers on cont	tainers equal client designation.
		the RSO classify the samples as tive?		/	Ma	ximum Net Counts Observed* (Observed Classified as: Rad 1 Rad 2	d Counts - Area Background Counts): PM/mR/Hr Rad 3
D)	Dic	the client designate samples are hazardous?		_	L	C notation or hazard labels on containers	equal client designation.
E) !	Did	the RSO identify possible hazards?		/		or E is yes, select Hazards below. PCB's Flammable Foreign Sc	oil RCRA Asbestos Beryllium Other:
-	7_	Sample Receipt Criteria	Yes	Z	ટ	Commen	nts/Qualifiers (Required for Non-Conforming Items)
1	se	hipping containers received intact and aled?					ged container Leaking container Other (describe)
2		hain of custody documents included ith shipment?				Circle Applicable: Client contacted and p	• •
3	w	imples requiring cold preservation thin $(0 \le 6 \text{ deg. C})$ ?*				Preservation Method: Wet Ice Ice Par *all temperatures are recorded in Ce	elsius TEMP: 126
4		aily check performed and passed on IR mperature gun?				Temperature Device Serial #: 10-5 Secondary Temperature Device Serial #	(If Applicable):
5	_	mple containers intact and sealed?	Ż			Circle Applicable: Seals broken Damag	ged container Leaking container Other (describe)
6	Sa	mples requiring chemical preservation proper pH?				Sample ID's and Containers Affected:  If Preservation added, Lot#:	
7		Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present if Do liquid VOA vials contain acid present Are liquid VOA vials free of headspace? Sample ID's and containers affected:	rvation? YesNoNA(If unknown, select No)
8	Sa	mples received within holding time?	7			ID's and tests affected:	
		mple ID's on COC match ID's on ttles?			re-	ID's and containers affected:	
10		te & time on COC match date & time bottles?	<i>)</i>			Circle Applicable: No dates on containe	ers No times on containers COC missing info Other (describe)
	nu	mber of containers received match mber indicated on COC?				Circle Applicable: No container count of	on COC Other (describe)
12	Ar GI	e sample containers identifiable as L provided by use of GEL labels?	/				
13	rel	C form is properly signed in inquished/received sections?				Circle Applicable: Not relinquished	Other (describe)
		nts (Use Continuation Form if needed):					

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
,, admington	2700











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

gel.com

September 07, 2021

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

Re: ABS Lab Analytical Work Order: 552374

Dear Ms. Gilmetti:

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

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

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

Sincerely,

Nina Gampe for Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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# 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.

	Mim Ange	
Reviewed by	V	
ice viewed by		

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**Certificate of Analysis** 

Report Date: September 7, 2021

SOOP00119

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 Sample ID: 552374001 Matrix: Ground Water Collect Date: 04-AUG-21 12:16 10-AUG-21 Receive Date:

Client

Client ID: SOOP001

Project:

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal 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-2	28 Calculatio	n "See Pa	rent 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, Liqu	uid "As Recei	ved"									
Radium-226		0.578	+/-0.282	0.323	1.00	pCi/L		LXP1	08/31/21	0839 2161142	3

The following Analytical Methods were performed:

Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 88.1 (15%-125%)

#### **Notes:**

Method

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 3 of 13 SDG: 552374

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 7, 2021

LXP1 08/31/21 0839 2161142

SOOP00119

SOOP001

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

+/-0.432

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

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

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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-22	28 Calculatio	n "See Pa	arent 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, Liqu	id "As Recei	ved"									

1.00

pCi/L

**Analyst Comments** 

The following Analytical Methods were performed:

Description

1	EPA 904.0/SW846 9320 Modified		7		
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits

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

0.305

#### Notes

Radium-226

Method

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

Column headers are defined as follows:

Collector:

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

Page 4 of 13 SDG: 552374

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 7, 2021

LXP1 08/31/21 0943 2161142

3

SOOP00119

SOOP001

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
Sample ID: 552374003
Matrix: Ground Water
Collect Date: 05-AUG-21 11:38
Receive Date: 10-AUG-21

Client

**Oualifier MDC** RL Parameter Result Uncertainty Units PF DF Analyst Date Time Batch Method Rad Gas Flow Proportional Counting GFPC, Ra228, Liquid "As Received" Radium-228 0.981 +/-0.872 1.40 3.00 pCi/L 09/02/21 1050 2164572 Radium-226+Radium-228 Calculation "See Parent Products" Radium-226+228 Sum +/-0.932 pCi/L 09/07/21 1410 2166495 2 AEA

Rad Radium-226 Lucas Cell, Ra226, Liquid "As Received"

1.00

pCi/L

Analyst Comments

0.215

The following Analytical Methods were performed:

Description

2 Calculation
3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

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

#### **Notes:**

Radium-226

Method

1

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

EPA 904.0/SW846 9320 Modified

0.929

+/-0.326

Column headers are defined as follows:

Collector:

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

Page 5 of 13 SDG: 552374

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**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

Report Date: September 7, 2021

SOOP00119

SOOP001

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 Sample ID: 552374004 Matrix: Ground Water Collect Date: 05-AUG-21 12:46 Receive Date: 10-AUG-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting	5									
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-2	28 Calculatio	n "See Pa	arent 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, Liqu	uid "As Recei	ved"									
Radium-226		0.479	+/-0.237	0.241	1.00	pCi/L		LXP1	08/31/21	0943 2161142	3
FF1 6 11 1 1 1 1 1	13611										

The following Analytical Methods were performed:

Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 80.7 (15%-125%)

# **Notes:**

Method

1

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 6 of 13 SDG: 552374

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**QC Summary** 

Report Date: September 7, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 552374

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 2164572									
QC1204892026 552374004 DUP									
Radium-228	U	1.13	U	1.03	pCi/L	N/A		N/A JXC9	09/02/21 10:49
	Uncertainty	+/-1.34		+/-0.908					
QC1204892027 LCS									
Radium-228	50.7			61.9	pCi/L		122	(75%-125%)	09/02/21 10:49
	Uncertainty			+/-3.51					
QC1204892025 MB									
Radium-228			U	1.44	pCi/L				09/02/21 10:49
	Uncertainty			+/-1.13					
<b>Rad Ra-226</b> 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.

Page 7 of 13 SDG: 552374

Page 1 of 2

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# **QC Summary**

Page 2 of 2 Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time Н Analytical holding time was exceeded J See case narrative for an explanation J Value is estimated

M M if above MDC and less than LLD

552374

- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative

Workorder:

K

L

- 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.

Analyte present. Reported value may be biased high. Actual value is expected to be lower.

Analyte present. Reported value may be biased low. Actual value is expected to be higher.

- 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.

Page 8 of 13 SDG: 552374

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 552374

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2164572

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

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

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

#### **Data Summary:**

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

# **Technical Information**

#### Recounts

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

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

Analytical Procedure: GL-RAD-A-008 REV# 15

**Analytical Batch:** 2161142

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

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

Page 9 of 13 SDG: 552374

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.

Page 10 of 13 SDG: 552374

# **Chain of Custody**

552374



Santee Coope One Riverwood Driv Moneks Comer, SC 2946 e: (843)761-8000 Ext. 514; (843)761-417;

Custome	r Em	ail/	Report Reci	pient:	Date	e Results N	eeded l	by:		P	roject	/Task/	'Unit #:		Rerun	request	F	ox: (84	3)76	1-417
LCWIL	ЦĄ		@sante	ecooper.co	m	_/	ſ <u></u>		1215	567			07. GØ	1 / 365		Yes	No	19 110	gger	ı Qı
																		nalysi	s Grou	ıp
Labworks (Internal u only)	000		Sample Locat Description	tion/	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	• 1	Comm Method # Reporting limit Misc. sample in Any other note:	ıfo		KAD 226	87Z 942	TOTAL EAD CALL	
AF090	74		WAP -18		8/4/2	1 1216	MDG	2	P	G	GW	2					X	X	X X	*********
AF0908	, ц.		WBW-AI	- 1	8/5/2	4 1030	BRT	Ι,									/		$\widehat{\Box}$	
AF090	90		WLF-AI-	5		1138	1			100								+	+	
A+0908	35	1	WLF- AI-	1		1246			1		1				***************************************		1	$\frac{1}{1}$	$\frac{1}{1}$	
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Relinquish	****		Employee#	Date	Time	Receive	d by:	Em	ployee #		Date		Time	Sample Re	eceiving (In	iternal Us	e Only	)		$\neg$
8913roun Relinquishe	ed by		35594 Employee#	8/10/21 Date	1055	All	2		SEL	8	/10/2	1	loss	TEMP (°	on tenga bilangan dag Historian		utiai:_		-	
1111	/		P.	010 =1	Time	Meletive	d by:	+	ployee#	10	Date	7	Time	Correct p		No		1. 1	ha .	
Minquishe	d by:		Employee#	Date	Time	Receive	d by:	10	ployee#	0	//0/ ₀ (		633 Time	The second secon						
														Date/Time	/Init for p		-	aminar ; ;	i e e e e e Sale é to	
☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd	Mi	g n	St	DC TP	C TPO4 3-N 2	MISC  □ BTEX □ Napthalenc □ THM/HAA □ VOC □ Oil & Grea □ E. Coli □ Total Colif □ pH □ Dissolved I □ Dissolved I □ Rad 226 □ Rad 228	se orm	TIN	Gypsu Militoar Gypsu below AIM I FOC I Total I Solubl Purity I % Mo Sulfre I pH Chlori	rd metals e Metal (Casic) istare		U U U U Othe		ture [1]	Flyash Ammonia LOI % Carbon Mineral Analys Sievo % Moistur  MPDES Dil & Grense	is.	Teans  Constitution  Constitut		Tiple Lieles	
condensed (Challer of the Audition Cont.)	⊒ Pb		☐ Hg ☐ CrVI			□РСВ			Particl utfur				ticulate M	ntter 1992						

EEE Laboratories LLC

Client:	2000			SAMPLE RECEI	PT & REVIEW FORM	50
Received By				SDG/AR/COC/Work Order:	552374	
				Date Received:	8/10/21	
Carrier :	and Tracking Number			FedEx E	xpress FedEx Ground UPS Field Services Courier	Gther
Suspected Haza	rd Information	Yes	To			
		13	ž	*If Net Counts > 100cpm on sample	es not marked "radioactive", contact the Radiation Safety Group for	
A)Shipped as a D			1	Hazard Class Shipped: If UN2910, Is the Rad	UN#: lioactive Shipment Survey Compliant? Yes No	further investigation.
			V	COC notation or radioactive stickers	on containers equal client designation.	
C) Did the RSO el	assify the samples as		V	Maximum Net Counts Observation		
D) Did the client do	signate samples are hazardous?	1				УHr
7.1	ntify possible hazards?	,	111	OC notation or hazard labels on cont D or E is yes, select Hazards below.	ainers equal client designation.	
Sample	Receipt Criteria	X 38	7	. Cos Flammable Fore	ign Soil RCRA Asbestos Beryllium Other:	
E	uners received intact and	~   2 	12	Circle Applicable: Seals broken a		
2 Chain of custor with shipment?	dy documents included	1	-	Circle Applicable: Client contacted a	Other (describe)	
3 Samples requiri	ng cold preservation			Preservation Method Wast	apon receipt	
4 Daily check per temperature gun	formal . I			Temperature Design	Celsius	: 5
5 Sample containe	rs intact and sealed?		- 1	remperature Device Social	AL H. C.C.	
6 Samples requiring at proper pH?	g chemical preservation		- Is	Sample ID's and Containers Affected:	maged container Leaking container Other (describe)	
			111	One of the second secon		
7 Do any sampl	es require Volatile nalysis?		E	res, are Encores or Soil Kits presen Do liquid VOA vials contain acid pres re liquid VOA vials free of headspace mple ID's and containers affected.	nt for solids? Yes No NA (If yes, take to VOA Freezer)	
8 Samples received v	vithin holding time?	_	130	mple ID's and containers affected: 's and tests affected:	e? Yes No NA (If unknown, select No)	
g Sample ID's on CO bottles?	C match ID's on		-			
Date & time on CO	C match date & time		i	s and containers affected:		
Number of contains			Circ	le Applicable: No dates on containe	rs No times on containers COC missing info Other (describe)	
Are sample contain	COC?		Circ	le Applicable: No container count of	n COC Other (describe)	
GEL provided by use COC form is properly					(describe)	
relinquished/received comments (Use Continuation	signed in	t	Circle	Applicable: Not refinquished O	Other (describe)	
	Form if needed):				(Gescribe)	
	`					
***************************************	PM (or PMA) review: Ini	tiale		नाउ		
	4111	······································		Date 8/1	2/2  Page of	

List of current GEL Certifications as of 07 September 2021

Certification
42200
17-018
SC00012
88-0651
42D0904046
2940
SC00012
PH-0169
2567.01
E87156
P330-15-00283, P330-15-00253
SC00012
967
SC00012
SC00012
200029
C-SC-01
E-10332
90129
90129
LA024
03046 (AI33904)
2019020
270
M-SC012
Letter
9976
SC00012
NE-OS-26-13
SC000122021-1
2054
SC002
SC00012
11501
233
45709
R-158
2019–165
68-00485
SC00012
10120002
9255651
10120001
TN 02934
TN 02934 T104704235-21-19
T104704235-21-19
T104704235–21–19 SC000122021–35











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

gel.com

September 08, 2021

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

Re: ABS Lab Analytical Work Order: 552377

Dear Ms. Gilmetti:

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

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

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

Sincerely,

Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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.

	Irlie	Robinson	
Reviewed by			

Page 2 of 18 SDG: 552377

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 8, 2021

SOOP00119

SOOP001

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
Sample ID: 552377001
Matrix: Ground Water
Collect Date: 02-AUG-21 11:34
Receive Date: 10-AUG-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	yst Date	Time Batch	Method
Rad Gas Flow Proportio	onal Counting										
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	arent 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, Liqu	uid "As Recei	ved"									
Radium-226		3.81	+/-0.640	0.211	1.00	pCi/L		LXP1	08/31/21	0943 2161142	3
The following Analytic	al Methods w	ere perfo	ormed:								

Method	Description	Analy	st Comments
1	EPA 904.0/SW846 9320 Modified		

2 Calculation 3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 18 SDG: 552377

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

**Certificate of Analysis** 

Report Date: September 8, 2021

SOOP00119

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 Sample ID: 552377002 Matrix: Ground Water Collect Date: 02-AUG-21 11:39 10-AUG-21 Receive Date:

Client

Client ID: SOOP001

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst	Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228		3.33	+/-1.32	1.80	3.00	pCi/L		JXC9 0	9/02/21	1050 2164572	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		5.88	+/-1.42			pCi/L		1 AEA 09	9/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		2.55	+/-0.515	0.203	1.00	pCi/L		LXP1 0	8/31/21	0943 2161142	3
The following Analytic	al Methods w	ere perfo	ormed:								
Method	Description					A	Analys	st Comments			

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery 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).

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 4 of 18 SDG: 552377

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 8, 2021

SOOP00119

SOOP001

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
Sample ID: 552377003
Matrix: Ground Water
Collect Date: 02-AUG-21 13:39
Receive Date: 10-AUG-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analys	st Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		2.19	+/-1.03	1.46	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-22	28 Calculatio	n "See Pa	arent 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, Liqu	id "As Recei	ved"									
Radium-226		1.27	+/-0.407	0.404	1.00	pCi/L		LXP1	08/31/21	0943 2161142	3
The following Analytica	al Methods w	ere perfo	ormed:								

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	-

2 Calculation 3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 5 of 18 SDG: 552377

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 8, 2021

SOOP00119

SOOP001

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
Sample ID: 552377004
Matrix: Ground Water
Collect Date: 02-AUG-21 15:12
Receive Date: 10-AUG-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst	Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		2.23	+/-1.09	1.56	3.00	pCi/L		JXC9 0	9/02/21	1050 2164572	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		3.04	+/-1.13			pCi/L		1 AEA 0	9/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	id "As Recei	ved"									
Radium-226		0.811	+/-0.311	0.222	1.00	pCi/L		LXP1 0	8/31/21	1050 2161142	3
The following Analytica	al Methods w	ere perfo	ormed:								

Method	Description	Anal	yst Comments
1	EPA 904.0/SW846 9320 Modified		

2 Calculation 3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 8, 2021

SOOP00119

SOOP001

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
Sample ID: 552377005
Matrix: Ground Water
Collect Date: 02-AUG-21 15:17
Receive Date: 10-AUG-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal 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-2	28 Calculatio	n "See Pa	arent 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, Liqu	uid "As Recei	ved"									
Radium-226		0.854	+/-0.314	0.300	1.00	pCi/L		LXP1	08/31/21	1050 2161142	3
The following Analytic	cal Methods w	ere perfo	ormed:								

Method Description Analyst Comm
---------------------------------

EPA 904.0/SW846 9320 Modified
Calculation

2 Calculation
3 EPA 903.1 Modified

Collector:

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

Page 7 of 18 SDG: 552377

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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
Sample ID: 552377006
Matrix: Ground Water
Collect Date: 03-AUG-21 11:30
Receive Date: 10-AUG-21

Client

Project: SOOP00119 Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date Time Batch M	<b>I</b> ethod
Rad Gas Flow Proportion	onal 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-2	28 Calculatio	n "See Pa	arent 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, Liqu	uid "As Recei	ved"							
Radium-226		0.436	+/-0.230	0.246	1.00	pCi/L		LXP1 08/31/21 1050 2161142	3
The following Analytic	al Methods w	ere perfo	ormed:						
Method	Description					F	Analys	t Comments	

Method	Description	Analyst
1	EPA 904.0/SW846 9320 Modified	•
2	Calculation	

3 EPA 903.1 Modified

Collector:

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

Page 8 of 18 SDG: 552377

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: September 8, 2021

SOOP00119

SOOP001

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
Sample ID: 552377007
Matrix: Ground Water
Collect Date: 03-AUG-21 16:27
Receive Date: 10-AUG-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	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-22	28 Calculatio	n "See Pa	arent 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, Liqu	id "As Recei	ved"									
Radium-226		0.726	+/-0.279	0.199	1.00	pCi/L		LXP1	08/31/21	1050 2161142	3
The following Analytica	al Methods w	ere perfo	ormed:								

Method	Description	Analyst Comments
1.1001100	2 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Tillary of Committee

EPA 904.0/SW846 9320 Modified
Calculation

2 Calculation 3 EPA 903.1 Modified

Collector:

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

Page 9 of 18 SDG: 552377

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: AF09091 Sample ID: 552377008 Matrix: Ground Water Collect Date: 04-AUG-21 15:02 Receive Date: 10-AUG-21

Client

Project: SOOP00119 Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analys	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		1.70	+/-0.884	1.22	3.00	pCi/L		JXC9	09/02/21	1051 2164572	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent 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, Liqu	id "As Recei	ved"									
Radium-226		0.379	+/-0.248	0.339	1.00	pCi/L		LXP1	08/31/21	1050 2161142	3
The following Analytica	al Methods w	ere perfo	rmed:								
Method	Description					F	Analys	st Comments	·		

<u>~</u>	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery 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).

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 10 of 18 SDG: 552377

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

**Certificate of Analysis** 

Report Date: September 8, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09092
Sample ID: 552377009
Matrix: Ground Water
Collect Date: 04-AUG-21 15:07
Receive Date: 10-AUG-21

Client

Client ID: SOOP001

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Da	te Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid "A	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-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		0.899	+/-1.35			pCi/L		1 AEA 09/07	/21 1410 2166495	5 2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226	U	0.144	+/-0.218	0.386	1.00	pCi/L		LXP1 08/31	/21 1050 2161142	2 3
The following Analytic	al Methods w	ere perfo	ormed:							

Method Description Analyst Comments

EPA 904.0/SW846 9320 Modified
Calculation

2 Calculation 3 EPA 903.1 Modified

Collector:

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

**QC Summary** 

Report Date: September 8, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 552377

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

## **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**

Page 2 of 2

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

M M if above MDC and less than LLD

552377

- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative

Workorder:

L

- 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.

Analyte present. Reported value may be biased low. Actual value is expected to be higher.

- 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.

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# 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).

<b>GEL Sample ID#</b>	Client Sample Identification
552377001	AF09059
552377002	AF09060
552377003	AF09058
552377004	AF09072
552377005	AF09073
552377006	AF09077
552377007	AF09075
552377008	AF09091
552377009	AF09092
1204892025	Method Blank (MB)
1204892026	552374004(AF09085) Sample Duplicate (DUP)
1204892027	Laboratory Control Sample (LCS)

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

## **Data Summary:**

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

## **Technical Information**

## Recounts

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

Product: Lucas Cell, Ra226, Liquid Analytical Method: EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2161142

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

GEL Sample ID#	Client Sample Identification
552377001	AF09059
552377002	AF09060

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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.

Page 15 of 18 SDG: 552377

**Customer Email/Report Recipient:** 

## **Chain of Custody**



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

Customer Em	ail/Report Recip	ient:	Date	Results N	eeded b	by: Project/Task/Unit #: Rer			Rerun re	Rerun request for any flagged QC								
LCWILLIA	@santee	cooper.com	***************************************	<i></i>	<b>,</b>		121	567	J.Ja	102.0	09. G¢1	<u> ] 365</u>	50	Yes	No			
															£	ınalysi	s Grou	10
Labworks ID # (Internal use only)	Sample Locati Description	on/	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	Mo     Re     Mi     An	Comm ethod # porting limit sc. sample in y other notes	fo		RAD 226	RAD 228	TOTAL RAD CALC	
AF09059	WAP-10		8/2/21	1134-	MDE	2	P	G	GW	2					X	×	_ <del>-</del> _	
AF09060	WAP-10 D	NP 91X	1	1139		1	1		1	1			***************************************	***************************************	1	7	1	
AF09058	WAP-9			1339				1									$\parallel$	
AF09072	WAP -17-			1512		1		1								11	$\forall$	$\neg$
AF09073	WAP-17	DUP		1517	Ţ											$\top$	$\parallel$	
AF09077	WAP-21		8/3/21	1130	BRT			1			***************************************					$\dagger \dagger$	$\dagger \dagger$	
AF09075	WAP-19		L	1627	1											$\dagger \dagger$	$\dagger \dagger$	$\neg$
AF09091	WLF - A2 -	6	8/4/21	1502	MDG			1	1	1	***************************************				$\dagger \dagger$	$\dagger \dagger$	$\dagger \dagger$	$\dashv$
AF09092	WLF - A2 -	6 DUP	上上	1507	<u>l</u> .						***************************************				$\frac{1}{1}$		$\pm \dagger$	$\dashv$
											***************************************		***************************************			$\top$	$\top$	
Relinquished by	: Employee#	Date	Time	Receive	ed by:	En	iployee i	#	Date		Time	Sample Re	ceiving (Int	ernal Us	e Onl	<u>'</u> )		
Sproun	35594	8/10/21	1055	SIL	0		GEL		3/10/2		1055	TEMP (°	C):	<u> </u>	iitial:	***************************************	**********	. ]
Relinquished by	: Employee#	Date	Time	Receive	d by:	En	ployee !		Date		Time	Correct p	H: Yes	No				
Selinquished by	Employee#	8-10-71 Date	1633	252 Préceive		dell'experience	381			21	1653	Preservat	ive Lot#:					
- ,			· ine	- Necelve	u uy.	-	iployee f		Date		Time	Date/Time	e/Init-for pr	Iller of the Control of the				
□ Ag □ C □ Al □ F □ As □ K □ Ba □ M □ Ca □ M □ Cd □ N □ Cc □ Pt	e ☐ Se ☐ Sn i ☐ Sr ig ☐ Ti n ☐ T] o ☐ V a ☐ Zn i ☐ Hg	Nutr   Too   Doo   TP/T   NH3   LF   C1   NO2   Bi   NO3   SO4	PO4 -N	MIS  □ BTEX □ Napthaler □ THM/HA □ VOC □ Oil & Gre □ E. Coli □ Total Coli □ pH □ Dissolved □ Dissolved □ Rad 226 □ Rad 228 □ PCB	e A ase form As		Wallboo Gyps below AIN LOC Lota Solu	umi(all)  Linetals hie Mer settass obstare des	i Als D4)	Oth Oth D W D FE	Coal Utimate 1 % Moist Ash Sulfur BTUs Volatile CHN cer Tests: RF Scan Gl neriess rticulate Ma	ure di se	Flyash Ammonia LOI % Carbon Mineral Analysi Sieve % Moisture  NPDES Oil & Grease As TSS		Trans (c) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	Oil Oil of the state of the sta	Junt.	

GE Laboratories LLC

Client:	SAMPE TO DO
Property IS	SAMPLE RECEIPT & REVIEW FORM
Received By: BE	S. Hath Order:
	Date Received: 8/10/21
Carrier and Track	FedEx Express FedEx Ground UPS Field Services Communication
Carrier and Tracking Number	redex Ground UPS Field Services Courier Other
	. Juner
Suspectality	
Suspected Hazard Information	S all Not Counts > 100
	#If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation  Hazard Class Shipped:  If UN7010 Lett. D. W. UN#:
A)Shipped as a DOT Hazardous?	Flazard Class Shipped:
B) Did the elieur to	If UN2910. Is the Radioactive Shipment Survey Compliant? YesNo
received as radioactive?	COC notation or rediscost
C) Did the RSO classify the samples as	COC notation or radioactive stickers on containers equal client designation.
radioactive?	Maximum Net Counts Observed
DVD:	Classified as: Rad 1 Rad 2 Rad 3 CPM mR/Hr
D) Did the elient designate samples are hazardous?	COC notation or hazard labels
	COC notation or hazard labels on containers equal client designation.
Joseph Possible hazards?	PCR's later Hazards below.
Sample Receipt Criteria	Planmable Foreign Soil RCRA Asbestos Beryllium Other:
Shipping containers received intact and sealed?	F
	Circle Applicable: Scals broken Damaged container Leaking container Other (describe)
with shipment?	There is a second to the secon
3 Samples require	Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	reservation Method vy
Daily check perform	Technica in Celsine
temperature gun?	Temperature
5 Sample containers intact and sealed?	The familie Device Country to the same
	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
	Sample ID: and G
	Sample ID's and Containers Affected:
	If Preservation added, Lott:  If Yes, are Encores or Soil Kits present for solids? YesNoNA (If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? YesNoNA (If unknown selection)  Are liquid VOA vials free of headspace? YesNoNA (If unknown selection)
Analysis?	Do liquid VOA vials contain acid preservation? Yes No NA (If yes, take to VOA Freezer)  Are liquid VOA vials free of headspace? Yes No NA (If unknown, solven NA)
	Are liquid VOA vials free of headspace? YesNoNA(If unknown, select No)  ample ID's and containers affected:
Samples received	NA N
in-pres received within holding time?	Os and tests affected:
Sample ID's on COC match ID's on	Y.
I BENEFIT	's and containers affected:
ate & time on COC match date & time Cir	Vic Application
umber of one	Approxime: No dates on containers No times on containers Containers
imber indicated on COC?	cle Applicable: No dates on containers No times on containers COC missing info Other (describe)
C Sample	cle Applicable: No container count on COC Other (describe)
DC form is pro-	
inquichast signed in	C Applicati
ats (Use Continuation Form if needed):	e Applicable: Not relinquished Other (describe)
PM (or PMA) review: Initials	Coll
their milits	(5113 Date 8/12/2)
	Page of

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					
U	T .					











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

gel.com

October 01, 2021

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

Re: ABS Lab Analytical Work Order: 554912

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 03, 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



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## Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 554912 GEL Work Order: 554912

## 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.

	Irlie	Robinson	
Reviewed by			

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: October 1, 2021

SOOP00119

SOOP001

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: AF13775
Sample ID: 554912001
Matrix: Ground Water
Collect Date: 31-AUG-21 10:01
Receive Date: 03-SEP-21

Receive Date: 03-SEF Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proport	tional Counting	<u> </u>								
GFPC, Ra228, Liquid	"As Received'	•								
Radium-228	U	1.29	+/-0.875	1.32	3.00	pCi/L		JXC9 09/29/2	1 1316 2172977	1
Radium-226+Radium	-228 Calculation	on "See Pa	arent Products"							
Radium-226+228 Sum		1.85	+/-0.912			pCi/L		NXL1 10/01/2	1 0524 2176408	2
Rad Radium-226										
Lucas Cell, Ra226, Li	quid "As Recei	ived"								
Radium-226	•	0.559	+/-0.257	0.214	1.00	pCi/L		LXP1 09/29/2	1 1005 2172980	3
The following Analyt	ical Methods v	vere perfo	ormed:							
Madaad	Danamination						A 1			

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 15 SDG: 554912

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

**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

82.4

(15%-125%)

Report Date: October 1, 2021

SOOP00119

SOOP001

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: AF13776 Sample ID: 554912002 Matrix: Ground Water Collect Date: 31-AUG-21 11:02

Receive Date: 03-SEP-21 Client Collector:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proporti	onal Counting	5								
GFPC, Ra228, Liquid '	'As Received'	1								
Radium-228		4.04	+/-1.52	2.07	3.00	pCi/L		JXC9 09/29/2	1 1316 2172977	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		5.53	+/-1.58			pCi/L		NXL1 10/01/2	1 0524 2176408	2
Rad Radium-226										
Lucas Cell, Ra226, Liq	uid "As Recei	ved"								
Radium-226		1.49	+/-0.418	0.364	1.00	pCi/L		LXP1 09/29/2	1 1005 2172980	3
The following Analytic	cal Methods v	vere perfo	rmed:							

Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

## **Notes:**

Barium-133 Tracer

Method

1

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

GFPC, Ra228, Liquid "As Received"

EPA 904.0/SW846 9320 Modified

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

Page 4 of 15 SDG: 554912

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

**Certificate of Analysis** 

Report Date: October 1, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF13777
Sample ID: 554912003
Matrix: Ground Water
Collect Date: 01-SEP-21 12:40
Receive Date: 03-SEP-21

Client ID: SOOP001

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportional Counting										
GFPC, Ra228, Liquid "A	As Received"									
Radium-228	U	-0.925	+/-0.794	1.76	3.00	pCi/L		JXC9 09/29/21	1316 2172977	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		0.295	+/-0.814			pCi/L		NXL1 10/01/21	0524 2176408	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"								
Radium-226		0.295	+/-0.180	0.188	1.00	pCi/L		LXP1 09/29/21	1005 2172980	3
The following Analytic	al Methods w	ere perfo	ormed:							

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	•

2 Calculation 3 EPA 903.1 Modified

Collector:

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

Page 5 of 15 SDG: 554912

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

**Certificate of Analysis** 

Report Date: October 1, 2021

SOOP00119

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: AF13778
Sample ID: 554912004
Matrix: Ground Water
Collect Date: 01-SEP-21 12:45
Receive Date: 03-SEP-21

Client

Client ID: SOOP001

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting									
GFPC, Ra228, Liquid "A	As Received"									
Radium-228	U	0.100	+/-0.903	1.68	3.00	pCi/L		JXC9 09/29/2	1 1316 2172977	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		0.632	+/-0.934			pCi/L		NXL1 10/01/2	1 0524 2176408	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	id "As Recei	ved"								
Radium-226		0.532	+/-0.238	0.194	1.00	pCi/L		LXP1 09/29/2	1 1005 2172980	3
The following Analytics	al Methods w	ere perfo	ormed:							

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	

EPA 904.0/SW846 9320 Modified Calculation

3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**Certificate of Analysis** 

Project:

Client ID:

Analyst Comments

Report Date: October 1, 2021

SOOP00119

SOOP001

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: AF13773
Sample ID: 554912005
Matrix: Ground Water
Collect Date: 01-SEP-21 09:04
Receive Date: 03-SEP-21

Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid "A	As Received"									
Radium-228		3.97	+/-1.63	2.33	3.00	pCi/L		JXC9 09/29/21	1316 2172977	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		4.64	+/-1.65			pCi/L		NXL1 10/01/21	0524 2176408	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		0.669	+/-0.278	0.213	1.00	pCi/L		LXP1 09/29/21	1005 2172980	3
The following Analytic	al Methods w	ere perfo	ormed:							

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ry Test	Result	Nominal	Recovery%	Acceptable Limits

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limit Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 81.1 (15%-125%)

## **Notes:**

Method

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

EPA 904.0/SW846 9320 Modified

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

Description

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 7 of 15 SDG: 554912

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: October 1, 2021

SOOP00119

SOOP001

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: AF13774
Sample ID: 554912006
Matrix: Ground Water
Collect Date: 01-SEP-21 09:09

Receive Date: 03-SEP-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proporti	onal Counting	Ţ								
GFPC, Ra228, Liquid	'As Received'	'								
Radium-228		2.79	+/-1.48	2.23	3.00	pCi/L		JXC9 09/29/21	1317 2172977	1
Radium-226+Radium-2	228 Calculation	n "See Pa	arent Products"							
Radium-226+228 Sum		3.57	+/-1.52			pCi/L		NXL1 10/01/21	0524 2176408	2
Rad Radium-226										
Lucas Cell, Ra226, Liq	uid "As Recei	ived"								
Radium-226	•	0.773	+/-0.343	0.408	1.00	pCi/L		LXP1 09/29/21	1005 2172980	3
The following Analyti	cal Methods v	vere perfo	ormed:							
Method	Description					I	Analys	st Comments		

1	EPA 904.0/SW846 9320 Modified				
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	erv Test	Result	Nominal	Recoverv%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 82 (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: October 1, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

Contact: Ms. Jeanette Gilmetti

Workorder: 554912

Parmname	NOM	Sample (	Qual QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow Batch 2172977 ——									
QC1204907460 554912001 DUP Radium-228	U	1.29	2.7	1 pCi/L	70.8		(0% - 100%)	IXC0	09/29/21 13:16
Radidili 220	Uncertainty	+/-0.875	+/-1.0	•	70.0		(070 10070)	3710)	07/27/21 13:10
QC1204907461 LCS									
Radium-228	49.7		54	•		110	(75%-125%)		09/29/21 13:16
	Uncertainty		+/-4.0	1					
QC1204907459 MB									
Radium-228			U -1.1	•					09/29/21 13:16
	Uncertainty		+/-1.1	9					
Rad Ra-226 Batch 2172980 ———									
QC1204907477 554912001 DUP									
Radium-226		0.559	0.31	6 pCi/L	55.4		(0% - 100%)	LXP1	09/29/21 10:37
	Uncertainty	+/-0.257	+/-0.21	9					
QC1204907475 LCS									
Radium-226	26.8		22	1 pCi/L		82.5	(75%-125%)		09/29/21 10:37
	Uncertainty		+/-1.4	8					
QC1204907472 MB									
Radium-226			U 0.38						09/29/21 10:05
	Uncertainty		+/-0.27	5					
QC1204907476 MB									
Radium-226			U 0.14						09/29/21 10:37
	Uncertainty		+/-0.24	1					
QC1204907474 554912001 MS									
Radium-226	133	0.559	10			80.9	(75%-125%)		09/29/21 10:37
	Uncertainty	+/-0.257	+/-7.7	4					

## **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

Page 9 of 15 SDG: 554912

Page 1 of 2

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## **QC Summary**

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

> Result is greater than value reported

554912

- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

Workorder:

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

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

- ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
- * Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

Page 10 of 15 SDG: 554912

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 554912

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2172977

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

GEL Sample ID#	Client Sample Identification
554912001	AF13775
554912002	AF13776
554912003	AF13777
554912004	AF13778
554912005	AF13773
554912006	AF13774
1204907459	Method Blank (MB)
1204907460	554912001(AF13775) Sample Duplicate (DUP)
1204907461	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:** 2172980

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
554912001	AF13775
554912002	AF13776
554912003	AF13777
554912004	AF13778
554912005	AF13773
554912006	AF13774
1204907472	Method Blank (MB)
1204907474	554912001(AF13775) Matrix Spike (MS)
1204907475	Laboratory Control Sample (LCS)
1204907476	Method Blank (MB)

Page 11 of 15 SDG: 554912

1204907477

554912001(AF13775) Sample Duplicate (DUP)

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, 1204907474 (AF13775MS), aliquot was reduced to conserve sample volume.

## **Certification Statement**

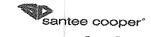
Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Page 12 of 15 SDG: 554912

**Customer Email/Report Recipient:** 

## **Chain of Custody**

554912



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

Custome	r Email	/Report Recip	oient:	Date F	Results N	eeded l	oy:	Project/Task/Unit #:		F	Rerun request for any flagged Qu							
LCW	ILLIA	@santed	ecooper.com		//	·	•	121	567	<u>/_/\</u>	102.	09. Gg	<u> </u>	_ Yes	No			
·															7	Analy:	is Group	
Labworks (Internal i only)	感性情况 机工工工 化	Sample Locat Description	ion/	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	•	Comment Method # Reporting limit Misc. sample info Any other notes	S	RAD 226			
AFI37	75	CGYP-5		8/31/21	1001	DEW	2-	P	G	GW	2		-		×.	X		
AF137	7-6	CGYP-6			1102		2								Π	$\prod$		
AF137	7-7-	WLF - 42	-6	9/1/21	1240		a								S Carrier Street Sensitive	$\prod$		
AF137	7-8	WLF A2-	6 DUP	L	1245		9											
AF137	7-3	CGYP-4			0904		2											
AF 137-	14	CGYP-4	DUP		0909	Ŀ	a	y = 44	Ţ		Ţ	Alie se	15.864.		1		廿	
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Relinquisi	ned by:	Employee#	Date	Time	Receive	ed by:	En	ployee t	<b>4</b>	Date		Time	Sample Recei	ving (Internal Us	se On	ly)		٦
Sprow	1	35594	9/3/21	0945	100			GEL		/3/2	, ,	 	<ul> <li>I was a minute of the control of the c</li></ul>	<u> </u>	nitial	<u> </u>		
Relinquist	ed by:	Employee#	Date	Time	Receive	d by:	En	ployee #		Date		Time	Correct pH:	Yes No				
MI		Call	87-21	11/16	33C		16	25	9	1512	1 1	200	Preservative	Lot#:				
Relinquish	ed by:	Employee#	" Date	Time	Receive	d by:	Em	ployee#		Date		Time						
				24.75.7				antes de					Date/Time/In	nit for preservat	ive:			
. [ □ Ag		TALS (all)	Nutr	ients	MIS	c.		Gvr	sum			Co		Cash T				
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□В	□Li	□ Sr	UNH		VOC Oil & Gre	ace		U AIN	ı		\$25,000 BX LS050	a Asu I Sulfur		Carbon neral		ide.		
∃Ba	□ Mg	□Ti	□ □ F □ □ CI	E	E. Coli				l metals			BTUs		Analysis	- 11			
∃Ве	□ Mn	□ TI	6 NO2		Total Coli  pH	iorm			ble Mei v (CaSC			∃ Volati ∃ CHN	le Matter   🗇 Sie	ve Moisture		reni. Feni	i Ouses	
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∃ Cd	□ Na	□ Zn	U SO4		Rad 226	I.C		C Suffi 5pH	tes		□ XI □ HC	RF Scan H	<u> </u>	PDES			uit PN Ph	
J <b>C</b> o	□ Ni	□Hg			Rad 228 PCB			Chlor			D Fit	icness		& Grease	Hip	9		
] Cr	□РЬ	□ CrVI			• •••		11	a Partic Sulfur	ne Sizë		LI Pa	rticulate l	Matter As CLISS		(30)			3



SK

Client: Soc			SAMPLE RECEIPT & REVIEW FORM
	<u> </u>		SDG/AR/COC/Work Order: 55 4912
Received By: BE	•		Date Received: 9/03/2(
Carrier and Tracking Number			FedEx Express FedEx Ground UPS Field Services Courier Other
Suspected Hazard Information	Yes	°Z	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
uShipped as a DOT Hazardous?		1	Hazard Class Shipped:  UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
) Did the client designate the samples are to be eccived as radioactive?	:	1	COC notation or radioactive stickers on containers equal client designation.
) Did the RSO classify the samples as dioactive?		1	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): CPM/ mR/Hr Classified as: Rad 1 Rad 2 Rad 3
) Did the client designate samples are hazardor	ıs?	\	COC notation or hazard labels on containers equal client designation.
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	olic.
Shipping containers received intact and sealed?		_	Z Comments/Qualifiers (Required for Non-Conforming Items)  Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
Chain of custody documents included with shipment?			Circle Applicable: Client contacted and provided COC COC created upon receipt
Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*			Preservation Method: Wet Ice Ice Packs Dry ice None Other:  *all temperatures are recorded in Celsius Metals Contained TEMP: 21  Temperature Device Serial #:182.21
Daily check performed and passed on IR temperature gun?	V		Temperature Device Serial #: IR2-21 Secondary Temperature Device Serial # (If Applicable):
Sample containers intact and scaled?			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
Samples requiring chemical preservation at proper pH?			Sample ID's and Containers Affected:  If Preservation added, Lot#:
Do any samples require Volatile Analysis?			If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer)  Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No)  Are liquid VOA vials free of headspace? YesNoNA Sample ID's and containers affected:
Samples received within holding time?	7		ID's and tests affected:
Sample ID's on COC match ID's on bottles?			ID's and containers affected:
Date & time on COC match date & time on bottles?			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
number indicated on COC?			Circle Applicable: No container count on COC Other (describe)
GEL provided by use of GEL labels?  COC form is properly signed in			Circle Applicable: Not relinquished Other (describe)
on bottles?  Number of containers received match number indicated on COC?  Are sample containers identifiable as GEL provided by use of GEL labels?			Circle Applicable: No container count on COC Other (describe)

List of current GEL Certifications as of 01 October 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
	1 2,00











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

gel.com

October 26, 2021

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

Re: ABS Lab Analytical Work Order: 557483

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 01, 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



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

## Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 557483 GEL Work Order: 557483

## 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.

	Mim ongre	
Reviewed by	V	

Page 2 of 15 SDG: 557483

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

**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

Report Date: October 26, 2021

SOOP00119

SOOP001

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: AF15787 Sample ID: 557483001 Ground Water Matrix: Collect Date: 27-SEP-21 09:38

Receive Date: 01-OCT-21 Client Collector:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analysi	t Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228		4.29	+/-1.18	1.30	3.00	pCi/L		JXC9	10/13/21	0851 2181317	1
Radium-226+Radium-228 Calculation "See Parent Products"											
Radium-226+228 Sum		5.29	+/-1.23			pCi/L		1 AEA	10/26/21	1418 2181322	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		1.00	+/-0.364	0.248	1.00	pCi/L		LXP1	10/26/21	1049 2181313	3
The following Analytic	al Methods w	ere perfo	ormed:								

The following	Analytical Met	noas were per	formea:

Description

1	EPA 904.0/S w 846 9320 Modified				
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	erv Test	Regult	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 87.4 (15%-125%)

Method

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

Page 3 of 15 SDG: 557483

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

**Certificate of Analysis** 

Report Date: October 26, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF15788
Sample ID: 557483002
Matrix: Ground Water
Collect Date: 27-SEP-21 09:43
Receive Date: 01-OCT-21

Client ID: SOOP001

**Analyst Comments** 

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting	,									
GFPC, Ra228, Liquid "	As Received"										
Radium-228		3.87	+/-1.50	2.13	3.00	pCi/L		JXC9	10/13/21	0851 2181317	1
Radium-226+Radium-2	228 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		4.54	+/-1.53			pCi/L		1 AEA	10/26/21	1418 2181322	2
Rad Radium-226											
Lucas Cell, Ra226, Liq	uid "As Recei	ved"									
Radium-226		0.672	+/-0.280	0.214	1.00	pCi/L		LXP1	10/26/21	1049 2181313	3
The following Analytic	cal Methods w	ere perfo	rmed:								

Method Description

2 Calculation
3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limit Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 81.4 (15%-125%)

## Notes:

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 4 of 15 SDG: 557483

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

**Certificate of Analysis** 

Report Date: October 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: AF15789
Sample ID: 557483003
Matrix: Ground Water
Collect Date: 27-SEP-21 11:17
Receive Date: 01-OCT-21

Client

Project: SOOP00119 Client ID: SOOP001

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228		1.95	+/-1.03	1.51	3.00	pCi/L		JXC9	10/13/21	0851 2181317	1
Radium-226+Radium-228 Calculation "See Parent Products"											
Radium-226+228 Sum		2.76	+/-1.08			pCi/L		1 AEA	10/26/21	1418 2181322	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		0.805	+/-0.326	0.348	1.00	pCi/L		LXP1	10/26/21	1049 2181313	3
The following Analytic	al Methods w	ere perfo	ormed:								

Method	Description
1	EPA 904.0/SW846 9320 Modified
2	Calculation

3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 5 of 15 SDG: 557483

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

**Certificate of Analysis** 

Report Date: October 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: AF15790
Sample ID: 557483004
Matrix: Ground Water
Collect Date: 27-SEP-21 12:32
Receive Date: 01-OCT-21

Client

Project: SOOP00119 Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		5.96	+/-1.43	1.61	3.00	pCi/L		JXC9	10/15/21	0949 2181317	7 1
Radium-226+Radium-228 Calculation "See Parent Products"											
Radium-226+228 Sum		7.93	+/-1.51			pCi/L		1 AEA	10/26/21	1418 2181322	2 2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226		1.97	+/-0.480	0.408	1.00	pCi/L		LXP1	10/26/21	1049 2181313	3
The following Analytic	al Methods w	ere perfo	rmed:								

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"			86.3	(15%-125%)

## Notes:

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

Column headers are defined as follows:

Collector:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 6 of 15 SDG: 557483

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**Certificate of Analysis** 

Report Date: October 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: AF15791
Sample ID: 557483005
Matrix: Ground Water
Collect Date: 28-SEP-21 10:21
Receive Date: 01-OCT-21

Client

Project: SOOP00119 Client ID: SOOP001

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	U	0.384	+/-0.688	1.21	3.00	pCi/L		JXC9	10/13/21	0852 2181317	1
Radium-226+Radium-228 Calculation "See Parent Products"											
Radium-226+228 Sum		0.805	+/-0.742			pCi/L		1 AEA	10/26/21	1418 2181322	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226		0.421	+/-0.277	0.370	1.00	pCi/L		LXP1	10/26/21	1049 2181313	3
The following Analytic	al Methods w	ere perfo	ormed:								

Method Description

2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Lim:
Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 93.3 (15%-125%)

## **Notes:**

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 7 of 15 SDG: 557483

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**Certificate of Analysis** 

Report Date: October 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: AF15792 Sample ID: 557483006 Matrix: Ground Water Collect Date: 28-SEP-21 10:26 Receive Date: 01-OCT-21

Client

Project: Client ID: SOOP001

SOOP00119

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	1.73	+/-1.54	2.52	3.00	pCi/L		JXC9	10/13/21	1040 2181317	1
Radium-226+Radium-228 Calculation "See Parent Products"											
Radium-226+228 Sum		2.29	+/-1.57			pCi/L		1 AEA	10/26/21	1418 2181322	2
Rad Radium-226											
Lucas Cell, Ra226, Liquid "As Received"											
Radium-226		0.556	+/-0.339	0.473	1.00	pCi/L		LXP1	10/26/21	1049 2181313	3
The following Analytical Methods were performed:											

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

EPA 903.1 Modified

Collector:

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

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

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**QC Summary** 

Report Date: October 26, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 557483

Parmname	NOM	Sample Qua	ıl QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 2181317 ———								
QC1204923921 557483002 DUP								
Radium-228		3.87	1.94	pCi/L	66.3		(0% - 100%) JXC9	10/13/21 08:50
1	Uncertainty	+/-1.50	+/-1.03	F	00.0		(0,0 100,0) 01109	10/10/21 00100
QC1204923922 LCS								
Radium-228	49.5		48.5	pCi/L		98	(75%-125%)	10/13/21 08:51
	Uncertainty		+/-3.32					
QC1204923920 MB								
Radium-228		U	0.548	pCi/L				10/13/21 08:51
	Uncertainty		+/-0.740					
<b>Rad Ra-226</b> Batch 2181313 ———								
QC1204923908 557483001 DUP								
Radium-226		1.00	0.704	pCi/L	35.1		(0% - 100%) LXP1	10/26/21 10:49
	Uncertainty	+/-0.364	+/-0.332					
QC1204923910 LCS								
Radium-226	26.7		25.6	pCi/L		95.6	(75%-125%)	10/26/21 11:21
	Uncertainty		+/-1.66					
QC1204923907 MB								
Radium-226		U	0.260	pCi/L				10/26/21 10:49
	Uncertainty		+/-0.272					
QC1204923909 557483001 MS								
Radium-226	134	1.00	153	pCi/L		113	(75%-125%)	10/26/21 11:21
	Uncertainty	+/-0.364	+/-9.26					

## **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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Page 1 of 2

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## **QC Summary**

Page 2 of 2

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

H Analytical holding time was exceeded

J See case narrative for an explanation

557483

J Value is estimated

Workorder:

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

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

- ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
- * Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

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# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 557483

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2181317

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

GEL Sample ID#	Client Sample Identification
557483001	AF15787
557483002	AF15788
557483003	AF15789
557483004	AF15790
557483005	AF15791
557483006	AF15792
1204923920	Method Blank (MB)
1204923921	557483002(AF15788) Sample Duplicate (DUP)
1204923922	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 557483006 (AF15792) was recounted to verify sample results. Recount is reported. Sample 557483004 (AF15790) was re-eluted and recounted to verify sample result. The recount is reported.

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

Analytical Procedure: GL-RAD-A-008 REV# 15

**Analytical Batch:** 2181313

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

Client Sample Identification
AF15787
AF15788
AF15789
AF15790

Page 11 of 15 SDG: 557483

557483005	AF15791
557483006	AF15792
1204923907	Method Blank (MB)
1204923908	557483001(AF15787) Sample Duplicate (DUP)
1204923909	557483001(AF15787) Matrix Spike (MS)
1204923910	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 557483005 (AF15791) and 557483006 (AF15792) were non-homogenous matrix.

#### **Miscellaneous Information**

#### **Additional Comments**

The matrix spike, 1204923909 (AF15787MS), aliquot was reduced to conserve sample volume.

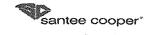
#### **Certification Statement**

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.

Page 12 of 15 SDG: 557483

# **Chain of Custody**

557483



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

Customer Em	ail/Re	port Recipie	nt:	Date R	esults Ne	eded b	y:	Project/Task/Unit #:			Rerun request for any flagged QC							
LCWILLIA	r	@santeeco	ooper.com		·			1215	567	MC_/	02.0	7- GØ1	1 36500	Yes No				
	,														<u>A</u>	nalysi	s Grou	<u>p</u>
Labworks ID # (Internal use only)	1.07097	mple Locatio	V	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	<ul><li>Rep</li><li>Mis</li></ul>	Commer hod # orting limit c. sample info other notes		RAD 226	KAD 228	TOTAL RAD CALC	
AF15787	a	SIP-4		9/27/2	प अड्ड	DEW	4	P	G	GW	2				X	Х	X	
AF15788		SYP-4 DU	IP		6943	<u> </u>	-		_	1	-							
AF15789	0	GYP-5			1117		-		-		-							
AF157-90		GYP-6		<u> </u>	1232		-			-								
AF15791	W	LF-A2-6	··· /·· /··· /··· /··· /··· /··· /·· /·	9/28/21	1021		-			-	-					-		
AF15792	w	LF-A2-6	DUP		1026	1	1	<u> </u>	<u> </u>	-	<u>                                     </u>			ve de la constante de la const			7	
· · · · · · · · · · · · · · · · · · ·	_																	
	_				-													
						<del>                                     </del>				<u>                                     </u>								
				<u> </u>	<u> </u>	<u> </u>		<u></u>	<u></u>	<u></u>	<u> </u>	1	Sample Pe	ceiving (Internal L	Ise On	lu)		
Relinquished	by:	Employee#	Date	Time	Recei	ved by:	E	mployee	≥#	Date	9	Time	TEMP (°	C):	Initial	!:		
Sprown		35594	10/1/21	0945	M	2		GEL	-	10/1/2	4	0945	Correct	H: Yes No				
Relinquished	by:	Employee#	Date	Time	Recei	ved by:	E	mployee	÷#	Date		Time	Land Harriage					
Me		ELL	10131	1120	j D	机		TE L		<i>O 1</i>	To the second management of	//22 Time	Preservat	ive Lot#:				
Kelinquished	l by:	Employee# *	Date	fime	Recei	ved by:	, E	mployee	**	Date	3	Title	Date/Tim	e/Init for preserv	ative:			
☐ Ag ☐ ☐ Al ☐ ☐ As ☐ ☐ B ☐ ☐ Ba ☐ ☐ Ca ☐ ☐ Cd ☐ ☐ Co ☐ ☐ ☐ ☐	MET.  Cu Fe K Li Mg Mn Mo	ALS (all )    Sb	O TO	C TPO4 3-N 2	MI  DATEX Napthal THM/FI VOC Oil & C E Coli Total C DH Dissolv Rad 222 Rad 222 PCB	IAA irease oliform ed As ed Fe 6		I Wallb Gyj belo D A B TG D R U Sc G Pl G W E Si G Fpl	DSHM(a) LIM DC otal inet oligible for unity (C) Moistr ulfities k blorides unite S	all als tetals aSO4) tre		Coal Ultimate  % Mois Ash Sulfur BTUs Volatile CHN Other Tests: XRF Scan HGI Fineness Particulate M	ture	Flyash Ammonia LOI % Carbon Mineral Analysis Sieve % Moisture  NPDES Oil & Grease As TSS		eddar Lafer Laddy Laddy Discol Cd C Laddy Laddy	ill Qua	

**GEL** Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM Client: SDG/AR/COC/Work Order: Received By: Date Received: Circle Applicable FedEx Express FedEx Ground UPS Field Services Courier Carrier and Tracking Number Suspected Hazard Information *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Š UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___No__ A)Shipped as a DOT Hazardous? B) Did the client designate the samples are to be COC notation or radioactive stickers on containers equal client designation. received as radioactive? Maximum Net Counts Observed* (Observed Counts - Area Background Counts): _____CPM / mR/Hr C) Did the RSO classify the samples as radioactive? Classified as: Rad 1 Rad 2 Rad 3 EOC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. E) Did the RSO identify possible hazards? Flammable Foreign Soil RCRA Asbestos Beryllium Sample Receipt Criteria Z g Comments/Qualifiers (Required for Non-Conforming Items) Shipping containers received intact and Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Chain of custody documents included Circle Applicable: Client contacted and provided COC COC created upon receipt with shipment? Preservation Method: Wet Ice Ice Packs - Dry ice None Other. Samples requiring cold preservation *all temperatures are recorded in Celsius within  $(0 \le 6 \text{ deg. C})$ ?* Temperature Device Serial #: 124 - 21 Daily check performed and passed on IR 4 temperature gun? Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Scals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Samples requiring chemical preservation Sample ID's and Containers Affected: 6 at proper pH? If Preservation added, Lot#: If Yes, are Encores or Soil Kits present for solids? Yes___No___NA__(If yes, take to VOA Freezer) Do liquid VCA vials contain acid preservation? Yes___No___NA__(If unknown, select No) Do any samples require Volatile Are liquid VOA vials free of headspace? Yes___ No___ NA__ Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? Sample ID's on COC match ID's on ID's and containers affected: Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) Date & time on COC match date & time on bottles? Number of containers received match Circle Applicable: No container count on COC Other (describe) number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in Circle Applicable: Not relinquished Other (describe) relinquished/received sections? Comments (Use Continuation Form if needed): PM (or PMA) review: Initials Date 1014

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 26 October 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	SC000122021–36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
asimigion	2.00











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

gel.com

November 10, 2021

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

Re: ABS Lab Analytical Work Order: 560632

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 29, 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,

Grace Bodiford

Grace Bodiford for Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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

# Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 560632 GEL Work Order: 560632

#### 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.

Grace	Bodiford
-------	----------

Reviewed by

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

**Certificate of Analysis** 

Report Date: November 10, 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: AF18534 Sample ID: 560632001 Matrix: Ground Water Collect Date: 26-OCT-21 10:00 Receive Date: 29-OCT-21

Client

Project: Client ID: SOOP001

SOOP00119

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid ".	As Received"									
Radium-228		1.61	+/-1.03	1.56	3.00	pCi/L		JXC9 11/04/21	1624 2192055	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		5.56	+/-1.31			pCi/L		NXL1 11/10/21	1414 2192059	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		3.94	+/-0.813	0.454	1.00	pCi/L		LXP1 11/05/21	0950 2191975	3
The following Analytic	al Methods w	ere perfo	ormed:							
Method	Description					I	Analys	st Comments		

			1 11101 ) 50 00	/	
1	EPA 904.0/SW846 9320 Modified		-		
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery 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:

Collector:

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** 

Project:

Client ID:

Report Date: November 10, 2021

SOOP00119

SOOP001

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: AF18535
Sample ID: 560632002
Matrix: Ground Water
Collect Date: 26-OCT-21 10:05
Receive Date: 29-OCT-21

: 29-OCT-21 Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proporti	onal Counting	5								
GFPC, Ra228, Liquid '	'As Received'	1								
Radium-228		3.92	+/-1.79	2.68	3.00	pCi/L		JXC9 11/04/21	1624 2192055	1
Radium-226+Radium-2	228 Calculation	n "See Pa	arent Products"							
Radium-226+228 Sum		8.42	+/-2.01			pCi/L		NXL1 11/10/21	1414 2192059	2
Rad Radium-226										
Lucas Cell, Ra226, Liq	uid "As Recei	ved"								
Radium-226	•	4.50	+/-0.902	0.492	1.00	pCi/L		LXP1 11/05/21	0950 2191975	3
The following Analyti	cal Methods v	vere perfo	ormed:							
3.6.1.1	ъ									

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	·
2	Calculation	
3	EPA 903.1 Modified	
C / /T	D T	D 1/ NT 1 D 0/ A / 11 T 1 1/

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received"

70.7 (15%-125%)

#### Notes:

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

Column headers are defined as follows:

Collector:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date: November 10, 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: AF18536
Sample ID: 560632003
Matrix: Ground Water
Collect Date: 26-OCT-21 11:55
Receive Date: 29-OCT-21

Client

Client ID: SOOP001

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid ".	As Received"									
Radium-228		2.39	+/-1.30	1.99	3.00	pCi/L		JXC9 11/04/2	1624 2192055	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		7.07	+/-1.63			pCi/L		NXL1 11/10/2	1414 2192059	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		4.68	+/-0.981	0.687	1.00	pCi/L		LXP1 11/05/2	0950 2191975	3
The following Analytic	al Methods w	ere perfo	ormed:							

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	•

2 Calculation 3 EPA 903.1 Modified

Collector:

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** 

Project:

Client ID:

Report Date: November 10, 2021

SOOP00119

SOOP001

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: AF18537 Sample ID: 560632004 Matrix: Ground Water Collect Date: 26-OCT-21 12:54 Receive Date: 29-OCT-21

Client Collector:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proporti	ional Counting	Ţ,								
GFPC, Ra228, Liquid	"As Received"	1								
Radium-228		3.94	+/-1.37	1.74	3.00	pCi/L		JXC9 11/04/21	1624 2192055	1
Radium-226+Radium-	228 Calculation	n "See Pa	arent Products"							
Radium-226+228 Sum		6.48	+/-1.53			pCi/L		NXL1 11/10/21	1414 2192059	2
Rad Radium-226										
Lucas Cell, Ra226, Lic	uid "As Recei	ved"								
Radium-226	-	2.54	+/-0.692	0.531	1.00	pCi/L		LXP1 11/08/21	0912 2191975	3
The following Analyti	cal Methods v	vere perfo	ormed:							
Method	Description					F	Analys	st Comments		

Method	Description	Analyst Comr
1	EPA 904.0/SW846 9320 Modified	•
_		

Calculation 2 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Acceptable Limits Recovery% Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 69.2 (15%-125%)

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** 

Project:

Client ID:

**Analyst Comments** 

Report Date: November 10, 2021

SOOP00119

SOOP001

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Ms. Jeanette Gilmetti Contact: Project: ABS Lab Analytical

Client Sample ID: AF18539 Sample ID: 560632005 Matrix: Ground Water Collect Date: 27-OCT-21 10:27 Receive Date: 29-OCT-21

Client Collector:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid ".	As Received"									
Radium-228	U	0.619	+/-1.17	2.04	3.00	pCi/L		JXC9 11/04/21	1624 2192055	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		3.59	+/-1.39			pCi/L		NXL1 11/10/21	1414 2192059	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		2.97	+/-0.758	0.553	1.00	pCi/L		LXP1 11/05/21	1057 2191975	3
The following Analytic	al Methods w	ere perfo	ormed:							

The following	Anaiyucai	Methods	were	performed:

Description

1	EPA 904.0/SW846 9320 Modified				
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 78.1 (15%-125%)

#### **Notes:**

Method

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: November 10, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF18540
Sample ID: 560632006
Matrix: Ground Water
Collect Date: 27-OCT-21 10:32
Receive Date: 29-OCT-21

Client ID: SOOP001

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting									
GFPC, Ra228, Liquid "A	As Received"									
Radium-228	U	0.903	+/-0.757	1.20	3.00	pCi/L		JXC9 11/04/21	1624 2192055	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent Products"							
Radium-226+228 Sum		3.00	+/-0.975			pCi/L		NXL1 11/10/21	1414 2192059	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	id "As Recei	ved"								
Radium-226		2.09	+/-0.614	0.463	1.00	pCi/L		LXP1 11/05/21	1057 2191975	3
The following Analytic	al Methods w	ere perfo	ormed:							

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

3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

**QC Summary** 

Report Date: November 10, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 560632

Parmname	NOM	Sample Qu	al QC	Units	RPD%	REC%	Range A	Anlst	Date Time
Rad Gas Flow Batch 2192055 ——									
QC1204945101 560632002 DUP Radium-228	Uncertainty	3.92 +/-1.79	2.53 +/-1.17	pCi/L	43.2		(0% - 100%)	JXC9	11/04/21 16:23
QC1204945102 LCS Radium-228	16.7 Uncertainty		15.3 +/-1.19	pCi/L		91.4	(75%-125%)		11/04/21 16:23
QC1204945103 LCSD Radium-228	16.7 Uncertainty		14.5 +/-1.07	pCi/L	5.35	86.7	(0%-20%)		11/04/21 16:23
QC1204945100 MB Radium-228	Uncertainty	U	0.185 +/-0.360	pCi/L					11/04/21 16:23
<b>Rad Ra-226</b> Batch 2191975 ———									
QC1204944871 560632001 DUP Radium-226	Uncertainty	3.94 +/-0.813	4.42 +/-0.918	pCi/L	11.3		(0%-20%)	LXP1	11/05/21 10:57
QC1204944873 LCS Radium-226	26.8 Uncertainty		23.3 +/-1.87	pCi/L		87	(75%-125%)		11/08/21 09:12
QC1204944874 LCSD Radium-226	53.6 Uncertainty		53.4 +/-2.98	pCi/L	78.4*	99.6	(0%-20%)		11/05/21 10:57
QC1204944870 MB Radium-226	Uncertainty		0.726 +/-0.466	pCi/L					11/08/21 09:12
QC1204944872 560632001 MS Radium-226	134 Uncertainty	3.94 +/-0.813	135 +/-10.8	pCi/L		97.4	(75%-125%)		11/05/21 10:57

#### **Notes:**

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

The Qualifiers in this report are defined as follows:

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Page 1 of 2

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## **QC Summary**

560632 Page 2 of 2 Parmname **NOM** Sample Qual OC Units RPD% REC% Range Anlst Date Time

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

Workorder:

- Η Analytical holding time was exceeded
- J See case narrative for an explanation
- 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.
- Μ M if above MDC and less than LLD
- Μ REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.
- N1 See case narrative
- ND Analyte concentration is not detected above the detection limit
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ
- One or more quality control criteria have not been met. Refer to the applicable narrative or DER. Q
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- Gamma Spectroscopy--Uncertain identification UI
- 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.
- ٨ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- Preparation or preservation holding time was exceeded 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.

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# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 560632

**Product:** Radium-226+Radium-228 Calculation

**Analytical Method:** Calculation

Analytical Procedure: GL-RAD-D-003 REV# 44

**Analytical Batch:** 2192059

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

GEL Sample ID#	Client Sample Identification
560632001	AF18534
560632002	AF18535
560632003	AF18536
560632004	AF18537
560632005	AF18539
560632006	AF18540

#### **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:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2192055

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

<b>GEL Sample ID#</b>	Client Sample Identification
560632001	AF18534
560632002	AF18535
560632003	AF18536
560632004	AF18537
560632005	AF18539
560632006	AF18540
1204945100	Method Blank (MB)
1204945101	560632002(AF18535) Sample Duplicate (DUP)
1204945102	Laboratory Control Sample (LCS)
1204945103	Laboratory Control Sample Duplicate (LCSD)

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

Page 11 of 16 SDG: 560632

#### **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 560632005 (AF18539) and 560632006 (AF18540) were non-homogenous matrix. Samples have a yellow tint 560632005 (AF18539) and 560632006 (AF18540).

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2191975

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

GEL Sample ID#	<b>Client Sample Identification</b>
560632001	AF18534
560632002	AF18535
560632003	AF18536
560632004	AF18537
560632005	AF18539
560632006	AF18540
1204944870	Method Blank (MB)
1204944871	560632001(AF18534) Sample Duplicate (DUP)
1204944872	560632001(AF18534) Matrix Spike (MS)
1204944873	Laboratory Control Sample (LCS)
1204944874	Laboratory Control Sample Duplicate (LCSD)

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 560632005 (AF18539) and 560632006 (AF18540) were non-homogenous matrix.

#### **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
--	----------------

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1204944870 (MB)	Radium-226	Result: 0.726	nCi/L > MDA· (	0.654 pCi/L <	- RDI · 1 00 ı	nCi/I
1207777070 (MID)	Naurum-220	1003u1t. 0.720	PCI/L > MDA.	0.05+ pc1/L <	- KDL. 1.00	

#### **Duplication Criteria between LCS and LCSD**

The relative percent difference does not apply as the laboratory control sample and laboratory control sample duplicate, (See Below), are not true duplicates of each other as 0.1 mL of spike was added to the laboratory control sample and 0.2 mL was added to the laboratory control sample duplicate. They both meet the spiked recovery requirement.

Sample	Analyte	Value
1204944873 (LCS) and 1204944874 (LCSD)	Radium-226	RPD 78.4* (0%-20%)

#### **Technical Information**

#### **Recounts**

Samples 1204944870 (MB), 1204944873 (LCS) and 560632004 (AF18537) were degassed and recounted to verify sample results. The second counts are reported.

#### **Miscellaneous Information**

#### **Additional Comments**

The matrix spike, 1204944872 (AF18534MS), 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.

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# **Chain of Custody**

560632



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

Customer	Customer Email/Report Recipient:		D	Date Results Needed by:				Project/Task/Unit #:					Rerun request for any flagged Q				Q			
LCWILL	_IA	@	santeed	ooper.com			J	/	_	121	567	J_JM	102.0	9. GØI	J 3650	Yes	No			
																sobusers = Device-Boses	£	Analysi	s Grou	Б
Labworks (Internal us only)		T-15-20 (1995) 1885 1885 1885	le Locatio iption	<b>)n/</b>	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)	Comme Method # Reporting limit Misc. sample inf Any other notes		RAD: 226	RAD 228	TOTAL RADGALC.	
AT 1850	3.8		=13-													Tanana karifa arrena				
AF1858	34	CGY	P-4		10/2	26/2	1 1000	DEW	2	ゃ	G	GW	2				X	X	Х	
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AF   85	36	CGY	P-5				1155	-					$\coprod$							
AF1853	37	CGY	'P-6			<u> </u>	1254	11					<u> </u>							
AF1853	39	WLF	- A2-6	>	19/2	27/21	1 1027		$\coprod$			Ш.	1				<u> </u>			
AF1854	10	WLF	-A2-6	. DUP		<u> </u>	1032	<u> </u>	11	1	<u> </u>	11	1			Addition to consider a second	L	1		
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.□ Cr	□ Pb		□ CrVI							□ Sulfur						<u> </u>				
																0.000				



**GEL** Laboratories LLC SAMPLE RECEIPT & REVIEW FORM Client: SDG/AR/COC/Work Order: 5 lenle32 Received By: DC FedEx Express FedEx Ground UPS Field Services Courier Date Received: Cooler-210 Cooler 3-00 Cooler 2-00 Carrier and Tracking Number Suspected Hazard Information Yes å *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Hazard Class Shipped: IIN# A)Shipped as a DOT Hazardous? If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___No_ B) Did the client designate the samples are to be COC notation or radioactive stickers on containers equal client designation. received as radioactive? Maximum Net Counts Observed* (Observed Counts - Area Background Counts): C) Did the RSO classify the samples as CPM/mR/Hr Classified as: Rad 1 Rad 2 Rad 3 radioactive? COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. PCB's Flammable E) Did the RSO identify possible hazards? Foreign Soil Asbestos Beryllium Sample Receipt Criteria Yes NA No Comments/Qualifiers (Required for Non-Conforming Items) Shipping containers received intact and Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Chain of custody documents included Circle Applicable: Client contacted and provided COC COC created upon receipt with shipment? Preservation Method: Wet Ice Ice Packs Dry ice Samples requiring cold preservation None *all temperatures are recorded in Celsius within  $(0 \le 6 \text{ deg. C})$ ?* Daily check performed and passed on IR Temperature Device Serial #: JR6-21 temperature gun? Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Seals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Samples requiring chemical preservation Sample ID's and Containers Affected: at proper pH? If Prescryation added, Lot#: If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer)

Dolliquid VOA vials contain acid preservation? Yes No NA (If unknown, select No) Do any samples require Volatile 7 Are liquid VOA vials free of headspace? Yes___ No__ NA_ Analysis? Sample ID's and containers affected: ID's and tests affected: Samples received within holding time? Sample ID's on COC match ID's on ID's and containers affected: 9 bottles? Date & time on COC match date & time Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) 10 on bottles? Number of containers received match Circle Applicable: No container count on COC Other (describe) number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in Circle Applicable: Not relinquished Other (describe) relinquished/received sections? Comments (Use Continuation Form if needed): PM (or PMA) review: Initials

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 10 November 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	SC000122021–36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
asimgion	2.00











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

gel.com

December 28, 2021

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

Re: ABS Lab Analytical Work Order: 562782

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 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



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

# Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 562782 GEL Work Order: 562782

#### 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.

	Julie	Robinson		
Reviewed by				

Page 2 of 15 SDG: 562782

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

**Certificate of Analysis** 

Project:

Client ID:

**Analyst Comments** 

Report Date: December 28, 2021

SOOP00119

SOOP001

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: AF20415 Sample ID: 562782001 Matrix: Ground Water Collect Date: 17-NOV-21 10:18 19-NOV-21

Client Collector:

Receive Date:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid ".	As Received"									
Radium-228		3.72	+/-1.63	2.41	3.00	pCi/L		JXC9 12/27/2	1 1129 2211287	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		4.90	+/-1.70			pCi/L		NXL1 12/28/2	1 1150 2202339	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		1.18	+/-0.496	0.543	1.00	pCi/L		LXP1 12/03/2	1 0916 2201682	3
The following Analytic	al Methods w	ere perfo	ormed:							

Description

1	EPA 904.0/SW846 9320 Modified				
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 84.4 (15%-125%)

#### **Notes:**

Method

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

Page 3 of 15 SDG: 562782

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: December 28, 2021

SOOP00119

SOOP001

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: AF20416
Sample ID: 562782002
Matrix: Ground Water
Collect Date: 17-NOV-21 10:23
Receive Date: 19-NOV-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting									
GFPC, Ra228, Liquid "A	As Received"									
Radium-228	U	0.764	+/-0.837	1.39	3.00	pCi/L		JXC9 12/27/2	1129 2211287	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		2.56	+/-1.02			pCi/L		NXL1 12/28/2	1150 2202339	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	id "As Recei	ved"								
Radium-226		1.80	+/-0.581	0.536	1.00	pCi/L		LXP1 12/03/2	0916 2201682	3
The following Analytical Methods were performed:										

Method	Description	Analyst	Comments
1	EPA 904 0/SW846 9320 Modified		

2 Calculation

2 Calculation
3 EPA 903.1 Modified

Collector:

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

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 4 of 15 SDG: 562782

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**Certificate of Analysis** 

Report Date: December 28, 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: AF20417
Sample ID: 562782003
Matrix: Ground Water
Collect Date: 17-NOV-21 11:51
Receive Date: 19-NOV-21

Client

Project: SOOP00119 Client ID: SOOP001

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid ".	As Received"									
Radium-228	U	0.281	+/-1.00	1.84	3.00	pCi/L		JXC9 12/27/21	1129 2211287	1
Radium-226+Radium-228 Calculation "See Parent Products"										
Radium-226+228 Sum		1.59	+/-1.12			pCi/L		NXL1 12/28/21	1150 2202339	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		1.31	+/-0.507	0.432	1.00	pCi/L		LXP1 12/03/21	0916 2201682	3
The following Analytical Methods were performed:										

Method	Description	
1	EPA 904.0/SW846 9320 Modified	
2	Calculation	

2 Calculation
3 EPA 903.1 Modified

Collector:

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received"

68.5 (15%-125%)

#### Notes:

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

Column headers are defined as follows:

DF: Dilution Factor

DL: Detection Limit

MDA: Minimum Detectable Activity

Lc/LC: Critical Level

PF: Prep Factor

RL: Reporting Limit

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date: December 28, 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: AF20418 Sample ID: 562782004 Matrix: Ground Water Collect Date: 17-NOV-21 13:04 19-NOV-21 Receive Date:

Client

Project: SOOP00119 Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method	
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "	As Received"										
Radium-228		5.88	+/-1.46	1.48	3.00	pCi/L		JXC9 12/27/21	1129 2211287	1	
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		9.69	+/-1.71			pCi/L		NXL1 12/28/21	1150 2202339	2	
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		3.82	+/-0.882	0.696	1.00	pCi/L		LXP1 12/03/21	0916 2201682	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 Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 74.9 (15%-125%)

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

Column headers are defined as follows:

Collector:

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: December 28, 2021

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Ms. Jeanette Gilmetti Contact: Project: ABS Lab Analytical

Client Sample ID: AF20419 Sample ID: 562782005 Matrix: Ground Water Collect Date: 18-NOV-21 11:27 19-NOV-21 Receive Date:

Client

Project: Client ID: SOOP001

SOOP00119

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method		
Rad Gas Flow Proportion	onal Counting											
GFPC, Ra228, Liquid "	As Received"											
Radium-228	U	1.25	+/-1.23	2.04	3.00	pCi/L		JXC9 12/27/21	1129 2211287	1		
Radium-226+Radium-2												
Radium-226+228 Sum		2.39	+/-1.32			pCi/L		NXL1 12/28/21	1150 2202339	2		
Rad Radium-226												
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"										
Radium-226		1.14	+/-0.477	0.469	1.00	pCi/L		LXP1 12/03/21	0916 2201682	3		
The following Analytic	The following Analytical Methods were performed:											
Method	Description		Analyst Comments									

Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits
3	EPA 903.1 Modified				
2	Calculation				
1	EPA 904.0/SW846 9320 Modified				

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 80.6 (15%-125%)

#### **Notes:**

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

Column headers are defined as follows:

Collector:

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** 

Project:

Client ID:

Report Date: December 28, 2021

SOOP00119

SOOP001

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: AF20420 Sample ID: 562782006 Matrix: Ground Water Collect Date: 18-NOV-21 11:32 Receive Date: 19-NOV-21

Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst D	ate	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	U	0.743	+/-1.45	2.52	3.00	pCi/L		JXC9 12/2	7/21	1129 2211287	1
Radium-226+Radium-22	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		1.06	+/-1.52			pCi/L		NXL1 12/2	8/21	1150 2202339	2
Rad Radium-226											
Lucas Cell, Ra226, Liquid "As Received"											
Radium-226	U	0.320	+/-0.444	0.768	1.00	pCi/L		LXP1 12/0	3/21	0948 2201682	3
The following Analytical Methods were performed:											

Method	Description	Analy	st Comments
1	EPA 904.0/SW846 9320 Modified	-	

2 Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Acceptable Limits Recovery%

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 79.6

(15%-125%)

Column headers are defined as follows:

Collector:

DF: Dilution Factor Lc/LC: Critical Level DL: Detection Limit PF: Prep Factor MDA: Minimum Detectable Activity **RL**: Reporting Limit

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 8 of 15 SDG: 562782

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

**QC Summary** 

Report Date: December 28, 2021

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

**Contact:** Ms. Jeanette Gilmetti

Workorder: 562782

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range A	Anlst	Date Time
Rad Gas Flow Batch 2211287 —									
QC1204985029 562782001 DUI Radium-228	Uncertainty	3.72 +/-1.63	2.81 +/-1.54	pCi/L	27.9		(0% - 100%)	JXC9	12/27/21 11:28
QC1204985030 LCS Radium-228	48.7 Uncertainty		39.2 +/-3.69	pCi/L		80.5	(75%-125%)		12/27/21 11:28
QC1204985028 MB Radium-228	Uncertainty	U	0.293 +/-1.40	pCi/L					12/27/21 11:28
<b>Rad Ra-226</b> Batch 2201682 —									
QC1204966189 562782001 DUI Radium-226	Uncertainty	1.18 +/-0.496	1.84 +/-0.537	pCi/L	44*		(0%-20%)	LXP1	12/03/21 09:48
QC1204966191 LCS Radium-226	26.6 Uncertainty		27.1 +/-2.11	pCi/L		102	(75%-125%)		12/03/21 09:48
QC1204966192 LCSD Radium-226	26.6 Uncertainty		28.6 +/-2.19	pCi/L	5.24	108	(0%-20%)		12/03/21 09:48
QC1204966188 MB Radium-226	Uncertainty	U	0.237 +/-0.219	pCi/L					12/03/21 11:37
QC1204966190 562782001 MS Radium-226	134 Uncertainty	1.18 +/-0.496	127 +/-10.5	pCi/L		93.6	(75%-125%)		12/03/21 09:48

#### **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

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Page 1 of 2

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## **QC Summary**

Page 2 of 2

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

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

> Result is greater than value reported

562782

- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

Workorder:

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

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

Page 10 of 15 SDG: 562782

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 562782

**Product:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2211287

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

GEL Sample ID#	Client Sample Identification
562782001	AF20415
562782002	AF20416
562782003	AF20417
562782004	AF20418
562782005	AF20419
562782006	AF20420
1204985028	Method Blank (MB)
1204985029	562782001(AF20415) Sample Duplicate (DUP)
1204985030	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**

#### Sample Re-prep/Re-analysis

Samples were reprepped due to high blank activity. The re-analysis is being reported.

#### **Miscellaneous Information**

#### **Additional Comments**

Samples 562782005 (AF20419) and 562782006 (AF20420) are a yellow tint, but are homogenous.

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2201682

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

GEL Sample ID# Client Sample Identification

Page 11 of 15 SDG: 562782

562782001	AF20415
562782002	AF20416
562782003	AF20417
562782004	AF20418
562782005	AF20419
562782006	AF20420
1204966188	Method Blank (MB)
1204966189	562782001(AF20415) Sample Duplicate (DUP)
1204966190	562782001(AF20415) Matrix Spike (MS)
1204966191	Laboratory Control Sample (LCS)
1204966192	Laboratory Control Sample Duplicate (LCSD)

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
1204966189 (AF20415DUP)	Radium-226	RPD 44* (0.00%-20.00%) RER 1.54 (0-3)

#### **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.

Page 12 of 15 SDG: 562782

# **Chain of Custody**

562782



LCWILLIA CONTROL			Date	Date Results Needed by:					roject	/Task/	/Unit #:	1	Rerun request for any flagged Q						
LEWILLIA	@sant	eecooper.con	n	<i>J</i>	/	-	1215	367		102.0	9-G\$		Yes	No					
Labworks ID#	Sample Loca	ation/	Pod iškiusiistos	a sasa as										Analysis Group					
(Internal use only)	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)		Comment Method # Reporting limit Misc. sample info Any other notes	<b>S</b>	RAD 226	KAD 228	TOTAL-RAD CALC.			
¥F 20415	CGYP-4		11/17/21	1018	DEW	2	P	G		2	#151.26F.c.			1 &	<del> </del>	<u> </u>			
16	CGYP-4	DUP	1	1023	1	1		1	GW	1				χ.	X	×			
17	CGYP-5		11					-	$\vdash$							11			
167			1	[12]		+		-				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
[8	CGYP-6		1-	1304	-			-											
19	WLF-A2-	6	11/18/21	1127		$\perp \downarrow$									Ħ	11			
- 20	WLF-A2-6	5 DUP	1	1132		1	1.	1	1	1				11	$\dagger \dagger$	++			
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					<u> </u>						WMI for a second								
Relinquished by:	Employee#	Date	Time	Receive	d by:	Emp	oloyee#		Date		Time	Sample Receivi	ng (Internal Us	 ⊇ Only	<u> </u>		1		
Moun. Relinquished by:	35594 Employee#	11/19/21 Date	Time	Béceive	2		BEL	11/1	9/21	11.	1046	TEMP (°C):_		itial:_		•			
de	661		Time	deceived	i by:		loyee#	<del> </del>	Date		Time	Correct pH:							
elinquished by:	Employee#	Date /	Time	Received	by:		€ l loyee#	11/	[]/] Date		/// Time	Preservative L	ot#:						
	******										imie	Date/Time/Init							
	ALS (all)	Nutri	ents	MICC				1			The state of the s		ioi preservatit	e;					
<u>Ag □ Cu</u> Al □ Fe	□ Sb	TOC		MISC BTEX	<u>.</u>	11	<u>Gyps</u> allboard	100			Coal	<u>Fly</u>	<u>ash</u>	1	211		Section 1		
As □K	□ Sn	DOC	0.	Napthalene			anouara Gypsur	r H <i>(all</i>		□Uh	imate % Mois	Amn	ronia	frans.					
-   0 Li	1000	TP/TI		THM/HAA VOC			below)				Ash	ture [1 LOI 1 % Ca	ahan l	Color	oistur.		Opposite Company		
	□ Sr	DF	`   D	Oil & Greas	e e		LAM			D	Sulfur	1 Mine		Auren	1.				
	□Ti	D.CI		E. Coli Fotal Colifo	- I		l Total n				BTUs	A	nalysis	Diejec 1f I		n W			
Se □ Min	□ Ti	U NO2	Or	H			Soluble Purity (			U Di	Volatile CHN	Matter Sieve		Desc		ave.			
a □ Mo	□V	II Br		Dissolved A Dissolved Fo			1% Mois	lure		Other	Tests:	£3.776 [V] (	изине   - !	Sed ( Figure			ĺ		
d □ Na	□ Zn	SO4	□F	Rad 226			Sulfites DH			O XRF		NPI	DES	Metal	an or				
o □ Ni	□ Hg			tad 228		1.0	l Chloridi			□ Fine	ness	100118.0		GASA Hari	a.C.	(F)).			
r □ Pb	□ CrVI		u.r	-u		C Sul	i Particle tine	Size		🗆 Parti	culate Ma	itter LLTSS		1X -					
									L					ANT)					

GEL	Laboratories	LLC

JAR

[C:	SAMPLE RECEIPT & REVIEW FORM					
Client: SOOK				SI	OG/AR/COC/Work Order: 5 42782	-
Re	ceived By: DC			D	ate Received: 11-19-21	
	Carrier and Tracking Number				FedEx Express FedEx Ground UPS Field Services Co	urier Other
Sus	spected Hazard Information	Yes	1		F Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Gro	up for further investigation.
A)5	Shipped as a DOT Hazardous?		X	-	zard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo	
	Did the client designate the samples are to be eived as radioactive?		)	CC	C notation or radioactive stickers on containers equal client designation.	
	Did the RSO classify the samples as oactive?			Ma	ximum Net Counts Observed* (Observed Counts - Area Background Counts):CP Classified as: Rad 1	M/mR/Hr
<b>D</b> ) ]	Did the client designate samples are hazardous?		>	7	C notation or hazard labels on containers equal client designation.	
E) I	Did the RSO identify possible hazards?	L			O or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:	
	Sample Receipt Criteria	Yes	Z	ž	Comments/Qualifiers (Required for Non-Conforming Iter	ns)
1	Shipping containers received intact and sealed?	6			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	
2	Chain of custody documents included with shipment?	<u></u>			Circle Applicable: Ciient contacted and provided COC COC created upon receipt	
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*	1			Preservation Method: Wet Ice Tee Packs Dry ice None Other: *all temperatures are recorded in Celsius	TEMP:
4	Daily check performed and passed on IR temperature gun?	سيا			Temperature Device Serial #: IR6-21 Secondary Temperature Device Serial # (If Applicable):	
5	Sample containers intact and sealed?	L			effele Applicable: Seals broken Damaged container Leaking container Other (describe)	
6	Samples requiring chemical preservation at proper pH?	し			Sample ID's and Containere Affected:  If Preservation added, Lot#;	The state of the s
7	Do any samples require Volatile Analysis?			i	If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to Vo Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select Are Jiquid VOA vials free of headspace? Yes No NA Sample ID's and containers affected:	·
8	Samples received within holding time?			E	TD's and tests affected:	
	Samples received within holding time?  Sample ID's on COC match ID's on	ı			iD's and containers affected:	
-	bottles?  Date & time on COC match date & time				Circle Applicable: No dates on containers No times on containers COC missing info Or	har (dascriba)
	on bottles?  Number of containers received match				Circle Applicable: No container count on COC Other (describe)	ici (describe)
11	number indicated on COC?  Are sample containers identifiable as	c			Onlet (describe)	
12	GEL provided by use of GEL labels? COC form is properly signed in	Ų			Circle Applicable: Not relinquished Other (describe)	
13	relinquished/received sections? ments (Use Continuation Form if needed):	كالما				
	PM (or PMA	ı) revi	ew:	Initia	als	

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 28 December 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	SC000122021–36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
asimigion	2.00











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

gel.com

January 05, 2022

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

Re: ABS Lab Analytical Work Order: 564713

Dear Ms. Gilmetti:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 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,

Grace Bodiford

Grace Bodiford for Julie Robinson Project Manager

Purchase Order: 367074

Enclosures



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

### Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 564713 GEL Work Order: 564713

### 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.

Grace	Bodiford
-------	----------

Reviewed by

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

**Certificate of Analysis** 

Report Date: January 5, 2022

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: AF21736
Sample ID: 564713001
Matrix: Ground Water
Collect Date: 06-DEC-21 09:54
Receive Date: 10-DEC-21

Client

Client ID: SOOP001

Analyst Comments

SOOP00119

Project:

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		2.86	+/-1.19	1.65	3.00	pCi/L		JXC9	01/05/22	1022 2207640	1
Radium-226+Radium-22	28 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		5.03	+/-1.29			pCi/L		1 NXL1	01/05/22	1203 2207658	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226		2.18	+/-0.501	0.335	1.00	pCi/L		LXP1	01/04/22	0757 2207637	3
The following Analytic	al Methods w	ere perfo	ormed:								

3 EPA	903.1 Modified				
Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87	(15%-125%)

### **Notes:**

Method

2

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Description

Calculation

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 16 SDG: 564713

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

**Certificate of Analysis** 

Report Date: January 5, 2022

SOOP00119

SOOP001

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Client

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF21737
Sample ID: 564713002
Matrix: Ground Water
Collect Date: 06-DEC-21 09:59
Receive Date: 10-DEC-21

d Water

Project:

Client ID:

**Analyst Comments** 

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid "	As Received"										
Radium-228		3.00	+/-1.26	1.78	3.00	pCi/L		JXC9	01/05/22	1022 2207640	1
Radium-226+Radium-2	228 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		3.30	+/-1.28			pCi/L		1 NXL1	01/05/22	1203 2207658	2
Rad Radium-226											
Lucas Cell, Ra226, Liq	uid "As Recei	ved"									
Radium-226		0.303	+/-0.206	0.232	1.00	pCi/L		LXP1	01/04/22	0830 2207637	3
The following Analytic	eal Mathode w	ara narfo	rmad.								

The following Analytical Methods were performed:

Description

Calculation

3 E	EPA 903.1 Modified				
Surrogate/Tracer Recovery	y Test	Result	Nominal	Recovery%	Acceptable Limits

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limit Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 88.4 (15%-125%)

### **Notes:**

Method

2

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

EPA 904.0/SW846 9320 Modified

Column headers are defined as follows:

Collector:

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

Page 4 of 16 SDG: 564713

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

**Certificate of Analysis** 

Project:

Client ID:

Report Date: January 5, 2022

SOOP00119

SOOP001

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: AF21738
Sample ID: 564713003
Matrix: Ground Water
Collect Date: 06-DEC-21 11:13
Receive Date: 10-DEC-21

10-DEC-21 Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid ".	As Received"									
Radium-228	U	2.46	+/-1.56	2.46	3.00	pCi/L		JXC9 01/05/22	1022 2207640	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		2.92	+/-1.59			pCi/L		1 NXL1 01/05/22	1203 2207658	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		0.468	+/-0.310	0.445	1.00	pCi/L		LXP1 01/04/22	0830 2207637	3
The following Analytic	al Methods w	ere perfo	ormed:							
Method	Description					1	Analys	st Comments		

1	EPA 904.0/SW846 9320 Modified		-		
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recov	ery 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:

Collector:

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

Page 5 of 16 SDG: 564713

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**Certificate of Analysis** 

Report Date: January 5, 2022

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: AF21739
Sample ID: 564713004
Matrix: Ground Water
Collect Date: 06-DEC-21 12:15
Receive Date: 10-DEC-21

Client

Project: SOOP00119 Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		2.88	+/-1.21	1.70	3.00	pCi/L		JXC9	01/05/22	1022 2207640	1
Radium-226+Radium-22	28 Calculation	n "See Pa	rent Products"								
Radium-226+228 Sum		5.62	+/-1.34			pCi/L		1 NXL1	01/05/22	1203 2207658	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	id "As Recei	ved"									
Radium-226		2.74	+/-0.558	0.309	1.00	pCi/L		LXP1	01/04/22	0830 2207637	3
The following Analytica	al Methods w	ere perfo	rmed:								
Method	Description					F	Analys	st Comment	s		

MethodDescription1EPA 904.0/SW846 9320 Modified2Calculation3EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received"

91.1 (15%-125%)

Notes:

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

Column headers are defined as follows:

Collector:

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

Page 6 of 16 SDG: 564713

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**Certificate of Analysis** 

Report Date: January 5, 2022

Company: Santee Cooper Address: P.O. Box 2946101

OCO3

Moncks Corner, South Carolina 29461

Ms. Jeanette Gilmetti Contact: Project: ABS Lab Analytical

Client Sample ID: AF21740 Sample ID: 564713005 Matrix: Ground Water Collect Date: 07-DEC-21 10:36 Receive Date: 10-DEC-21

Client

Project: SOOP00119 Client ID: SOOP001

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Date Time Batch Method	od
Rad Gas Flow Proportion	onal Counting								
GFPC, Ra228, Liquid ".	As Received"								
Radium-228	U	0.757	+/-0.750	1.23	3.00	pCi/L		JXC9 01/05/22 1022 2207640	l
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"						
Radium-226+228 Sum		1.18	+/-0.780			pCi/L		1 NXL1 01/05/22 1203 2207658	2
Rad Radium-226									
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"							
Radium-226		0.422	+/-0.212	0.190	1.00	pCi/L		LXP1 01/04/22 0830 2207637	3
The following Analytic	al Methods w	ere perfo	ormed:						
Method	Description					I	Analys	t Comments	

1	EPA 904.0/SW846 9320 Modified				
2	Calculation				
3	EPA 903.1 Modified				
Surrogate/Tracer Recove	ery Test	Result	Nominal	Recovery%	Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 91.9 (15%-125%)

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

Column headers are defined as follows:

Collector:

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

Page 7 of 16 SDG: 564713

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**Certificate of Analysis** 

Project:

Client ID:

Report Date: January 5, 2022

SOOP00119

SOOP001

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: AF21741
Sample ID: 564713006
Matrix: Ground Water
Collect Date: 07-DEC-21 10:41
Receive Date: 10-DEC-21

Receive Date: 10-DEC-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analyst Dat	e Time Batch	Method
Rad Gas Flow Proportion	onal Counting									
GFPC, Ra228, Liquid "A	As Received"									
Radium-228	U	0.233	+/-0.791	1.44	3.00	pCi/L		JXC9 01/05/	22 1023 2207640	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	arent Products"							
Radium-226+228 Sum		0.643	+/-0.821			pCi/L		1 NXL1 01/05/	22 1203 2207658	2
Rad Radium-226										
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"								
Radium-226		0.410	+/-0.216	0.231	1.00	pCi/L		LXP1 01/04/	22 0830 2207637	3
The following Analytic	al Methods w	ere perfo	ormed:							

Method	Description	Analyst Comments
	ED 1 00 1 0 (GITTO 1 5 0000 3 F 11 0) 1	

EPA 904.0/SW846 9320 Modified
Calculation

3 EPA 903.1 Modified

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.1	(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

Page 8 of 16 SDG: 564713

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

**QC Summary** 

Report Date: January 5, 2022

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

Contact:

Ms. Jeanette Gilmetti

Workorder: 564713

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 2207640 ———								
QC1204978137 564713004 DUP Radium-228	Uncertainty	2.88 +/-1.21	2.86 +/-1.05	pCi/L	0.762		(0% - 100%) JXC9	01/05/22 10:21
QC1204978138 LCS Radium-228	49.1 Uncertainty		50.3 +/-3.82	pCi/L		102	(75%-125%)	01/05/22 10:21
QC1204978136 MB Radium-228	Uncertainty	U	0.661 +/-0.773	pCi/L				01/05/22 10:21
<b>Rad Ra-226</b> Batch 2207637 ———								
QC1204978129 564713006 DUP Radium-226	Uncertainty	0.410 U +/-0.216	0.273 +/-0.251	pCi/L	40.1		(0% - 100%) LXP1	01/04/22 08:30
QC1204978131 LCS Radium-226	26.5 Uncertainty		21.9 +/-1.67	pCi/L		82.8	(75%-125%)	01/04/22 09:12
QC1204978132 LCSD Radium-226	26.5 Uncertainty		25.4 +/-1.64	pCi/L	14.5	95.7	(0%-20%)	01/04/22 09:12
QC1204978128 MB Radium-226	Uncertainty	U	0.0271 +/-0.206	pCi/L				01/04/22 08:30
QC1204978130 564713006 MS Radium-226	133 Uncertainty	0.410 +/-0.216	108 +/-8.17	pCi/L		80.9	(75%-125%)	01/04/22 08:30

### **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

Page 9 of 16 SDG: 564713

Page 1 of 2

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

### **QC Summary**

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

> Result is greater than value reported

564713

- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.

Workorder:

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

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

- ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
- * Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

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

Page 10 of 16 SDG: 564713

# Radiochemistry Technical Case Narrative Santee Cooper SDG #: 564713

**Product:** Radium-226+Radium-228 Calculation

**Analytical Method:** Calculation

Analytical Procedure: GL-RAD-D-003 REV# 44

**Analytical Batch:** 2207658

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

GEL Sample ID#	Client Sample Identification
564713001	AF21736
564713002	AF21737
564713003	AF21738
564713004	AF21739
564713005	AF21740
564713006	AF21741

### **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:** GFPC, Ra228, Liquid

**Analytical Method:** EPA 904.0/SW846 9320 Modified **Analytical Procedure:** GL-RAD-A-063 REV# 5

**Analytical Batch:** 2207640

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

<b>GEL Sample ID#</b>	Client Sample Identification
564713001	AF21736
564713002	AF21737
564713003	AF21738
564713004	AF21739
564713005	AF21740
564713006	AF21741
1204978136	Method Blank (MB)
1204978137	564713004(AF21739) Sample Duplicate (DUP)
1204978138	Laboratory Control Sample (LCS)

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

Page 11 of 16 SDG: 564713

### **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 564713005 (AF21740) and 564713006 (AF21741) were non-homogenous matrix. Samples have a yellow tint. 564713005 (AF21740) and 564713006 (AF21741).

<u>Product:</u> Lucas Cell, Ra226, Liquid <u>Analytical Method:</u> EPA 903.1 Modified

**Analytical Procedure:** GL-RAD-A-008 REV# 15

**Analytical Batch:** 2207637

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

<b>GEL Sample ID#</b>	<b>Client Sample Identification</b>
564713001	AF21736
564713002	AF21737
564713003	AF21738
564713004	AF21739
564713005	AF21740
564713006	AF21741
1204978128	Method Blank (MB)
1204978129	564713006(AF21741) Sample Duplicate (DUP)
1204978130	564713006(AF21741) Matrix Spike (MS)
1204978131	Laboratory Control Sample (LCS)
1204978132	Laboratory Control Sample Duplicate (LCSD)

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 1204978129 (AF21741DUP), 1204978130 (AF21741MS), 564713005 (AF21740) and 564713006 (AF21741) were non-homogenous matrix.

### **Miscellaneous Information**

### **Additional Comments**

The matrix spike, 1204978130 (AF21741MS), aliquot was reduced to conserve sample volume.

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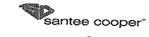
### **Certification Statement**

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.

Page 13 of 16 SDG: 564713

### **Chain of Custody**

564713



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

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Laboratories LLC SAMPLE RECEIPT & REVIEW FORM SDG/AR/COC/Work Order: 564713 Received By: M&S Date Received: 17.10.2 Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other Carrier and Tracking Number Suspected Hazard Information Yes *If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation. Hazard Class Shipped: UN#: A)Shipped as a DOT Hazardous? If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No_ B) Did the client designate the samples are to be COC notation or radioactive stickers on containers equal client designation. received as radioactive? C) Did the RSO classify the samples as Maximum Net Counts Observed* (Observed Counts - Area Background Counts): _ radioactive? Classified as: Rad 1 Rad 2 Rad 3 DEPM/mR/Hr COC notation or hazard labels on containers equal client designation. D) Did the client designate samples are hazardous? If D or E is yes, select Hazards below. E) Did the RSO identify possible hazards? PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other: Sample Receipt Criteria NA NA Comments/Qualifiers (Required for Non-Conforming Items) Shipping containers received intact and Circle Applicable: Seals broken Damaged container Leaking container Other (describe) sealed? Chain of custody documents included 2 Circle Applicable: Client contacted and provided COC with shipment? COC created upon receipt Preservation Method: Wet Ice Ice Packs Dry ice (None) Other: Samples requiring cold preservation within  $(0 \le 6 \text{ deg. C})$ ?* *all temperatures are recorded in Celsius Daily check performed and passed on IR 4 Temperature Device Serial #:エレス-21 temperature gun? Secondary Temperature Device Serial # (If Applicable): Circle Applicable: Scals broken Damaged container Leaking container Other (describe) Sample containers intact and sealed? Samples requiring chemical preservation Sample ID's and Containers Affected: 6 at proper pH? If Preservation added, Lot#: If Yes, are Encores or Soil Kits present for solids? Yes___No___ NA___(If yes, take to VOA Freezer) Do any samples require Volatile Do liquid VOA vials contain acid preservation? Yes No NA (If unknown, select No) 7 Are liquid VOA vials free of headspace? Yes____No___NA Analysis? Sample ID's and containers affected: Samples received within holding time? ID's and tests affected: Sample ID's on COC match ID's on ID's and containers affected: bottles? Date & time on COC match date & time Circle Applicable: No dates on containers No times on containers COC missing info Other (describe) on bottles? coc Says 2020 Soil containers Number of containers received match Circle Applicable. No container count on COC number indicated on COC? Are sample containers identifiable as GEL provided by use of GEL labels? COC form is properly signed in Circle Applicable: Not relinquished Other (describe) relinquished/received sections? Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials

and hear

List of current GEL Certifications as of 05 January 2022

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	SC000122021–36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
T, admington	2700



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD35144 Location: GW Well WAP-17 Date: 11/11/2015 Sample Collector: MGOINGS

Loc. Code WAP-17 Time: 14:30

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	200	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Arsenic Dissolved	150	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Barium	100	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cadmium	< 0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cobalt	< 0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	11/24/2015	TESTAMERICA	EPA 7470
Molybdenum	45	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	11/23/2015	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/25/2015	GEL	EPA 904.0
Chloride	769	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Sulfate	1140	mg/L	11/17/2015	LCWILLIA	EPA 300.0
Total Dissolved Solids	3140	mg/L	11/23/2015	AJBROWN	SM 2540C
рН	5.92	SU	11/11/2015	MDGOINGS	
Spec. Cond.	4018	uS	11/11/2015	MDGOINGS	
Dissolved Oxygen	0.44	ppm	11/11/2015	MDGOINGS	
Oxidation Reduction Potential	5	mv	11/11/2015	MDGOINGS	SM2580
Temp	27.72	С	11/11/2015	MDGOINGS	
Turbidity	8.1	NTU	11/11/2015	MDGOINGS	
Depth	3.99	Feet	11/11/2015	MDGOINGS	
Elevation	25.28	Feet	11/11/2015	MDGOINGS	
Boron	14200	ug/L	11/25/2015	GEL	EPA 6020B
Calcium	580	mg/L	11/30/2015	TESTAMERICA	EPA 6010D
Iron	3000	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lithium	825	ug/L	11/25/2015	GEL	EPA 6020B
Selenium	<20	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	11/28/2015	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD35145 Location: GW Well WAP-18 Date: 11/11/2015 Sample Collector: MGOINGS

**Loc. Code** WAP-18 **Time:** 13:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	260	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Arsenic Dissolved	240	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Barium	110	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	11/24/2015	TESTAMERICA	EPA 7470
Molybdenum	12	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Radium 226	1.03	pCi/L	11/23/2015	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/25/2015	GEL	EPA 904.0
Chloride	81.0	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Sulfate	960	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Total Dissolved Solids	1692	mg/L	12/10/2015	LCWILLIA	SM 2540C
рН	6.15	SU	11/11/2015	MDGOINGS	
Spec. Cond.	1089	uS	11/11/2015	MDGOINGS	
Dissolved Oxygen	0.43	ppm	11/11/2015	MDGOINGS	
Oxidation Reduction Potential	-25	mv	11/11/2015	MDGOINGS	SM2580
Temp	23.97	С	11/11/2015	MDGOINGS	
Turbidity	0	NTU	11/11/2015	MDGOINGS	
Depth	14.31	Feet	11/11/2015	MDGOINGS	
Elevation	28.74	Feet	11/11/2015	MDGOINGS	
Boron	4810	ug/L	11/25/2015	GEL	EPA 6020B
Calcium	460	mg/L	11/30/2015	TESTAMERICA	EPA 6010D
Iron	3100	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lithium	203	ug/L	11/25/2015	GEL	EPA 6020B
Selenium	<20	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	11/28/2015	TESTAMERICA	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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD35149 Location: GW Well WBW-1 Date: 11/10/2015 Sample Collector: MGOINGS

Loc. Code WBW-1 Time: 10:18

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<3.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Arsenic Dissolved	<3.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Barium	15	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	11/24/2015	TESTAMERICA	EPA 7470
Molybdenum	<10	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	11/23/2015	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/23/2015	GEL	EPA 904.0
Chloride	2.71	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Sulfate	4.95	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Total Dissolved Solids	8.000	mg/L	11/17/2015	AJBROWN	SM 2540C
рН	4.08	SU	11/10/2015	MDGOINGS	
Spec. Cond.	38	uS	11/10/2015	MDGOINGS	
Dissolved Oxygen	4.85	ppm	11/10/2015	MDGOINGS	
Oxidation Reduction Potential	294	mv	11/10/2015	MDGOINGS	SM2580
Temp	19.58	С	11/10/2015	MDGOINGS	
Turbidity	0	NTU	11/10/2015	MDGOINGS	
Depth	3.96	Feet	11/10/2015	MDGOINGS	
Elevation	28.01	Feet	11/10/2015	MDGOINGS	
Boron	<30.0	ug/L	11/25/2015	GEL	EPA 6020B
Calcium	<0.500	mg/L	11/30/2015	TESTAMERICA	EPA 6010D
Iron	<50	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lithium	<10.0	ug/L	11/25/2015	GEL	EPA 6020B
Selenium	<20	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	11/28/2015	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD35133 Location: GW Well WAP-1 Date: 11/10/2015 Sample Collector: MGOINGS

Loc. Code WAP-1 Time: 11:28

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<3.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Arsenic Dissolved	<3.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Barium	55	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	11/24/2015	TESTAMERICA	EPA 7470
Molybdenum	<10	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	11/23/2015	GEL	EPA 903.1 Mod
Radium 228	3.46	pCi/L	11/25/2015	GEL	EPA 904.0
Chloride	5.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Sulfate	9.20	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Total Dissolved Solids	27.50	mg/L	11/17/2015	AJBROWN	SM 2540C
рН	4.14	SU	11/10/2015	MDGOINGS	
Spec. Cond.	58	uS	11/10/2015	MDGOINGS	
Dissolved Oxygen	1.78	ppm	11/10/2015	MDGOINGS	
Oxidation Reduction Potential	358	mv	11/10/2015	MDGOINGS	SM2580
Temp	19.88	С	11/10/2015	MDGOINGS	
Turbidity	0	NTU	11/10/2015	MDGOINGS	
Depth	3	Feet	11/10/2015	MDGOINGS	
Elevation	26.44	Feet	11/10/2015	MDGOINGS	
Boron	26.9	ug/L	11/24/2015	GEL	EPA 6020B
Calcium	1.0	mg/L	11/30/2015	TESTAMERICA	EPA 6010D
Iron	150	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lithium	<10.0	ug/L	11/23/2015	GEL	EPA 6020B
Selenium	<20	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Zinc	55	ug/L	11/28/2015	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD35146 Location: GW Well WAP-19 Date: 11/11/2015 Sample Collector: MGOINGS

Loc. Code WAP-19 Time: 12:00

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	56	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Arsenic Dissolved	39	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Barium	100	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Beryllium	< 0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cobalt	< 0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	11/24/2015	TESTAMERICA	EPA 7470
Molybdenum	12	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Radium 226	1.25	pCi/L	11/23/2015	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/25/2015	GEL	EPA 904.0
Chloride	375	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Sulfate	874	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Total Dissolved Solids	2128	mg/L	11/23/2015	AJBROWN	SM 2540C
рН	6.14	SU	11/11/2015	MDGOINGS	
Spec. Cond.	2075	uS	11/11/2015	MDGOINGS	
Dissolved Oxygen	0.5	ppm	11/11/2015	MDGOINGS	
Oxidation Reduction Potential	-2	mv	11/11/2015	MDGOINGS	SM2580
Temp	24.19	С	11/11/2015	MDGOINGS	
Turbidity	0	NTU	11/11/2015	MDGOINGS	
Depth	15.15	Feet	11/11/2015	MDGOINGS	
Elevation	28.24	Feet	11/11/2015	MDGOINGS	
Boron	6190	ug/L	11/25/2015	GEL	EPA 6020B
Calcium	480	mg/L	11/30/2015	TESTAMERICA	EPA 6010D
Iron	25000	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lithium	283	ug/L	11/25/2015	GEL	EPA 6020B
Selenium	<20	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	11/28/2015	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD35450 Location: GW Well WAP-19 Date: 11/11/2015 Sample Collector: MGOINGS

Loc. Code WAP-19 duplicate Time: 12:05

	iplicate				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	58	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Arsenic Dissolved	47	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Barium	100	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	11/24/2015	TESTAMERICA	EPA 7470
Molybdenum	11	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	11/28/2015	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	11/23/2015	GEL	EPA 903.1 Mod
Radium 228	4.53	pCi/L	11/23/2015	GEL	EPA 904.0
Chloride	380	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Sulfate	879	mg/L	11/12/2015	LCWILLIA	EPA 300.0
Total Dissolved Solids	2132	mg/L	11/23/2015	AJBROWN	SM 2540C
Boron	6770	ug/L	11/25/2015	GEL	EPA 6020B
Calcium	470	mg/L	11/30/2015	TESTAMERICA	EPA 6010D
Iron	24000	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Lithium	311	ug/L	11/25/2015	GEL	EPA 6020B
Selenium	<20	ug/L	11/30/2015	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	11/28/2015	TESTAMERICA	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





### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD39076 Location: GW Well WAP-19 Date: 01/12/2016 Sample Collector: MGOINGS

**Loc. Code** WAP-19 **Time:** 16:09

Aughoria	D. a. H		To al Data	Analast	No. cl d
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	82	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Arsenic Dissolved	74	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Barium	69	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cobalt	< 0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	01/20/2016	TESTAMERICA	EPA 7470
Molybdenum	21	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	01/22/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/21/2016	GEL	EPA 904.0
Chloride	233	mg/L	01/19/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	01/21/2016	LCWILLIA	EPA 300.0
Sulfate	674	mg/L	01/19/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1526	mg/L	01/19/2016	AJBROWN	SM 2540C
рН	6.43	SU	01/12/2016	MDGOINGS	
Spec. Cond.	2080	uS	01/12/2016	MDGOINGS	
Dissolved Oxygen	0.73	ppm	01/12/2016	MDGOINGS	
Oxidation Reduction Potential	-37	mv	01/12/2016	MDGOINGS	SM2580
Temp	20.13	С	01/12/2016	MDGOINGS	
Turbidity	9.3	NTU	01/12/2016	MDGOINGS	
Depth	16.51	Feet	02/25/2016	MDGOINGS	
Elevation	26.88	Feet	02/25/2016	MDGOINGS	
Boron	3900	ug/L	01/25/2016	GEL	EPA 6020B
Calcium	320	mg/L	01/20/2016	TESTAMERICA	EPA 6010D
Iron	7200	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lithium	251	ug/L	01/22/2016	GEL	EPA 6020B
Selenium	<20	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
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### 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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD47956 Location: GW Well WAP-19 Date: 04/27/2016 Sample Collector: MDG RNT

**Loc. Code** WAP-19 **Time:** 13:41

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	58.7	ug/L	06/30/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	46.8	ug/L	06/22/2016	KLMORAN	EPA 6020B
Barium	37.3	ug/L	06/30/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Calcium	360	mg/L	06/30/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Chromium	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Iron	3164	ug/L	06/30/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	05/03/2016	GEL	EPA 7470
Molybdenum	36.6	ug/L	05/02/2016	GEL	EPA 6010D
Lead	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Antimony	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Selenium	<10	ug/L	07/19/2016	KLMORAN	EPA 6020B
Thallium	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Radium 226	<1.00	pCi/L	05/06/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	05/06/2016	GEL	EPA 904.0
Chloride	155	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Fluoride	0.17	mg/L	05/03/2016	LCWILLIA	EPA 300.0
Sulfate	880	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1525	mg/L	05/03/2016	KLMORAN	SM 2540C
рН	6.31	SU	06/08/2016	MDGOINGS	
Spec. Cond.	1870	uS	06/08/2016	MDGOINGS	
Dissolved Oxygen	1.47	ppm	06/08/2016	MDGOINGS	
Oxidation Reduction Potential	47	mv	06/08/2016	MDGOINGS	SM2580
Temp	21.81	С	06/08/2016	MDGOINGS	
Turbidity	0	NTU	06/08/2016	MDGOINGS	
Depth	19.45	Feet	06/17/2016	MDGOINGS	
Elevation	23.94	Feet	06/17/2016	MDGOINGS	
Boron	1990	ug/L	05/04/2016	GEL	EPA 6020B
Lithium	305	ug/L	05/03/2016	GEL	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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD52953 Location: GW Well WAP-19 Date: 06/21/2016 Sample Collector: RT_MG

Loc. Code WAP-19 Time: 12:26

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	41.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	36.0	ug/L	07/28/2016	KLMORAN	EPA 6020B
Barium	53.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Calcium	350	mg/L	08/09/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Chromium	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Iron	6279	ug/L	08/09/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	06/28/2016	GEL	EPA 7470
Molybdenum	25.9	ug/L	06/27/2016	GEL	EPA 6010D
Lead	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Antimony	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Selenium	<10.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Thallium	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Radium 226	<1.00	pCi/L	07/01/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	06/29/2016	GEL	EPA 904.0
Chloride	134	mg/L	06/23/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Sulfate	841	mg/L	06/23/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1684	mg/L	06/27/2016	ALDERIEN	SM 2540C
рН	6.18	SU	06/27/2016	MDGOINGS	
Spec. Cond.	1770	uS	06/27/2016	MDGOINGS	
Dissolved Oxygen	.65	ppm	06/27/2016	MDGOINGS	
Oxidation Reduction Potential	47	mv	06/27/2016	MDGOINGS	SM2580
Temp	25.61	С	06/27/2016	MDGOINGS	
Turbidity	19.1	NTU	06/27/2016	MDGOINGS	
Depth	17.45	Feet	08/22/2016	MDGOINGS	
Elevation	25.94	Feet	08/22/2016	MDGOINGS	
Boron	2650	ug/L	06/29/2016	GEL	EPA 6020B
Lithium	210	ug/L	06/28/2016	GEL	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





### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD64693 Location: GW Well WAP-19 Date: 10/20/2016 Sample Collector: MDG/RNT

**Loc. Code** WAP-19 **Time:** 11:33

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	77.9	ug/L	01/03/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	68.0	ug/L	12/21/2016	KCWELLS	EPA 6020B
Barium	78.1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Beryllium	<0.5	ug/L	01/04/2017	KCWELLS	EPA 6020B
Calcium	396	mg/L	01/03/2017	KCWELLS	EPA 6020B
Cadmium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Cobalt	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Chromium	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Iron	15682	ug/L	01/03/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	10/25/2016	GEL	EPA 7470
Molybdenum	39.1	ug/L	10/24/2016	GEL	EPA 6010D
Lead	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Antimony	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	01/03/2017	KCWELLS	EPA 6020B
Thallium	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	11/13/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/17/2016	GEL	EPA 904.0
Chloride	240	mg/L	10/21/2016	LCWILLIA	EPA 300.0
Fluoride	0.11	mg/L	10/27/2016	LCWILLIA	EPA 300.0
Sulfate	837	mg/L	10/21/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1612	mg/L	10/26/2016	LCWILLIA	SM 2540C
рН	5.97	SU	10/20/2016	RNTURNBU	
Spec. Cond.	2190	uS	10/20/2016	RNTURNBU	
Dissolved Oxygen	0.6	ppm	10/20/2016	RNTURNBU	
Oxidation Reduction Potential	11	mv	10/20/2016	RNTURNBU	SM2580
Temp	24.59	С	10/20/2016	RNTURNBU	
Turbidity	0	NTU	10/20/2016	RNTURNBU	
Depth	15.77	Feet	10/20/2016	RNTURNBU	
Elevation	27.62	Feet	10/20/2016	RNTURNBU	
Boron	4610	ug/L	10/28/2016	GEL	EPA 6020B
Lithium	237	ug/L	10/27/2016	GEL	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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD71615 Location: GW Well WAP-19 Date: 01/12/2017 Sample Collector: MDG/CNN

**Loc. Code** WAP-19 **Time:** 14:41

Result	Units	Test Date	Analyst	Method	
102	ug/L	03/01/2017	KCWELLS	EPA 6020B	
52.1	ug/L	03/01/2017	KCWELLS	EPA 6020B	
53.6	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B	
315	mg/L	03/01/2017	KCWELLS	EPA 6020B	
<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B	
6130	ug/L	03/01/2017	KCWELLS	EPA 6020B	
46.0	ug/L	01/19/2017	GEL	EPA 6010D	
<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<10	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B	
<1.00	pCi/L	02/01/2017	GEL	EPA 903.1 Mod	
<3.00	pCi/L	01/26/2017	GEL	EPA 904.0	
227	mg/L	01/14/2017	LCWILLIA	EPA 300.0	
0.19	mg/L	01/13/2017	LCWILLIA	EPA 300.0	
658	mg/L	01/14/2017	LCWILLIA	EPA 300.0	
1571	mg/L	01/18/2017	LCWILLIA	SM 2540C	
6.18	SU	01/12/2017	MDG/CNN		
1940	uS	01/12/2017	MDG/CNN		
0.700	ppm	01/12/2017	MDG/CNN		
12.0	mv	01/12/2017	MDG/CNN	SM2580	
20.95	С	01/12/2017	MDG/CNN		
0	NTU	01/12/2017	MDG/CNN		
18.25	Feet	01/12/2017	MDG/CNN		
25.14	Feet	01/12/2017	MDG/CNN		
4300	ug/L	01/27/2017	GEL	EPA 6020B	
255	ug/L	01/20/2017	GEL	EPA 6020B	
	102 52.1 53.6 <0.50 315 <0.50 <0.50 <5.0 6130 46.0 <1.0 <5.0 <10 <1.00 <1.00 <3.00 227 0.19 658 1571 6.18 1940 0.700 12.0 20.95 0 18.25 25.14 4300	102       ug/L         52.1       ug/L         53.6       ug/L         <0.50	102       ug/L       03/01/2017         52.1       ug/L       03/01/2017         53.6       ug/L       03/01/2017         <0.50	102         ug/L         03/01/2017         KCWELLS           52.1         ug/L         03/01/2017         KCWELLS           53.6         ug/L         03/01/2017         KCWELLS           <0.50	

### 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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

Sample # AD76336 Location: GW Well WAP-19 Date: 03/13/2017 Sample Collector: MDG/CNN

Loc. Code WAP-19 Hg Retest Time: 14:35

 Analysis
 Result
 Units
 Test Date
 Analyst
 Method

 Mercury
 <0.200</td>
 ug/L
 03/16/2017
 TESTAMERICA
 EPA 7470

### 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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD78687 Location: GW Well WAP-19 Date: 04/12/2017 Sample Collector: MDG/CNN

**Loc. Code** WAP-19 **Time:** 15:14

Analysis	Result	Units	Test Date	Analyst	Method	
Arsenic	125	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Arsenic Dissolved	71.6	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Barium	45.6	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Beryllium	<0.50	ug/L	05/23/2017	KCWELLS	EPA 6020B	
Boron	3300	ug/L	05/15/2017	ROGERSCALLCO	EPA 6010D	
Calcium	321	mg/L	05/19/2017	KCWELLS	EPA 6020B	
Cadmium	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Cobalt	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Chromium	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Iron	5020	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Mercury	<0.200	ug/L	04/20/2017	GEL	EPA 7470	
Lithium	290	ug/L	05/12/2017	ROGERSCALLCO	EPA 6010D	
Molybdenum	49.3	ug/L	04/19/2017	GEL	EPA 6010D	
Lead	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Antimony	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Selenium	<10	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Thallium	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B	
Radium 226	<1.00	pCi/L	04/26/2017	GEL	EPA 903.1 Mod	
Radium 228	<3.00	pCi/L	04/27/2017	GEL	EPA 904.0	
Chloride	222	mg/L	04/17/2017	LCWILLIA	EPA 300.0	
Fluoride	0.34	mg/L	04/12/2017	LCWILLIA	EPA 300.0	
Sulfate	716	mg/L	04/17/2017	LCWILLIA	EPA 300.0	
Total Dissolved Solids	1570	mg/L	04/17/2017	LCWILLIA	SM 2540C	
рН	6.38	SU	04/12/2017	MDG/CNN		
Spec. Cond.	2020	uS	04/12/2017	MDG/CNN		
Dissolved Oxygen	0.710	ppm	04/12/2017	MDG/CNN		
Oxidation Reduction Potential	26.0	mv	04/12/2017	MDG/CNN	SM2580	
Temp	20.73	С	04/12/2017	MDG/CNN		
Turbidity	11.0	NTU	04/12/2017	MDG/CNN		
Depth	19.87	Feet	04/12/2017	MDG/CNN		
Elevation	23.52	Feet	04/12/2017	MDG/CNN		

### 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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD93049 Location: GW Well WAP-19 Date: 09/21/2017 Sample Collector: MDG

**Loc. Code** WAP-19 **Time:** 13:51

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	60.6	ug/L	10/09/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	49.3	ug/L	10/09/2017	KCWELLS	EPA 6020B
Barium	56.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	10/09/2017	KCWELLS	EPA 6020B
Boron	4600	ug/L	09/28/2017	ROGERSNCALLC	EPA 6010D
Calcium	371	mg/L	10/09/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	10/09/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Iron	4110	ug/L	10/09/2017	KCWELLS	EPA 6020B
Mercury	<0.2	ug/L	09/27/2017	ROGERSNCALLC	EPA 7470
Lithium	280	ug/L	09/27/2017	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	10/09/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	10/03/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	10/04/2017	GEL	EPA 904.0
Chloride	212	mg/L	09/22/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	09/22/2017	LCWILLIA	EPA 300.0
Sulfate	960	mg/L	09/22/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1776	mg/L	09/25/2017	KCWELLS	SM 2540C
рН	6.16	SU	09/21/2017	CNN/MDG	
Spec. Cond.	2260	uS	09/21/2017	CNN/MDG	
Dissolved Oxygen	1.18	ppm	09/21/2017	CNN/MDG	
Oxidation Reduction Potential	54.0	mv	09/21/2017	CNN/MDG	SM2580
Temp	25.83	С	09/21/2017	CNN/MDG	
Turbidity	2.00	NTU	09/21/2017	CNN/MDG	
Depth	18.50	Feet	09/21/2017	CNN/MDG	
Elevation	24.89	Feet	09/21/2017	CNN/MDG	
Molybdenum	39	ug/L	09/28/2017	ROGERSNCALLC	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD39059 Location: GW Well WAP-1 Date: 01/11/2016 Sample Collector: MGOINGS

Loc. Code WAP-1 Time: 11:51

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<3.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Arsenic Dissolved	<3.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Barium	8.7	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	01/20/2016	TESTAMERICA	EPA 7470
Molybdenum	<10	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Radium 226	1.20	pCi/L	01/22/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/21/2016	GEL	EPA 904.0
Chloride	5.17	mg/L	01/12/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	01/12/2016	LCWILLIA	EPA 300.0
Sulfate	9.57	mg/L	01/12/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	30.00	mg/L	01/19/2016	AJBROWN	SM 2540C
рН	3.68	SU	01/11/2016	MDGOINGS	
Spec. Cond.	58	uS	01/11/2016	MDGOINGS	
Dissolved Oxygen	1.5	ppm	01/11/2016	MDGOINGS	
Oxidation Reduction Potential	380	mv	01/11/2016	MDGOINGS	SM2580
Temp	15.33	С	01/11/2016	MDGOINGS	
Turbidity	9.6	NTU	01/11/2016	MDGOINGS	
Depth	4.84	Feet	01/11/2016	MDGOINGS	
Elevation	24.6	Feet	01/11/2016	MDGOINGS	
Aluminum	1.40	mg/L	01/20/2016	TESTAMERICA	EPA 6010C
Boron	28.9	ug/L	01/25/2016	GEL	EPA 6020B
Calcium	0.610	mg/L	01/20/2016	TESTAMERICA	EPA 6010D
Iron	260	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lithium	<10.0	ug/L	01/22/2016	GEL	EPA 6020B
Magnesium	<0.500	mg/L	01/20/2016	TESTAMERICA	EPA 6010D
Selenium	<20	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Zinc	21	ug/L	01/21/2016	TESTAMERICA	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



### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD47942 Location: GW Well WAP-1 Date: 04/26/2016 Sample Collector: MDG EG

Loc. Code WAP-1 Time: 13:33

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/22/2016	KLMORAN	EPA 6020B
Barium	7.97	ug/L	06/30/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Calcium	0.555	mg/L	06/30/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Chromium	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Iron	455	ug/L	06/30/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	05/03/2016	GEL	EPA 7470
Molybdenum	<10.0	ug/L	05/02/2016	GEL	EPA 6010D
Lead	1.29	ug/L	06/30/2016	KLMORAN	EPA 6020B
Antimony	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Selenium	<10	ug/L	07/19/2016	KLMORAN	EPA 6020B
Thallium	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Radium 226	1.03	pCi/L	05/06/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	05/06/2016	GEL	EPA 904.0
Chloride	4.39	mg/L	05/03/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	05/03/2016	LCWILLIA	EPA 300.0
Sulfate	9.14	mg/L	05/03/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	<100.0	mg/L	05/04/2016	LCWILLIA	SM 2540C
рН	4.15	SU	06/08/2016	MDGOINGS	
Spec. Cond.	51	uS	06/08/2016	MDGOINGS	
Dissolved Oxygen	0.42	ppm	06/08/2016	MDGOINGS	
Oxidation Reduction Potential	264	mv	06/08/2016	MDGOINGS	SM2580
Temp	18.94	С	06/08/2016	MDGOINGS	
Turbidity	0	NTU	06/08/2016	MDGOINGS	
Depth	5.89	Feet	06/17/2016	MDGOINGS	
Elevation	23.55	Feet	06/17/2016	MDGOINGS	
Boron	22.2	ug/L	05/04/2016	GEL	EPA 6020B
Lithium	<10.0	ug/L	05/03/2016	GEL	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





### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD52935 Location: GW Well WAP-1 Date: 06/20/2016 Sample Collector: RT_MG

Loc. Code WAP-1 Time: 12:56

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/28/2016	KLMORAN	EPA 6020B
Barium	94.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	08/03/2016	KLMORAN	EPA 6020B
Calcium	26.9	mg/L	08/05/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	08/03/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	08/03/2016	KLMORAN	EPA 6020B
Chromium	<5.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Iron	655	ug/L	08/03/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	06/28/2016	GEL	EPA 7470
Molybdenum	<10.0	ug/L	06/27/2016	GEL	EPA 6010D
Lead	<1.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Antimony	<5.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Selenium	<10.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Thallium	<1.0	ug/L	08/03/2016	KLMORAN	EPA 6020B
Radium 226	<1.00	pCi/L	07/01/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	06/29/2016	GEL	EPA 904.0
Chloride	7.93	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Fluoride	0.14	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Sulfate	<2.00	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	234.0	mg/L	06/22/2016	LCWILLIA	SM 2540C
рН	7.61	SU	06/27/2016	MDGOINGS	
Spec. Cond.	326	uS	06/27/2016	MDGOINGS	
Dissolved Oxygen	.84	ppm	06/27/2016	MDGOINGS	
Oxidation Reduction Potential	-170	mv	07/06/2016	MDGOINGS	SM2580
Temp	19.09	С	06/27/2016	MDGOINGS	
Turbidity	0	NTU	06/27/2016	MDGOINGS	
Depth	5.9	Feet	08/22/2016	MDGOINGS	
Elevation	23.54	Feet	08/22/2016	MDGOINGS	
Aluminum	<0.100	mg/L	08/03/2016	KLMORAN	EPA 6020B
Boron	34.8	ug/L	06/29/2016	GEL	EPA 6020B
Lithium	11.6	ug/L	06/28/2016	GEL	EPA 6020B
Magnesium	1.90	mg/L	08/03/2016	KLMORAN	EPA 6020B
Zinc	<10.0	ug/L	08/07/2016	KLMORAN	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





### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD64680 Location: GW Well WAP-1 Date: 10/18/2016 Sample Collector: MDG/RNT

Loc. Code WAP-1 Time: 14:40

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5	ug/L	12/21/2016	KCWELLS	EPA 6020B
Barium	9.25	ug/L	01/03/2017	KCWELLS	EPA 6020B
Beryllium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Calcium	0.507	mg/L	01/03/2017	KCWELLS	EPA 6020B
Cadmium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Cobalt	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Chromium	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Iron	678	ug/L	01/03/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	10/25/2016	GEL	EPA 7470
Molybdenum	<10.0	ug/L	10/24/2016	GEL	EPA 6010D
Lead	1.7	ug/L	01/03/2017	KCWELLS	EPA 6020B
Antimony	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	01/03/2017	KCWELLS	EPA 6020B
Thallium	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	11/13/2016	GEL	EPA 903.1 Mod
Radium 228	4.74	pCi/L	11/17/2016	GEL	EPA 904.0
Chloride	4.91	mg/L	10/21/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	10/27/2016	LCWILLIA	EPA 300.0
Sulfate	15.5	mg/L	10/21/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	98.33	mg/L	10/26/2016	LCWILLIA	SM 2540C
рН	4.31	SU	10/18/2016	RNTURNBU	
Spec. Cond.	53	uS	10/18/2016	RNTURNBU	
Dissolved Oxygen	0.97	ppm	10/18/2016	RNTURNBU	
Oxidation Reduction Potential	99	mv	10/18/2016	RNTURNBU	SM2580
Temp	21.87	С	10/18/2016	RNTURNBU	
Turbidity	0	NTU	10/18/2016	RNTURNBU	
Depth	4.21	Feet	10/18/2016	RNTURNBU	
Elevation	25.23	Feet	10/18/2016	RNTURNBU	
Boron	26.9	ug/L	10/28/2016	GEL	EPA 6020B
Lithium	<10.0	ug/L	10/27/2016	GEL	EPA 6020B
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### 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



### ITEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD71597 Location: GW Well WAP-1 Date: 01/09/2017 Sample Collector: MDG/CNN

Loc. Code WAP-1 Time: 12:55

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	02/16/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	02/16/2017	KCWELLS	EPA 6020B
Barium	7.1	ug/L	02/16/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	02/16/2017	KCWELLS	EPA 6020B
Calcium	<0.50	mg/L	02/16/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	02/16/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	02/16/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	02/16/2017	KCWELLS	EPA 6020B
Iron	13300	ug/L	02/16/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	01/17/2017	GEL	EPA 7470
Molybdenum	<10.0	ug/L	01/17/2017	GEL	EPA 6010D
Lead	4.56	ug/L	02/16/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	02/16/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	02/16/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	02/16/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	02/03/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/20/2017	GEL	EPA 904.0
Chloride	4.98	mg/L	01/11/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	01/11/2017	LCWILLIA	EPA 300.0
Sulfate	8.30	mg/L	01/11/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	51.25	mg/L	01/12/2017	LCWILLIA	SM 2540C
рН	4.11	SU	01/09/2017	MDG/CNN	
Spec. Cond.	60.0	uS	01/09/2017	MDG/CNN	
Dissolved Oxygen	1.45	ppm	01/09/2017	MDG/CNN	
Oxidation Reduction Potential	321	mv	01/09/2017	MDG/CNN	SM2580
Temp	12.74	С	01/09/2017	MDG/CNN	
Turbidity	8.80	NTU	01/09/2017	MDG/CNN	
Depth	4.42	Feet	01/09/2017	MDG/CNN	
Elevation	25.02	Feet	01/09/2017	MDG/CNN	
Aluminum	2.0	mg/L	02/16/2017	KCWELLS	EPA 6020B
Boron	28.4	ug/L	01/23/2017	GEL	EPA 6020B
Lithium	<10.0	ug/L	01/27/2017	GEL	EPA 6020B
Magnesium	0.162	mg/L	02/16/2017	KCWELLS	EPA 6020B
Zinc	22.3	ug/L	02/16/2017	KCWELLS	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





### SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD78674 Location: GW Well WAP-1 Date: 04/10/2017 Sample Collector: MDG/CNN

Loc. Code WAP-1 Time: 11:49

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	05/01/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	05/01/2017	KCWELLS	EPA 6020B
Barium	5.8	ug/L	05/01/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	05/01/2017	KCWELLS	EPA 6020B
Boron	23	ug/L	05/15/2017	ROGERSCALLCO	EPA 6010D
Calcium	<0.50	mg/L	05/01/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	05/01/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	05/01/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	05/01/2017	KCWELLS	EPA 6020B
Iron	974	ug/L	05/01/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	04/13/2017	GEL	EPA 7470
Lithium	<10	ug/L	05/12/2017	ROGERSCALLCO	EPA 6010D
Molybdenum	<10.0	ug/L	04/12/2017	GEL	EPA 6010D
Lead	1.3	ug/L	05/01/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	05/01/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	05/01/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	05/01/2017	KCWELLS	EPA 6020B
Radium 226	1.38	pCi/L	04/15/2017	GEL	EPA 903.1 Mod
Radium 228	4.59	pCi/L	04/17/2017	GEL	EPA 904.0
Chloride	6.13	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Sulfate	7.26	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	36.25	mg/L	04/17/2017	LCWILLIA	SM 2540C
рН	4.39	SU	04/10/2017	MDG/CNN	
Spec. Cond.	56.0	uS	04/10/2017	MDG/CNN	
Dissolved Oxygen	0.890	ppm	04/10/2017	MDG/CNN	
Oxidation Reduction Potential	105	mv	04/10/2017	MDG/CNN	SM2580
Temp	20.64	С	04/10/2017	MDG/CNN	
Turbidity	0.400	NTU	04/10/2017	MDG/CNN	
Depth	4.61	Feet	04/10/2017	MDG/CNN	
Elevation	24.83	Feet	04/10/2017	MDG/CNN	

### 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



Sample # AD93032 Location: GW Well WAP-1 Date: 09/18/2017 Sample Collector: CNN

Loc. Code WAP-1 Time: 11:18

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	10/02/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	10/02/2017	KCWELLS	EPA 6020B
Barium	20.6	ug/L	10/02/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	10/02/2017	KCWELLS	EPA 6020B
Boron	37	ug/L	09/28/2017	ROGERSNCALLC	EPA 6010D
Calcium	2.6	mg/L	10/02/2017	KCWELLS	EPA 6020B
Cadmium	<0.5	ug/L	10/02/2017	KCWELLS	EPA 6020B
Cobalt	< 0.50	ug/L	10/02/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	10/02/2017	KCWELLS	EPA 6020B
Iron	1000	ug/L	10/02/2017	KCWELLS	EPA 6020B
Mercury	<0.2	ug/L	09/27/2017	ROGERSNCALLC	EPA 7470
Lithium	<10	ug/L	09/27/2017	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	10/02/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	10/02/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	10/02/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	10/02/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	09/27/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	10/03/2017	GEL	EPA 904.0
Chloride	9.70	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Sulfate	3.77	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	42.00	mg/L	09/20/2017	KCWELLS	SM 2540C
рН	4.70	SU	09/18/2017	CNN/MDG	
Spec. Cond.	63.0	uS	09/18/2017	CNN/MDG	
Dissolved Oxygen	0.790	ppm	09/18/2017	CNN/MDG	
Oxidation Reduction Potential	90.0	mv	09/18/2017	CNN/MDG	SM2580
Temp	24.91	С	09/18/2017	CNN/MDG	
Turbidity	0	NTU	09/18/2017	CNN/MDG	
Depth	6.12	Feet	09/18/2017	CNN/MDG	
Elevation	23.32	Feet	09/18/2017	CNN/MDG	
Molybdenum	<10	ug/L	09/27/2017	ROGERSNCALLC	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD39079 Location: GW Well WBW-1 Date: 01/11/2016 Sample Collector: MGOINGS

Loc. Code WBW-1 Time: 10:45

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<3.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Arsenic Dissolved	<3.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Barium	16	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	01/20/2016	TESTAMERICA	EPA 7470
Molybdenum	<10	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	01/22/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/21/2016	GEL	EPA 904.0
Chloride	3.07	mg/L	01/13/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	01/12/2016	LCWILLIA	EPA 300.0
Sulfate	6.38	mg/L	01/13/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	15.83	mg/L	01/19/2016	AJBROWN	SM 2540C
рН	3.55	SU	01/11/2016	MDGOINGS	
Spec. Cond.	40	uS	01/11/2016	MDGOINGS	
Dissolved Oxygen	4.39	ppm	01/11/2016	MDGOINGS	
Oxidation Reduction Potential	323	mv	01/11/2016	MDGOINGS	SM2580
Temp	14.07	С	01/11/2016	MDGOINGS	
Turbidity	1.8	NTU	01/11/2016	MDGOINGS	
Depth	6.04	Feet	01/11/2016	MDGOINGS	
Elevation	25.93	Feet	01/11/2016	MDGOINGS	
Boron	<30.0	ug/L	01/25/2016	GEL	EPA 6020B
Calcium	<0.500	mg/L	01/20/2016	TESTAMERICA	EPA 6010D
Iron	<50	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lithium	<10.0	ug/L	01/22/2016	GEL	EPA 6020B
Selenium	<20	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Zinc	21	ug/L	01/21/2016	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD47948 Location: GW Well WBW-1 Date: 04/26/2016 Sample Collector: MDG EG

Loc. Code WBW-1 Time: 12:16

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	06/22/2016	KLMORAN	EPA 6020B
Barium	15.0	ug/L	06/30/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Calcium	<0.500	mg/L	06/30/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Chromium	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Iron	<50	ug/L	06/30/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	05/03/2016	GEL	EPA 7470
Molybdenum	<10.0	ug/L	05/02/2016	GEL	EPA 6010D
Lead	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Antimony	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Selenium	<10	ug/L	07/19/2016	KLMORAN	EPA 6020B
Thallium	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Radium 226	1.33	pCi/L	05/06/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	05/09/2016	GEL	EPA 904.0
Chloride	2.44	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	05/03/2016	LCWILLIA	EPA 300.0
Sulfate	5.35	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	<33.3	mg/L	05/04/2016	LCWILLIA	SM 2540C
рН	4.07	SU	06/08/2016	MDGOINGS	
Spec. Cond.	38	uS	06/08/2016	MDGOINGS	
Dissolved Oxygen	3.18	ppm	06/08/2016	MDGOINGS	
Oxidation Reduction Potential	179	mv	06/08/2016	MDGOINGS	SM2580
Temp	19.59	С	06/08/2016	MDGOINGS	
Turbidity	0	NTU	06/08/2016	MDGOINGS	
Depth	6.69	Feet	06/17/2016	MDGOINGS	
Elevation	25.28	Feet	06/17/2016	MDGOINGS	
Boron	15.3	ug/L	05/04/2016	GEL	EPA 6020B
Lithium	<10.0	ug/L	05/03/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD53348 Location: GW Well WBW-1 Date: 06/20/2016 Sample Collector: RRT/SN

Loc. Code WBW-1 Time: 11:57

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	07/29/2016	KLMORAN	EPA 6020B
Barium	15.2	ug/L	08/09/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Calcium	<0.500	mg/L	08/09/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Chromium	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Iron	<50	ug/L	08/09/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	06/28/2016	GEL	EPA 7470
Molybdenum	<10.0	ug/L	06/27/2016	GEL	EPA 6010D
Lead	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Antimony	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Selenium	<10.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Thallium	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Radium 226	<1.0	pCi/L	07/01/2016	GEL	EPA 903.1 Mod
Radium 228	<3.0	pCi/L	06/29/2016	GEL	EPA 904.0
Chloride	2.57	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Sulfate	5.14	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	22.50	mg/L	06/27/2016	ALDERIEN	SM 2540C
рН	4	SU	07/06/2016	MDGOINGS	
Spec. Cond.	40	uS	07/06/2016	MDGOINGS	
Dissolved Oxygen	3.69	ppm	07/06/2016	MDGOINGS	
Oxidation Reduction Potential	241	mv	07/06/2016	MDGOINGS	SM2580
Temp	22.3	С	07/06/2016	MDGOINGS	
Turbidity	0	NTU	07/06/2016	MDGOINGS	
Depth	6.58	Feet	08/01/2016	MDGOINGS	
Elevation	25.39	Feet	08/01/2016	MDGOINGS	
Boron	<15.0	ug/L	06/29/2016	GEL	EPA 6020B
Lithium	<10.0	ug/L	06/28/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD64696 Location: GW Well WBW-1 Date: 10/17/2016 Sample Collector: MDG/RNT

Loc. Code WBW-1 Time: 15:20

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5	ug/L	12/21/2016	KCWELLS	EPA 6020B
Barium	14.7	ug/L	01/03/2017	KCWELLS	EPA 6020B
Beryllium	<0.5	ug/L	01/04/2017	KCWELLS	EPA 6020B
Calcium	<0.5	mg/L	01/03/2017	KCWELLS	EPA 6020B
Cadmium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Cobalt	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Chromium	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Iron	<50	ug/L	01/03/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	10/25/2016	GEL	EPA 7470
Molybdenum	<10.0	ug/L	10/24/2016	GEL	EPA 6010D
Lead	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Antimony	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	01/03/2017	KCWELLS	EPA 6020B
Thallium	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Radium 226	1.04	pCi/L	11/13/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/15/2016	GEL	EPA 904.0
Chloride	2.72	mg/L	10/19/2016	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	10/19/2016	LCWILLIA	EPA 300.0
Sulfate	5.30	mg/L	10/19/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	30.00	mg/L	10/20/2016	LCWILLIA	SM 2540C
рН	4.15	SU	10/17/2016	RNTURNBU	
Spec. Cond.	36	uS	10/17/2016	RNTURNBU	
Dissolved Oxygen	2.42	ppm	10/17/2016	RNTURNBU	
Oxidation Reduction Potential	318	mv	10/17/2016	RNTURNBU	SM2580
Temp	25.1	С	10/17/2016	RNTURNBU	
Turbidity	0	NTU	10/17/2016	RNTURNBU	
Depth	4.99	Feet	10/17/2016	RNTURNBU	
Elevation	26.98	Feet	10/17/2016	RNTURNBU	
Boron	<15.0	ug/L	10/26/2016	GEL	EPA 6020B
Lithium	<10.0	ug/L	10/26/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD71622 Location: GW Well WBW-1 Date: 01/09/2017 Sample Collector: MDG/CNN

Loc. Code WBW-1 Time: 11:33

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Barium	13.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	03/03/2017	KCWELLS	EPA 6020B
Calcium	<0.50	mg/L	03/01/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Iron	<50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	01/17/2017	GEL	EPA 7470
Molybdenum	<10.0	ug/L	01/17/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	03/01/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	02/03/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/20/2017	GEL	EPA 904.0
Chloride	3.45	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Sulfate	4.86	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	45.00	mg/L	01/12/2017	LCWILLIA	SM 2540C
рН	3.83	SU	01/09/2017	MDG/CNN	
Spec. Cond.	49.0	uS	01/09/2017	MDG/CNN	
Dissolved Oxygen	3.09	ppm	01/09/2017	MDG/CNN	
Oxidation Reduction Potential	252	mv	01/09/2017	MDG/CNN	SM2580
Temp	9.960	С	01/09/2017	MDG/CNN	
Turbidity	17.0	NTU	01/09/2017	MDG/CNN	
Depth	5.95	Feet	01/09/2017	MDG/CNN	
Elevation	26.02	Feet	01/09/2017	MDG/CNN	
Boron	<75.0	ug/L	01/24/2017	GEL	EPA 6020B
Lithium	<10.0	ug/L	01/23/2017	GEL	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





Sample # AD78690 Location: GW Well WBW-1 Date: 04/10/2017 Sample Collector: MDG/CNN

Loc. Code WBW-1 Time: 10:50

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Barium	15.5	ug/L	05/19/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	05/23/2017	KCWELLS	EPA 6020B
Boron	23	ug/L	05/15/2017	ROGERSCALLCO	EPA 6010D
Calcium	<0.50	mg/L	05/19/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Iron	<50.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	04/13/2017	GEL	EPA 7470
Lithium	<10	ug/L	05/12/2017	ROGERSCALLCO	EPA 6010D
Molybdenum	<10.0	ug/L	04/12/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	05/19/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	04/15/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	04/17/2017	GEL	EPA 904.0
Chloride	4.96	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Fluoride	0.10	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Sulfate	4.26	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	52.50	mg/L	04/17/2017	LCWILLIA	SM 2540C
рН	4.08	SU	04/10/2017	MDG/CNN	
Spec. Cond.	48.0	uS	04/10/2017	MDG/CNN	
Dissolved Oxygen	3.84	ppm	04/10/2017	MDG/CNN	
Oxidation Reduction Potential	95.0	mv	04/10/2017	MDG/CNN	SM2580
Temp	17.85	С	04/10/2017	MDG/CNN	
Turbidity	0	NTU	04/10/2017	MDG/CNN	
Depth	6.24	Feet	04/10/2017	MDG/CNN	
Elevation	25.73	Feet	04/10/2017	MDG/CNN	

### 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



Sample # AD93052 Location: GW Well WBW-1 Date: 09/18/2017 Sample Collector: CNN

Loc. Code WBW-1 Time: 12:25

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	<5.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	<5.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Barium	15.2	ug/L	10/06/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Boron	19	ug/L	09/28/2017	ROGERSNCALLC	EPA 6010D
Calcium	<0.50	mg/L	10/06/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Iron	<50.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Mercury	<0.2	ug/L	09/27/2017	ROGERSNCALLC	EPA 7470
Lithium	<10	ug/L	09/27/2017	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	10/06/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Radium 226	1.29	pCi/L	09/27/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	10/03/2017	GEL	EPA 904.0
Chloride	6.77	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Sulfate	4.40	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	158.0	mg/L	09/20/2017	KCWELLS	SM 2540C
рН	4.00	SU	09/18/2017	CNN/MDG	
Spec. Cond.	55.0	uS	09/18/2017	CNN/MDG	
Dissolved Oxygen	2.16	ppm	09/18/2017	CNN/MDG	
Oxidation Reduction Potential	166	mv	09/18/2017	CNN/MDG	SM2580
Temp	25.27	С	09/18/2017	CNN/MDG	
Turbidity	0	NTU	09/18/2017	CNN/MDG	
Depth	5.02	Feet	09/18/2017	CNN/MDG	
Elevation	26.95	Feet	09/18/2017	CNN/MDG	
Molybdenum	<10	ug/L	09/27/2017	ROGERSNCALLC	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD39075 Location: GW Well WAP-18 Date: 01/12/2016 Sample Collector: MGOINGS

Loc. Code WAP-18 Time: 14:03

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	240	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Arsenic Dissolved	250	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Barium	92	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	01/20/2016	TESTAMERICA	EPA 7470
Molybdenum	34	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	01/22/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/21/2016	GEL	EPA 904.0
Chloride	15.3	mg/L	01/15/2016	LCWILLIA	EPA 300.0
Fluoride	1.06	mg/L	01/15/2016	LCWILLIA	EPA 300.0
Sulfate	903	mg/L	01/15/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1452	mg/L	01/19/2016	AJBROWN	SM 2540C
рН	6.28	SU	01/12/2016	MDGOINGS	
Spec. Cond.	1790	uS	01/12/2016	MDGOINGS	
Dissolved Oxygen	0.86	ppm	01/12/2016	MDGOINGS	
Oxidation Reduction Potential	-68	mv	01/12/2016	MDGOINGS	SM2580
Temp	18.8	С	01/12/2016	MDGOINGS	
Turbidity	15.1	NTU	01/12/2016	MDGOINGS	
Depth	14.26	Feet	01/12/2016	MDGOINGS	
Elevation	28.79	Feet	01/12/2016	MDGOINGS	
Boron	1850	ug/L	01/25/2016	GEL	EPA 6020B
Calcium	370	mg/L	01/20/2016	TESTAMERICA	EPA 6010D
Iron	2600	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Lithium	151	ug/L	01/22/2016	GEL	EPA 6020B
Selenium	<20	ug/L	01/20/2016	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	01/21/2016	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD39908 Location: GW Well WAP-18 Date: 01/12/2016 Sample Collector: AM RNT

Loc. Code WAP-18 Time: 14:08

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Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	220	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Arsenic Dissolved	220	ug/L	01/21/2016	TESTAMERICA	EPA 6020B
Barium	77	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	01/20/2016	TESTAMERICA	EPA 7470
Molybdenum	33	ug/L	01/21/2016	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	01/22/2016	TESTAMERICA	EPA 6020B
Radium 226	<1.00	pCi/L	01/22/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/21/2016	GEL	EPA 904.0
Chloride	15.3	mg/L	01/15/2016	LCWILLIA	EPA 300.0
Fluoride	1.1	mg/L	01/15/2016	LCWILLIA	EPA 300.0
Sulfate	902	mg/L	01/15/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1452	mg/L	01/19/2016	AJBROWN	SM 2540C
Boron	2510	ug/L	01/25/2016	GEL	EPA 6020B
Calcium	360	mg/L	01/21/2016	TESTAMERICA	EPA 6010D
Iron	2600	ug/L	01/21/2016	TESTAMERICA	EPA 6010D
Lithium	163	ug/L	01/22/2016	GEL	EPA 6020B
Selenium	<20	ug/L	01/21/2016	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	01/22/2016	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD47955 Location: GW Well WAP-18 Date: 04/27/2016 Sample Collector: MDG RNT

**Loc. Code** WAP-18 **Time:** 11:52

Analysis	Result	Units	Test Date	Analyst	Method
Analysis 				Analyst	
Arsenic	135	ug/L	06/30/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	123	ug/L	06/22/2016	KLMORAN	EPA 6020B
Barium	84.3	ug/L	06/30/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Calcium	448	mg/L	06/30/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Chromium	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Iron	3406	ug/L	06/30/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	05/03/2016	GEL	EPA 7470
Molybdenum	20.9	ug/L	05/02/2016	GEL	EPA 6010D
Lead	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Antimony	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Selenium	<10	ug/L	07/19/2016	KLMORAN	EPA 6020B
Thallium	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Radium 226	1.46	pCi/L	05/06/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	05/06/2016	GEL	EPA 904.0
Chloride	49.0	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Fluoride	0.71	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Sulfate	1060	mg/L	05/04/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1760	mg/L	05/03/2016	KLMORAN	SM 2540C
рН	6.27	SU	06/08/2016	MDGOINGS	
Spec. Cond.	1810	uS	06/08/2016	MDGOINGS	
Dissolved Oxygen	0.66	ppm	06/08/2016	MDGOINGS	
Oxidation Reduction Potential	34	mv	06/08/2016	MDGOINGS	SM2580
Temp	24.57	С	06/08/2016	MDGOINGS	
Turbidity	3.4	NTU	06/08/2016	MDGOINGS	
Depth	17.09	Feet	06/17/2016	MDGOINGS	
Elevation	25.96	Feet	06/17/2016	MDGOINGS	
Boron	1210	ug/L	05/04/2016	GEL	EPA 6020B
Lithium	155	ug/L	05/03/2016	GEL	EPA 6020B
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### 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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD52952 Location: GW Well WAP-18 Date: 06/21/2016 Sample Collector: RT_MG

**Loc. Code** WAP-18 **Time:** 11:13

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	130	ug/L	08/09/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	130	ug/L	07/28/2016	KLMORAN	EPA 6020B
Barium	91.1	ug/L	08/09/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Calcium	488	mg/L	08/09/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Chromium	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Iron	4321	ug/L	08/09/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	06/28/2016	GEL	EPA 7470
Molybdenum	20.6	ug/L	06/27/2016	GEL	EPA 6010D
Lead	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Antimony	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Selenium	<10.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Thallium	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Radium 226	1.23	pCi/L	07/01/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	06/29/2016	GEL	EPA 904.0
Chloride	92.6	mg/L	06/23/2016	LCWILLIA	EPA 300.0
Fluoride	0.80	mg/L	06/23/2016	LCWILLIA	EPA 300.0
Sulfate	1160	mg/L	06/23/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	2182	mg/L	06/27/2016	ALDERIEN	SM 2540C
рН	6.31	SU	06/27/2016	MDGOINGS	
Spec. Cond.	2160	uS	06/27/2016	MDGOINGS	
Dissolved Oxygen	.54	ppm	06/27/2016	MDGOINGS	
Oxidation Reduction Potential	-33	mv	06/27/2016	MDGOINGS	SM2580
Temp	23.24	С	06/27/2016	MDGOINGS	
Turbidity	63.7	NTU	06/27/2016	MDGOINGS	
Depth	16.36	Feet	08/22/2016	MDGOINGS	
Elevation	26.69	Feet	08/22/2016	MDGOINGS	
Boron	2500	ug/L	06/29/2016	GEL	EPA 6020B
Lithium	154	ug/L	06/28/2016	GEL	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





Sample # AD64692 Location: GW Well WAP-18 Date: 10/20/2016 Sample Collector: MDG/RNT

**Loc. Code** WAP-18 **Time:** 12:25

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	228	ug/L	01/03/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	209	ug/L	12/21/2016	KCWELLS	EPA 6020B
Barium	96.0	ug/L	01/03/2017	KCWELLS	EPA 6020B
Beryllium	<0.5	ug/L	01/04/2017	KCWELLS	EPA 6020B
Calcium	509	mg/L	01/03/2017	KCWELLS	EPA 6020B
Cadmium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Cobalt	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Chromium	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Iron	5331	ug/L	01/03/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	10/25/2016	GEL	EPA 7470
Molybdenum	17.9	ug/L	10/24/2016	GEL	EPA 6010D
Lead	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Antimony	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	01/03/2017	KCWELLS	EPA 6020B
Thallium	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	11/13/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/17/2016	GEL	EPA 904.0
Chloride	70.2	mg/L	10/21/2016	LCWILLIA	EPA 300.0
Fluoride	0.85	mg/L	10/27/2016	LCWILLIA	EPA 300.0
Sulfate	1020	mg/L	10/21/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1793	mg/L	10/21/2016	LCWILLIA	SM 2540C
рН	6.26	SU	10/20/2016	RNTURNBU	
Spec. Cond.	2020	uS	10/20/2016	RNTURNBU	
Dissolved Oxygen	0.55	ppm	10/20/2016	RNTURNBU	
Oxidation Reduction Potential	-63	mv	10/20/2016	RNTURNBU	SM2580
Temp	23.4	С	10/20/2016	RNTURNBU	
Turbidity	0	NTU	10/20/2016	RNTURNBU	
Depth	14.47	Feet	10/20/2016	RNTURNBU	
Elevation	28.58	Feet	10/20/2016	RNTURNBU	
Boron	3750	ug/L	10/28/2016	GEL	EPA 6020B
Lithium	184	ug/L	10/27/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD71614 Location: GW Well WAP-18 Date: 01/12/2017 Sample Collector: MDG/CNN

**Loc. Code** WAP-18 **Time:** 15:45

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	298	ug/L	03/01/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	304	ug/L	03/01/2017	KCWELLS	EPA 6020B
Barium	89.6	ug/L	03/01/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	03/03/2017	KCWELLS	EPA 6020B
Calcium	493	mg/L	03/01/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Iron	6340	ug/L	03/01/2017	KCWELLS	EPA 6020B
Molybdenum	28.1	ug/L	01/19/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	03/01/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	02/01/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/26/2017	GEL	EPA 904.0
Chloride	67.0	mg/L	01/13/2017	LCWILLIA	EPA 300.0
Fluoride	0.91	mg/L	01/13/2017	LCWILLIA	EPA 300.0
Sulfate	941	mg/L	01/13/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1711	mg/L	01/18/2017	LCWILLIA	SM 2540C
рН	6.48	SU	01/12/2017	MDG/CNN	
Spec. Cond.	1930	uS	01/12/2017	MDG/CNN	
Dissolved Oxygen	0.410	ppm	01/12/2017	MDG/CNN	
Oxidation Reduction Potential	-74.0	mv	01/12/2017	MDG/CNN	SM2580
Temp	20.79	С	01/12/2017	MDG/CNN	
Turbidity	0	NTU	01/12/2017	MDG/CNN	
Depth	16.58	Feet	01/12/2017	MDG/CNN	
Elevation	26.47	Feet	01/12/2017	MDG/CNN	
Boron	3900	ug/L	01/27/2017	GEL	EPA 6020B
Lithium	153	ug/L	01/20/2017	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD76335 Location: GW Well WAP-18 Date: 03/13/2017 Sample Collector: MDG/CNN

Loc. Code WAP-18 Hg Retest Time: 15:16

 Analysis
 Result
 Units
 Test Date
 Analyst
 Method

 Mercury
 <0.200</td>
 ug/L
 03/16/2017
 TESTAMERICA
 EPA 7470

### 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

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Sample # AD78686 Location: GW Well WAP-18 Date: 04/12/2017 Sample Collector: MDG/CNN

**Loc. Code** WAP-18 **Time:** 14:06

Analysis	Result	Units	Test Date	Analyst	Method			
Arser	nic 951	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Arsenic Dissolv	ed 903	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Bariu	ım 96.3	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Berylliu	ım <0.50	ug/L	05/23/2017	KCWELLS	EPA 6020B			
Bor	on 5800	ug/L	05/15/2017	ROGERSCALLCO	EPA 6010D			
Calciu	ım 463	mg/L	05/19/2017	KCWELLS	EPA 6020B			
Cadmiu	ım <0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Cob	alt <0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Chromiu	ım <5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B			
In	on 9310	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Mercu	ıry <0.200	ug/L	04/20/2017	GEL	EPA 7470			
Lithiu	ım 210	ug/L	05/12/2017	ROGERSCALLCO	EPA 6010D			
Molybdenu	ım 165	ug/L	04/19/2017	GEL	EPA 6010D			
Le	ad <1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Antimo	ny <5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Seleniu	ım <10	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Thalliu	ım <1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B			
Radium 2	26 <1.00	pCi/L	04/26/2017	GEL	EPA 903.1 Mod			
Radium 2	28 <3.00	pCi/L	04/27/2017	GEL	EPA 904.0			
Chlori	de 260	mg/L	04/17/2017	LCWILLIA	EPA 300.0			
Fluori	de 1.5	mg/L	04/12/2017	LCWILLIA	EPA 300.0			
Sulfa	ate 845	mg/L	04/17/2017	LCWILLIA	EPA 300.0			
Total Dissolved Soli	ds 2016	mg/L	04/17/2017	LCWILLIA	SM 2540C			
į.	oH 6.55	SU	04/12/2017	MDG/CNN				
Spec. Cor	nd. 2440	uS	04/12/2017	MDG/CNN				
Dissolved Oxyg	en 0.740	ppm	04/12/2017	MDG/CNN				
Oxidation Reduction Potent	ial -8.00	mv	04/12/2017	MDG/CNN	SM2580			
Ter	np 22.46	С	04/12/2017	MDG/CNN				
Turbid	ity 0.200	NTU	04/12/2017	MDG/CNN				
Dep	oth 18.54	Feet	04/12/2017	MDG/CNN				
Elevati	on 24.51	Feet	04/12/2017	MDG/CNN				

### 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





Sample # AD93047 Location: GW Well WAP-18 Date: 09/21/2017 Sample Collector: MDG

**Loc. Code** WAP-18 DUP Time: 15:00

DUP						
	Analysis	Result	Units	Test Date	Analyst	Method
	Arsenic	1440	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Arsenic Dissolved	1290	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Barium	83.1	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Beryllium	< 0.50	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Boron	7800	ug/L	09/28/2017	ROGERSNCALLC	EPA 6010D
	Calcium	427	mg/L	10/09/2017	KCWELLS	EPA 6020B
	Cadmium	< 0.50	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Cobalt	0.69	ug/L	10/06/2017	KCWELLS	EPA 6020B
	Chromium	<5.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Iron	5100	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Mercury	<0.2	ug/L	09/27/2017	ROGERSNCALLC	EPA 7470
	Lithium	250	ug/L	09/27/2017	ROGERSNCALLC	EPA 6010D
	Lead	<1.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Antimony	<5.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Selenium	<10	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Thallium	<1.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
	Radium 226	<1.00	pCi/L	10/03/2017	GEL	EPA 903.1 Mod
	Radium 228	<3.00	pCi/L	10/04/2017	GEL	EPA 904.0
	Chloride	223	mg/L	09/22/2017	LCWILLIA	EPA 300.0
	Fluoride	1.3	mg/L	09/22/2017	LCWILLIA	EPA 300.0
	Sulfate	950	mg/L	09/22/2017	LCWILLIA	EPA 300.0
	Total Dissolved Solids	1970	mg/L	09/25/2017	KCWELLS	SM 2540C
	Molybdenum	237	ug/L	09/28/2017	ROGERSNCALLC	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



Sample # AD93048 Location: GW Well WAP-18 Date: 09/21/2017 Sample Collector: MDG

**Loc. Code** WAP-18 **Time:** 14:55

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	1530	ug/L	10/09/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	1360	ug/L	10/09/2017	KCWELLS	EPA 6020B
Barium	76.2	ug/L	10/09/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	10/09/2017	KCWELLS	EPA 6020B
Boron	8200	ug/L	09/28/2017	ROGERSNCALLC	EPA 6010D
Calcium	422	mg/L	10/09/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	10/09/2017	KCWELLS	EPA 6020B
Cobalt	0.54	ug/L	10/06/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Iron	4690	ug/L	10/09/2017	KCWELLS	EPA 6020B
Mercury	<0.2	ug/L	09/27/2017	ROGERSNCALLC	EPA 7470
Lithium	270	ug/L	09/27/2017	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	10/09/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	10/09/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	10/03/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	10/04/2017	GEL	EPA 904.0
Chloride	231	mg/L	09/22/2017	LCWILLIA	EPA 300.0
Fluoride	1.2	mg/L	09/22/2017	LCWILLIA	EPA 300.0
Sulfate	962	mg/L	09/22/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	2018	mg/L	09/25/2017	KCWELLS	SM 2540C
рН	6.54	SU	09/21/2017	CNNEAL	
Spec. Cond.	2370	uS	09/21/2017	CNNEAL	
Dissolved Oxygen	1.02	ppm	09/21/2017	CNNEAL	
Oxidation Reduction Potential	31	mv	09/21/2017	CNNEAL	SM2580
Temp	28.11	С	09/21/2017	CNNEAL	
Turbidity	0	NTU	09/21/2017	CNNEAL	
Depth	17.42	Feet	09/21/2017	CNNEAL	
Elevation	25.63	Feet	09/21/2017	CNNEAL	
Molybdenum	247	ug/L	09/28/2017	ROGERSNCALLC	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD39074 Location: GW Well WAP-17 Date: 01/19/2016 Sample Collector: MGOINGS

Loc. Code WAP-17 Time: 14:15

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	240	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Arsenic Dissolved	130	ug/L	03/08/2016	TESTAMERICA	EPA 6020B
Barium	59	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Beryllium	<0.50	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Cadmium	<0.50	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Cobalt	<0.50	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Chromium	<5.0	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Mercury	<0.20	ug/L	01/28/2016	TESTAMERICA	EPA 7470
Molybdenum	42	ug/L	01/27/2016	TESTAMERICA	EPA 6010D
Lead	<2.5	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Antimony	<5.0	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Thallium	<1.0	ug/L	01/26/2016	TESTAMERICA	EPA 6020B
Radium 226	1.03	pCi/L	01/28/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/28/2016	GEL	EPA 904.0
Chloride	377	mg/L	01/21/2016	LCWILLIA	EPA 300.0
Fluoride	0.25	mg/L	01/22/2016	LCWILLIA	EPA 300.0
Sulfate	740	mg/L	01/21/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1735	mg/L	01/22/2016	AJBROWN	SM 2540C
рН	6.01	SU	01/19/2016	MDGOINGS	
Spec. Cond.	2620	uS	01/19/2016	MDGOINGS	
Dissolved Oxygen	1.23	ppm	01/19/2016	MDGOINGS	
Oxidation Reduction Potential	-94	mv	01/19/2016	MDGOINGS	SM2580
Temp	15.77	С	01/19/2016	MDGOINGS	
Turbidity	1.6	NTU	01/19/2016	MDGOINGS	
Depth	5.15	Feet	01/19/2016	MDGOINGS	
Elevation	24.12	Feet	01/19/2016	MDGOINGS	
Boron	9430	ug/L	02/05/2016	GEL	EPA 6020B
Calcium	330	mg/L	01/27/2016	TESTAMERICA	EPA 6010D
Iron	2500	ug/L	01/27/2016	TESTAMERICA	EPA 6010D
Lithium	550	ug/L	02/05/2016	GEL	EPA 6020B
Selenium	<20	ug/L	01/27/2016	TESTAMERICA	EPA 6010D
Zinc	<20	ug/L	01/26/2016	TESTAMERICA	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD47954 Location: GW Well WAP-17 Date: 04/26/2016 Sample Collector: MDG EG

**Loc. Code** WAP-17 **Time:** 17:56

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	121	ug/L	06/30/2016	KLMORAN	EPA 6020B
Arsenic Arsenic Dissolved		=	06/30/2016	KLMORAN	EPA 6020B
Arsenic dissolved  Barium	121	ug/L	06/30/2016	KLMORAN	EPA 6020B
	50.5	ug/L		KLMORAN	
Beryllium	<0.5	ug/L	06/30/2016		EPA 6020B
Calcium	325	mg/L	06/30/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Chromium	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Iron	1150	ug/L	06/30/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	05/03/2016	GEL	EPA 7470
Molybdenum	43.1	ug/L	05/02/2016	GEL	EPA 6010D
Lead	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Antimony	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Selenium	<10	ug/L	07/19/2016	KLMORAN	EPA 6020B
Thallium	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Radium 226	2.51	pCi/L	05/06/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	05/06/2016	GEL	EPA 904.0
Chloride	329	mg/L	04/27/2016	LCWILLIA	EPA 300.0
Fluoride	0.10	mg/L	04/27/2016	LCWILLIA	EPA 300.0
Sulfate	787	mg/L	04/27/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1615	mg/L	08/30/2016	DKGUERRY	SM 2540C
рН	6.03	SU	06/08/2016	MDGOINGS	
Spec. Cond.	2340	uS	06/08/2016	MDGOINGS	
Dissolved Oxygen	0.37	ppm	06/08/2016	MDGOINGS	
Oxidation Reduction Potential	-11	mv	06/08/2016	MDGOINGS	SM2580
Temp	23.26	С	06/08/2016	MDGOINGS	
Turbidity	0	NTU	06/08/2016	MDGOINGS	
Depth	6.46	Feet	06/17/2016	MDGOINGS	
Elevation	22.81	Feet	06/17/2016	MDGOINGS	
Boron	5450	ug/L	05/04/2016	GEL	EPA 6020B
Lithium	435	ug/L	05/03/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD48289 Location: GW Well WAP-17 Date: 04/26/2016 Sample Collector: RNT EG

Loc. Code WAP-17 Time: 18:01

DL					
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	122	ug/L	06/30/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	112	ug/L	06/29/2016	KLMORAN	EPA 6020B
Barium	50.4	ug/L	06/30/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	07/20/2016	KLMORAN	EPA 6020B
Calcium	326	mg/L	06/30/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Chromium	<5	ug/L	07/20/2016	KLMORAN	EPA 6020B
Iron	1151	ug/L	06/30/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	05/03/2016	GEL	EPA 7470
Molybdenum	43.3	ug/L	05/02/2016	GEL	EPA 6010D
Lead	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Antimony	<5	ug/L	06/30/2016	KLMORAN	EPA 6020B
Selenium	<10	ug/L	07/19/2016	KLMORAN	EPA 6020B
Thallium	<1	ug/L	06/30/2016	KLMORAN	EPA 6020B
Radium 226	<1.00	pCi/L	05/06/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	05/06/2016	GEL	EPA 904.0
Chloride	332	mg/L	04/28/2016	LCWILLIA	EPA 300.0
Fluoride	0.10	mg/L	04/27/2016	LCWILLIA	EPA 300.0
Sulfate	791	mg/L	04/28/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1735	mg/L	05/03/2016	KLMORAN	SM 2540C
Boron	5760	ug/L	05/04/2016	GEL	EPA 6020B
Lithium	443	ug/L	05/03/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD52951 Location: GW Well WAP-17 Date: 06/20/2016 Sample Collector: RT_MG

Loc. Code WAP-17 Time: 14:40

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	114	ug/L	08/09/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	105	ug/L	07/28/2016	KLMORAN	EPA 6020B
Barium	46.2	ug/L	08/09/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Calcium	309	mg/L	08/09/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Chromium	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Iron	1605	ug/L	08/09/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	06/28/2016	GEL	EPA 7470
Molybdenum	40.7	ug/L	06/27/2016	GEL	EPA 6010D
Lead	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Antimony	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Selenium	<10.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Thallium	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Radium 226	<1.00	pCi/L	07/01/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	06/29/2016	GEL	EPA 904.0
Chloride	311	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Fluoride	0.11	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Sulfate	757	mg/L	06/22/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1722	mg/L	06/24/2016	ALDERIEN	SM 2540C
рН	6.02	SU	06/27/2016	MDGOINGS	
Spec. Cond.	2340	uS	06/27/2016	MDGOINGS	
Dissolved Oxygen	.75	ppm	06/27/2016	MDGOINGS	
Oxidation Reduction Potential	-35	mv	06/27/2016	MDGOINGS	SM2580
Temp	27.93	С	06/27/2016	MDGOINGS	
Turbidity	0	NTU	06/27/2016	MDGOINGS	
Depth	5.45	Feet	08/22/2016	MDGOINGS	
Elevation	23.82	Feet	08/22/2016	MDGOINGS	
Boron	5610	ug/L	06/29/2016	GEL	EPA 6020B
Lithium	354	ug/L	06/28/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

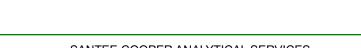
Sample # AD53351 Location: GW Well WAP-17 Date: 06/20/2016 Sample Collector: MDG/EG

Loc. Code WAP-17 Time: 14:45

	DUPLICATE				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	115	ug/L	08/09/2016	KLMORAN	EPA 6020B
Arsenic Dissolved	111	ug/L	08/01/2016	KLMORAN	EPA 6020B
Barium	45.3	ug/L	08/09/2016	KLMORAN	EPA 6020B
Beryllium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Calcium	319	mg/L	08/09/2016	KLMORAN	EPA 6020B
Cadmium	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Cobalt	<0.5	ug/L	08/09/2016	KLMORAN	EPA 6020B
Chromium	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Iron	1447	ug/L	08/09/2016	KLMORAN	EPA 6020B
Mercury	<0.200	ug/L	06/28/2016	GEL	EPA 7470
Molybdenum	43.2	ug/L	06/27/2016	GEL	EPA 6010D
Lead	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Antimony	<5.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Selenium	<10.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Thallium	<1.0	ug/L	08/09/2016	KLMORAN	EPA 6020B
Radium 226	<1.0	pCi/L	07/01/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	06/29/2016	GEL	EPA 904.0
Chloride	302	mg/L	07/06/2016	LCWILLIA	EPA 300.0
Fluoride	0.17	mg/L	07/05/2016	LCWILLIA	EPA 300.0
Sulfate	730	mg/L	07/06/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1696	mg/L	06/27/2016	ALDERIEN	SM 2540C
Boron	5210	ug/L	06/29/2016	GEL	EPA 6020B
Lithium	331	ug/L	06/28/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD64691 Location: GW Well WAP-17 Date: 10/18/2016 Sample Collector: MDG/RNT

**Loc. Code** WAP-17 **Time:** 13:00

santee cooper

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	153	ug/L	01/03/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	131	ug/L	12/21/2016	KCWELLS	EPA 6020B
Barium	70.3	ug/L	01/03/2017	KCWELLS	EPA 6020B
Beryllium	<0.5	ug/L	01/04/2017	KCWELLS	EPA 6020B
Calcium	424	mg/L	01/03/2017	KCWELLS	EPA 6020B
Cadmium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Cobalt	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Chromium	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Iron	1890	ug/L	01/03/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	10/25/2016	GEL	EPA 7470
Molybdenum	52.7	ug/L	10/24/2016	GEL	EPA 6010D
Lead	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Antimony	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	01/03/2017	KCWELLS	EPA 6020B
Thallium	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	11/13/2016	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	11/17/2016	GEL	EPA 904.0
Chloride	416	mg/L	10/20/2016	LCWILLIA	EPA 300.0
Fluoride	0.14	mg/L	10/27/2016	LCWILLIA	EPA 300.0
Sulfate	900	mg/L	10/20/2016	LCWILLIA	EPA 300.0
Total Dissolved Solids	1952	mg/L	11/22/2016	KLMORAN	SM 2540C
рН	5.9	SU	10/18/2016	RNTURNBU	
Spec. Cond.	2930	uS	10/18/2016	RNTURNBU	
Dissolved Oxygen	0.52	ppm	10/18/2016	RNTURNBU	
Oxidation Reduction Potential	-135	mv	10/18/2016	RNTURNBU	SM2580
Temp	25.94	С	10/18/2016	RNTURNBU	
Turbidity	0	NTU	10/18/2016	RNTURNBU	
Depth	4.42	Feet	10/18/2016	RNTURNBU	
Elevation	24.85	Feet	10/18/2016	RNTURNBU	
Boron	6790	ug/L	10/28/2016	GEL	EPA 6020B
Lithium	444	ug/L	10/27/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD64700 Location: GW Well WAP-17 Date: 10/18/2016 Sample Collector: MDG/RNT

Loc. Code WAP-17 Time: 13:05

	DU	IPLICATE				
An	alysis	Result	Units	Test Date	Analyst	Method
	Arsenic	152	ug/L	01/03/2017	KCWELLS	EPA 6020B
Ars	enic Dissolved	136	ug/L	12/21/2016	KCWELLS	EPA 6020B
	Barium	69.9	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Beryllium	<0.5	ug/L	01/04/2017	KCWELLS	EPA 6020B
	Calcium	429	mg/L	01/03/2017	KCWELLS	EPA 6020B
	Cadmium	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Cobalt	<0.5	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Chromium	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Iron	1858	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Mercury	<0.200	ug/L	10/25/2016	GEL	EPA 7470
	Molybdenum	52.8	ug/L	10/24/2016	GEL	EPA 6010D
	Lead	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Antimony	<5	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Selenium	<10	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Thallium	<1	ug/L	01/03/2017	KCWELLS	EPA 6020B
	Radium 226	<1.00	pCi/L	11/11/2016	GEL	EPA 903.1 Mod
	Radium 228	<3.00	pCi/L	11/17/2016	GEL	EPA 904.0
	Chloride	421	mg/L	10/20/2016	LCWILLIA	EPA 300.0
	Fluoride	0.14	mg/L	10/27/2016	LCWILLIA	EPA 300.0
	Sulfate	911	mg/L	10/20/2016	LCWILLIA	EPA 300.0
Total D	issolved Solids	2038	mg/L	10/26/2016	LCWILLIA	SM 2540C
	Boron	6700	ug/L	10/26/2016	GEL	EPA 6020B
	Lithium	426	ug/L	10/26/2016	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD71613 Location: GW Well WAP-17 Date: 01/10/2017 Sample Collector: MDG/CNN

**Loc. Code** WAP-17 **Time:** 13:20

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	160	ug/L	03/01/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	113	ug/L	03/01/2017	KCWELLS	EPA 6020B
Barium	64.4	ug/L	03/01/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	03/03/2017	KCWELLS	EPA 6020B
Calcium	379	mg/L	03/01/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Iron	2850	ug/L	03/01/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	01/17/2017	GEL	EPA 7470
Molybdenum	49.2	ug/L	01/17/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	03/01/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	02/03/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/20/2017	GEL	EPA 904.0
Chloride	347	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Fluoride	0.14	mg/L	01/11/2017	LCWILLIA	EPA 300.0
Sulfate	844	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1856	mg/L	01/13/2017	LCWILLIA	SM 2540C
рН	6.04	SU	01/10/2017	MDG/CNN	
Spec. Cond.	2580	uS	01/10/2017	MDG/CNN	
Dissolved Oxygen	0.7	ppm	01/10/2017	MDG/CNN	
Oxidation Reduction Potential	-69.0	mv	01/10/2017	MDG/CNN	SM2580
Temp	19.80	С	01/10/2017	MDG/CNN	
Turbidity	9.70	NTU	01/10/2017	MDG/CNN	
Depth	5.71	Feet	01/10/2017	MDG/CNN	
Elevation	23.56	Feet	01/10/2017	MDG/CNN	
Boron	6660	ug/L	01/24/2017	GEL	EPA 6020B
Lithium	390	ug/L	01/23/2017	GEL	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



# SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS LAB CERTIFICATION #08552

Sample # AD71621 Location: GW Well WAP-17 Date: 01/10/2017 Sample Collector: MDG/CNN

Loc. Code WAP-17 Time: 13:25

	DUPLICATE				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	170	ug/L	03/01/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	138	ug/L	03/01/2017	KCWELLS	EPA 6020B
Barium	59.5	ug/L	03/01/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	03/03/2017	KCWELLS	EPA 6020B
Calcium	368	mg/L	03/01/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	03/01/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Iron	2320	ug/L	03/01/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	01/17/2017	GEL	EPA 7470
Molybdenum	49.0	ug/L	01/17/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	03/01/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	03/01/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	02/03/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	01/24/2017	GEL	EPA 904.0
Chloride	357	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Fluoride	0.17	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Sulfate	878	mg/L	01/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1920	mg/L	01/12/2017	LCWILLIA	SM 2540C
Boron	5630	ug/L	01/24/2017	GEL	EPA 6020B
Lithium	400	ug/L	01/23/2017	GEL	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





Sample # AD78685 Location: GW Well WAP-17 Date: 04/10/2017 Sample Collector: MDG/CNN

**Loc. Code** WAP-17 **Time:** 17:06

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	176	ug/L	05/19/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	118	ug/L	05/19/2017	KCWELLS	EPA 6020B
Barium	56.6	ug/L	05/19/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	05/23/2017	KCWELLS	EPA 6020B
Boron	4900	ug/L	05/15/2017	ROGERSCALLCO	EPA 6010D
Calcium	359	mg/L	05/19/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Iron	2180	ug/L	05/19/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	04/13/2017	GEL	EPA 7470
Lithium	320	ug/L	05/12/2017	ROGERSCALLCO	EPA 6010D
Molybdenum	41.4	ug/L	04/12/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	05/19/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Radium 226	<1.00	pCi/L	04/15/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	04/17/2017	GEL	EPA 904.0
Chloride	614	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Fluoride	0.17	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Sulfate	1810	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1840	mg/L	04/17/2017	LCWILLIA	SM 2540C
рН	6.10	SU	04/10/2017	MDG/CNN	
Spec. Cond.	2480	uS	04/10/2017	MDG/CNN	
Dissolved Oxygen	0.720	ppm	04/10/2017	MDG/CNN	
Oxidation Reduction Potential	-2.00	mv	04/10/2017	MDG/CNN	SM2580
Temp	24.08	С	04/10/2017	MDG/CNN	
Turbidity	6.80	NTU	04/10/2017	MDG/CNN	
Depth	6.44	Feet	04/10/2017	MDG/CNN	
Elevation	22.83	Feet	05/01/2017	CNNEAL	

### 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





Sample # AD78694 Location: GW Well WAP-17 Date: 04/10/2017 Sample Collector: MDG/CNN

Loc. Code WAP-17 Time: 17:11

 D	UP				
Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	161	ug/L	05/19/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	121	ug/L	05/19/2017	KCWELLS	EPA 6020B
Barium	56.8	ug/L	05/19/2017	KCWELLS	EPA 6020B
Beryllium	<0.50	ug/L	05/23/2017	KCWELLS	EPA 6020B
Boron	4700	ug/L	05/15/2017	ROGERSCALLCO	EPA 6010D
Calcium	364	mg/L	05/19/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	05/19/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Iron	1920	ug/L	05/19/2017	KCWELLS	EPA 6020B
Mercury	<0.200	ug/L	04/13/2017	GEL	EPA 7470
Lithium	320	ug/L	05/12/2017	ROGERSCALLCO	EPA 6010D
Molybdenum	41.1	ug/L	04/12/2017	GEL	EPA 6010D
Lead	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	05/19/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	05/19/2017	KCWELLS	EPA 6020B
Radium 226	1.07	pCi/L	04/15/2017	GEL	EPA 903.1 Mod
Radium 228	3.35	pCi/L	04/17/2017	GEL	EPA 904.0
Chloride	339	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Fluoride	0.17	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Sulfate	939	mg/L	04/12/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1794	mg/L	04/17/2017	LCWILLIA	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



Sample # AD93046 Location: GW Well WAP-17 Date: 09/18/2017 Sample Collector: CNN

**Loc. Code** WAP-17 **Time**: 15:55

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic	121	ug/L	10/06/2017	KCWELLS	EPA 6020B
Arsenic Dissolved	120	ug/L	10/06/2017	KCWELLS	EPA 6020B
Barium	58.1	ug/L	10/06/2017	KCWELLS	EPA 6020B
Beryllium	< 0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Boron	6000	ug/L	09/28/2017	ROGERSNCALLC	EPA 6010D
Calcium	361	mg/L	10/06/2017	KCWELLS	EPA 6020B
Cadmium	<0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Cobalt	<0.50	ug/L	10/06/2017	KCWELLS	EPA 6020B
Chromium	<5.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Iron	1280	ug/L	10/06/2017	KCWELLS	EPA 6020B
Mercury	<0.2	ug/L	09/27/2017	ROGERSNCALLC	EPA 7470
Lithium	330	ug/L	09/27/2017	ROGERSNCALLC	EPA 6010D
Lead	<1.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Antimony	<5.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Selenium	<10	ug/L	10/06/2017	KCWELLS	EPA 6020B
Thallium	<1.0	ug/L	10/06/2017	KCWELLS	EPA 6020B
Radium 226	1.39	pCi/L	09/27/2017	GEL	EPA 903.1 Mod
Radium 228	<3.00	pCi/L	10/03/2017	GEL	EPA 904.0
Chloride	332	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Fluoride	<0.10	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Sulfate	965	mg/L	09/20/2017	LCWILLIA	EPA 300.0
Total Dissolved Solids	1986	mg/L	09/20/2017	KCWELLS	SM 2540C
рН	6.14	SU	09/18/2017	CNN/MDG	
Spec. Cond.	2560	uS	09/18/2017	CNN/MDG	
Dissolved Oxygen	0.680	ppm	09/18/2017	CNN/MDG	
Oxidation Reduction Potential	17.0	mv	09/18/2017	CNN/MDG	SM2580
Temp	26.16	С	09/18/2017	CNN/MDG	
Turbidity	0	NTU	09/18/2017	CNN/MDG	
Depth	5.14	Feet	09/18/2017	CNN/MDG	
Elevation	24.13	Feet	09/18/2017	CNN/MDG	
Molybdenum	65	ug/L	09/28/2017	ROGERSNCALLC	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

<b>Field Data Sheets</b> (Note: color coding is to assist with stabilization of the field parameters prior to sample collection)	

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 1	29.44	4.16	4- 24	2/15/2021	1337	25.18

Drawdown: 4.19 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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

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

Drawdown: 6.15 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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

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

Drawdown: 3.55 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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

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

Drawdown: 17.79 depth to GW (ft)

Time	Temp round 1	pH round 1	Eh ORP	Spec Cond round 1	Turbidity	Dissolved Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1036	21.7	5.05	75	77	234	6.5
1041	22.27	4.82	92	63	32	1.39
1046	22.81	4.72	107	53	13.8	1.05
1051	23.34	4.75	117	48	7.4	0.87
1056	23.79	4.78	120	46	2.1	0.77
1101	24.19	4.76	120	43	0.2	0.72
1104	24.47	4.76	120	43	0	0.71
1107	24.72	4.77	121	42	0	0.69

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 17	29.27	8.89	9- 19	3/2/2021	1048	22.31

Drawdown: 8.93 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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:

DUP @ 1053

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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 17	26.88	6.98	9-19	4/8/2021	1331	21.51

Drawdown: 6.98 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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:

DUP @ 1336

Samples were collected by Melanie Goings and Trey West

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 17	26.88	6.24	9- 19	8/2/2021	1512	21.94

Drawdown: 6.28 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1444	33.07	6.24	-50	813	0	3.91
1449	30.96	5.8	-33	1530	0	0.63
1454	30.34	5.78	-35	1620	7	0.47
1459	29.69	5.8	-41	1640	10.4	0.41
1504	29.37	5.8	-43	1660	11.6	0.41
1509	29.31	5.82	-48	1650	12.6	0.39
1512	29.17	5.82	-49	1660	12.7	0.39

Comments/Conditions:

DUP @ 1517

Samples were collected by Ben Taylor and Melanie Goings

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			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	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 18	43.05	19.08	13.5- 23.5	8/4/2021	1216	26.25

Drawdown: 19.2 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1151	23.05	5.14	156	1700	170	1.26
1156	23.54	5.11	161	1690	32.9	0.91
1201	23.67	5.1	167	1700	10.4	0.75
1206	23.8	5.12	170	1690	14.7	0.66
1211	23.95	5.17	167	1670	9.7	0.61
1216	24.05	5.21	166	1680	8.4	0.56
					_	
	_				_	

Comments/Conditions:

Samples were collected by Ben Taylor and Melanie Goings

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 19	43.39	20.45	14-24	2/16/2021	1425	26.89

Drawdown: 20.76 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 19	43.39	22.35	14-24	8/3/2021	1627	27.1

Drawdown: 22.46 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	26.88	16	14-24	4/8/2021	1527	27.38

Drawdown: 16.02 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1502	26.95	6.72	27	499	0	2.13
1507	26.58	6.65	17	513	0	0.18
1512	26.69	6.61	11	520	0	0.59
1517	26.78	6.61	5	516	0	0.49
1522	26.76	6.6	0	514	0	0.45
1527	26.62	6.59	-5	515	0	0.43

Comments/Conditions:

Duplicate taken at 1532

Samples were collected by Melanie Goings and Trey West

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	26.88	15.45	14-24	5/13/2021	1120	27.41

Drawdown: 15.48 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1100	20.61	6.57	47	551	0.7	1.46
1105	21.08	6.61	19	561	0.2	0.9
1110	21.09	6.62	10	565	0	0.79
1115	21.16	6.65	4	568	0	0.72
1120	21.31	6.6	3	573	0	0.67
		_	_			

Comments/Conditions:

Duplicate taken at 1125

Samples were collected by Melanie Goings and Brad MCCray

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	35.14	14.18	14-24	8/4/2021	1502	27.44

Drawdown: 14.21 depth to GW (ft)

Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
round 1	round 1	ORP	round 1		Oxygen
(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
25.21	6.67	-64	629	6.4	2.35
25.16	6.47	-68	730	1.7	0.8
25.14	6.47	-73	724	1.4	0.74
25.18	6.47	-80	708	1.2	0.69
25.5	6.47	-87	696	3.5	0.67
25.57	6.47	-89	690	2.6	0.67
	round 1 (celcius) 25.21 25.16 25.14 25.18 25.5	round 1 (celcius) (units)  25.21 6.67  25.16 6.47  25.14 6.47  25.18 6.47  25.5 6.47	round 1 round 1 ORP (celcius) (units) (mV)  25.21 6.67 -64  25.16 6.47 -68  25.14 6.47 -73  25.18 6.47 -80  25.5 6.47 -87	round 1         round 1         ORP (mV)         round 1 (uS/cm)           25.21         6.67         -64         629           25.16         6.47         -68         730           25.14         6.47         -73         724           25.18         6.47         -80         708           25.5         6.47         -87         696	round 1 (celcius)         round 1 (units)         ORP (mV)         round 1 (uS/cm)         (NTU)           25.21         6.67         -64         629         6.4           25.16         6.47         -68         730         1.7           25.14         6.47         -73         724         1.4           25.18         6.47         -80         708         1.2           25.5         6.47         -87         696         3.5

Comments/Conditions:

DUP @ 1507

Samples were collected by Melanie Goings and Ben Taylor

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	35.14	14.22	14-24	9/1/2021	1240	27.42

Drawdown: 14.25 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1151	25.92	6.55	13	629	0	1.6
1156	25.77	6.51	-19	614	0	0.65
1201	25.68	6.5	-30	608	0	0.54
1206	25.78	6.5	-42	595	0	0.47
1211	25.8	6.51	-55	600	0	0.45
1216	25.84	6.51	-70	596	0	0.42
1219	25.83	6.51	-80	593	0	0.42
1222	25.9	6.5	<b>-</b> 91	590	0	0.41
1225	25.91	6.51	-103	598	0	0.41
1228	26.01	6.51	-113	595	0	0.41
1231	25.85	6.52	-119	593	0	0.42
1234	26.8	6.51	-123	595	0	0.42
1237	26.15	6.52	-130	591	0	0.43
1240	26.11	6.52	-132	597	0	0.43

Comments/Conditions:

DUP @ 1245

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	35.14	14.32	14-24	9/28/2021	1021	27.4

Drawdown: 14.6 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
947	23.94	6.41	-70	592	0	1.57
952	24.37	6.33	-87	632	0	0.72
957	24.54	6.33	-97	633	0	0.59
1002	24.73	6.34	-107	629	0	0.54
1007	24.88	6.44	-112	625	0	0.51
1012	25.07	6.35	-119	622	0	0.48
1015	25.19	6.36	-124	619	0	0.45
1018	25.25	6.36	-130	617	0	0.43
1021	25.29	6.36	-134	615	0	0.41

Comments/Conditions:

DUP @ 1026

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	35.14	14.82	14-24	10/27/2021	1027	27.41

Drawdown: 14.89 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1002	22.33	6.36	-102	602	0	2.39
1007	22.61	6.32	-131	585	0	0.86
1012	22.76	6.32	-139	581	0	0.67
1017	22.84	6.32	-145	577	0	0.59
1022	22.94	6.33	-149	577	0	0.54
1027	23.02	6.33	-153	576	0	0.51

Comments/Conditions:

DUP @ 1032

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A2-6	35.14	15.27	14-24	11/18/2021	1127	27.4

Drawdown: 15.36 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1056	22.68	6.47	-32	603	0	10.29
1101	23.64	6.38	-93	584	0	2.51
1106	23.99	6.41	-114	579	0	2.98
1111	24.21	6.43	-121	572	0	1.95
1116	24.41	6.41	-130	569	0	1.82
1121	24.58	6.44	-137	570	0	1.56
1124	24.63	6.44	-139	570	0	1.51
1127	24.7	6.45	-143	569	0	1.46

The HORIBA turbidity probe had the outer nut casing snapped off-no impact to sensor detected

Comments/Conditions:

DUP @ 1132





#### Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:			7. PERMIT NUMBER:
Name: SANTEE COOPER	/61	-4\	
	(last) (first)		8. USE:
Address: ONE RIVERWOOD DRIVE			□ Residential □ Public Supply □ Process
City: MONCKS CORNER State: SC Zip: 29461		9461	☐ Irrigation ☐ Air Conditioning ☐ Emergency☐ Test Well ☐ Monitor Well ☐ Replacement
Telephones World	Uemei		9. WELL DEPTH (completed)  Date Started: 03/03/21
Telephone: Work:  2. LOCATION OF WELL: SC	Home:	DCETOWN	
Name: WINYAH GENERATING		KGETOWN	10. CASING: ☐ Threaded ☐ Welded
Street Address: 661 STEAM PL			Diam.: 2 INCH Height: Above ✓ Below
City: GEORGETOWN	Zip: 29440		Type: ☑ PVC □ Galvanized Surface 2.5 ft.
- GEORGETOWN	23440		Steel Other Weight — Ib./ft.  2.0 in. to 9.0 ft. depth Drive Shoe? Yes No
Latitude: 33° 19' 53.57" Longitud	le: <mark>79° 21</mark> ' 33	.16"	in. to 9.0 ft. depth Drive Shoe?  Yes No
			in. toft. depth
3. PUBLIC SYSTEM NAME: P	UBLIC SYSTE		11. <b>SCREEN:</b> Type: SCH 40 PVC Diam.; 2 INCH
	WAP	-17	Slot/Gauge: .010 Length: 10.0 FEET
4. ABANDONMENT:  Yes	☑ No		Set Between: 9.0 ft. and 19.0 ft. NOTE: MULTIPLE SCREENS
	-		ft. andft. USE SECOND SHEET
Grouted Depth: from			Sieve Analysis  Yes (please enclose)  No
Formation Description	*Thickness of	Depth to Bottom of	12. STATIC WATER LEVEL 10.0 ft. below land surface after 24 hours
Tomation Becompact	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
SAND	19.0	19.0	ft. after hrs. Pumping G.P.M.
	1000		Pumping Test: 🔲 Yes (please enclose) 🗖 No Yield:
			14. WATER QUALITY
			Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
			Please enclose lab results.
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from
			Effective size1.43 Uniformity Coefficient1.30
			16. WELL GROUTED? 🗹 Yes 🚨 No
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From 0.0 ft. to 5.0 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction  Type
			Well Disinfected ☐ Yes ☐ No Type: Amount:
			18. PUMP: Date installed: Not installed □
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: Submersible Jet (shallow) Turbine
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: JEREMY RINGLER CERT. NO.: 02294
			Address: (Print)  Level: A B C D (circle one)
			176 COMMERCE BLVD STATESVILLE, NC 28625
*Indicate Water Bearing Zones			Telephone No.: 704-872-7686 Fax No.: 704-872-0248
41			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
BENTONITE SEAL 5.0 - 7.0 FEET			
			Signed:
			Well Driller
6. TYPE:  Mud Rotary  Jetted Bored Dug  Air Rotary Driven Cable tool  Other AUGER			If D Level Driller, provide supervising driller's name:



#### Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

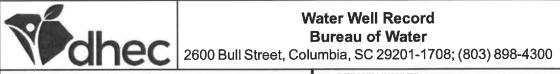
PROMOTE PROTECT PROSPER		
1. WELL OWNER INFORMATION:		7. PERMIT NUMBER: WAP-17
Name: SANTEE COOPER	irst)	
(last) (f Address: ONE RIVERWOOD DRIVE	norj	8. USE:
ONE KIVEKWOOD DKIVE		☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: MONCKS CORNER State: SC Zip: 7	29461	☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement
Telephone: Work: Home:		9. WELL DEPTH (completed) Date Started: 03/04/21
2. LOCATION OF WELL: SC COUNTY: GEO	ORGETOWN	19.0 ft. Date Completed: 03/04/21
Name: WINYAH GENERATING STATION		10. CASING: Threaded Welded
Street Address: 661 STEAM PLANT DRIVE		Diam.: 2 INCH Height: Above Below
City: GEORGETOWN Zip: 29440	)	Type:         □ PVC         □ Galvanized         Surface
Latitude: 33° 19' 53,57" Longitude: 79° 21' 3	3.16"	in, toft. depth Drive Shoe?
		in. toft. depth
	EM NUMBER:	11. SCREEN:  Type: Diam.:
WAF	<b>-</b> -1/	Slot/Gauge: Length:
4. ABANDONMENT: ☑ Yes ☐ No		Set Between: ft. and ft. NOTE: MULTIPLE SCREENS
Grouted Double from 0.0	0 ~	ft. andft. USE SECOND SHEET
Grouted Depth: from 0.0 ft. to 19.0 *Thicknes		Sieve Analysis  Yes (please enclose)  No
Formation Description of	Bottom of	12. STATIC WATER LEVEL ft. below land surface after 24 hours
Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.
ABANDONED VIA TREMIE PIPE		ft. after hrs. Pumping G.P.M.  Pumping Test: ☐ Yes (please enclose) ☐ No
		Yield:
WITH PORTLAND BENTONITE		14. WATER QUALITY
		Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
		Please enclose lab results.
		15. ARTIFICIAL FILTER (filter pack)
		Installed from ft. to ft.
		Effective size Uniformity Coefficient
		16. WELL GROUTED? Yes No
		□ Neat Cement □ Bentonite □ Bentonite/Cement □ Other
		Depth: Fromftft.
		17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction  Type
		Well Disinfected ☐ Yes ☐ No Type: Amount:
		18. PUMP: Date installed: Not installed □
		Mfr. Name: Model No.:
		H.P Volts Length of drop pipe ft. Capacity gpm
		TYPE: Submersible Jet (shallow) Turbine
		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
		19. WELL DRILLER: JEREMY RINGLER CERT. NO.: 02294
		Address: (Print)  Level: A B C D (circle one)
		176 COMMERCE BLVD STATESVILLE, NC 28625
*Indicate Water Bearing Zones		Telephone No.: 704-872-7686 Fax No.: 704-872-0248
, and the second		20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)		my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:		
3.0 GALLONS PORTLAND BENTONITE		Signed: 03/05/21
		Oignod.
		Well Driller
	Bored	If D Level Driller, provide supervising driller's name:
	☐ Driven	1
Cable tool Other		



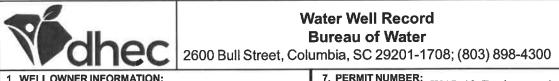
#### Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

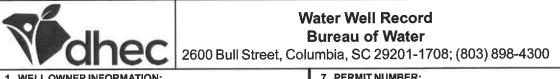
1. WELL OWNER INFORMATION: Name: SANTEE COOPER	OOPER		7. PERMIT NUMBER: WLF-A2-6			
(last) (first)			8. USE:			
Address: ONE RIVERWOOD DRIVE			☐ Residential ☐ Public Supply ☐ Process			
City: MONCKS CORNER State: SC	Zip: 29461		☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☐ Monitor Well ☐ Replacement			
Telephone: Work:			9. WELL DEPTH (completed) Date Started: 03/03/21			
2. LOCATION OF WELL: SC CC	OUNTY: GEO	RGETOWN	ft. Date Completed: 03/03/21			
Name: WINYAH GENERATING S			10. CASING: Threaded Welded			
Street Address: 661 STEAM PLA			Diam.: 2 INCH Height: Above ✓ Below ☐			
City: GEORGETOWN	^{Zip:} 29440		Type: ☑ PVC ☐ Galvanized Surface 2.5 ft. ☐ Steel ☐ Other Weight — lb./ft.			
	=00.041.00	4.611	2.0 in. to 14.0 ft, depth Drive Shoe?  \( \text{Yes} \) No			
Latitude: 33° 19' 53,57" Longitude	: 79° 21' 33	.16"	in. toft. depth			
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE WLF-A		11. SCREEN:  Type:SCH 40 PVCDiam.:2 INCH			
			Slot/Gauge:010 Length:10.0 FEET			
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 14.0 ft. and 24.0 ft. NOTE: MULTIPLE SCREENS			
Grouted Depth: from1	t to	4	ft. andft. USE SECOND SHEET			
отошен верш. пош	*Thickness	Depth to	Sieve Analysis Yes (please enclose) No			
Formation Description	of	Bottom of	12. STATIC WATER LEVEL ft. below land surface after 24 hours			
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface.			
SAND	24.0	24.0	ft. afterhrs. PumpingG.P.M.  Pumping Test: ☐ Yes (please enclose) ☐ No			
			Yield:			
			14. WATER QUALITY			
			Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No			
			Please enclose lab results.			
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No			
			Installed from 12.0 ft. to 24.0 ft. Effective size 1.43 Uniformity Coefficient 1.30			
			Effective size1,43 Uniformity Coefficient1.3U			
			16. WELL GROUTED? ☑ Yes ☐ No			
			☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other			
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction			
			Type			
			Well Disinfected ☐ Yes ☐ No Type: Amount:			
			18. PUMP: Date installed: Not installed  Mfr. Name: Model No.:			
			Mfr. Name: Model No.: H.P Volts Length of drop pipe ft. Capacity gpm			
			TYPE: Submersible Jet (shallow) Turbine			
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal			
			19. WELL DRILLER: JEREMY RINGLER CERT. NO.: 02294			
			Address: (Print)  Level: A B C D (circle one)			
			176 COMMERCE BLVD			
*Indicate Water Bearing Zones			STATESVILLE, NC 28625 Telephone No.: 704-872-7686 Fax No.: 704-872-0248			
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under			
5. REMARKS:			my direction and this report is true to the best of my knowledge and belief.			
BENTONITE SEAL 10.0 - 12.0 FEET			Signed: 03/05/21			
			Signed: Date:Date:			
e Type, E Mad Sales	-	Pornd				
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Dug ☐ Air Ro		Bored Driven	If D Level Driller, provide supervising driller's name:			
☐ Cable tool ☑ Other AUGER						



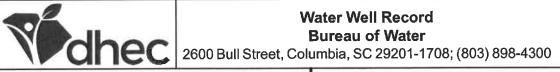
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: WAP-18			
Name: Santee Cooper			177110			
(last) (first)			8. USE:			
Address: One Riverwood Drive	Address: One Riverwood Drive		☐ Residential ☐ Public Supply ☐ Process			
City: Moncks Corner State: SC	SC Zip: 29461-2998		☐ Irrigation ☐ Air Conditioning ☐ Emergency☐ Test Well ☑ Monitor Well ☐ Replacement			
	Home:		9. WELL DEPTH (completed) Date Started: 12.7.21			
2. LOCATION OF WELL: SC CO	UNTY: Georg	getown	23 ft. Date Completed: 12.7.21			
Name: Winyah Generating Station	•	´	10. CASING: ☑ Threaded ☐ Welded			
Street Address: 661 Steam Plant F			Diam.: 2 Height: Above/Below			
City: Georgetown, SC	^{Zip:} 29440-4	815	Type: 🛛 PVC 🔲 Galvanized Surface ft.			
00015010 1111, 000	2/77U=9	015	Steel Other Weight lb./ft.			
Latitude: 33,3298 Longitude	-79.3578		in. toft. depth   Drive Shoe?			
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	11. SCREEN:			
			Type:			
4. ABANDONMENT: ☑ Yes □	No		Set Between: ft. and ft. NOTE: MULTIPLE SCREENS			
Give Details Below			ft. and ft. USE SECOND SHEET			
Grouted Depth: from $\underline{0}$ f	t. to <u>23</u>	ft.	Sieve Analysis ☐ Yes (please enclose) ☑ No			
	*Thickness		12. STATIC WATER LEVEL ft. below land surface after 24 hours			
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.			
	Stratum	Suatum	ft. after hrs. Pumping G.P.M.			
			Pumping Test: ☐ Yes (please enclose) ☐ No			
			Yield:			
			14. WATER QUALITY			
			Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No			
			Please enclose lab results.			
			15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No			
			Installed from ft. to ft.			
			16. WELL GROUTED? ☐ Yes ☐ No ☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other			
			Depth: From ft. to ft.			
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft, direction  Type Well Disinfected   Yes   No Type: Amount:			
			18. PUMP: Date installed: Not installed			
			Mfr. Name: Model No.:			
			H.P Volts Length of drop pipe ft. Capacity gpm			
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine			
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal			
			19. WELL DRILLER: Elbert Rozier CERT. NO.: 2088			
			Address: (Print) Level: A B C D (circle one)			
			1800 Reynolds Ave N. Charleston, SC			
*Indicate Water Bearing Zones			29405 Telephone No.: 843 884-1234 Fax No.:			
			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under			
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.			
5. REMARKS:						
Original Well Installed 9.23.15						
			Signed: Date:			
			Well Driller			
6. TYPE: ☐ Mud Rotary ☐ Jetted		Bored	If D Level Driller, provide supervising driller's name:			
□ Dug □ Air Rotary □ Driven						
☐ Cable tool ☐ Other			Charles Clymer A-75			



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: WAP-18 (Replacement)
Name: Santee Cooper			w Ar-10 (Replacement)
(last) (first)			8. USE:
Address: One Riverwood Drive			☐ Residential ☐ Public Supply ☐ Process
City: Manales Comment State: SC	7in: 20	M61-2008	☐ Irrigation ☐ Air Conditioning ☐ Emergency
Moncks Corner State. SC	City: Moncks Corner State: SC Zip: 29461-2998		☐ Test Well ☐ Monitor Well ☐ Replacement
	Home:		9. WELL DEPTH (completed) Date Started: 11.17.21
2. LOCATION OF WELL: SC CC	7	getown	17.5 ft. Date Completed: 11.17.21
Name: Winyah Generating Station			10. CASING: ☑ Threaded ☐ Welded
Street Address: 661 Steam Plant I			Diam.: 2 Height: Above/Below
City: Georgetown, SC	Zip: 29440-4	1815	Type:  PVC Galvanized Surface 3.5ft.
Latituda, 22 2000	. 70 2570		0in. to 7.5ft. depth   Drive Shoe? ☐ Yes ☐ No
Latitude: 33.3298 Longitude	· -19.33/8		in. toft. depth
	BLIC SYSTE	M NUMBER:	11. SCREEN:
WAP	-18		Type: PVC Diam.: 2 Slot/Gauge: 0.010 Length: 10
4. ABANDONMENT: ☐ Yes ☑	No		Set Between: 7.5 ft. and 17.5 ft. NOTE: MULTIPLE SCREENS
Give Details Below			ft. and ft. USE SECOND SHEET
Grouted Depth: from1			Sieve Analysis 🔲 Yes (please enclose) 🗹 No
	*Thickness		12. STATIC WATER LEVEL ft. below land surface after 24 hours
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.
Brown Fine Sand	0	3	ft. after hrs. Pumping G.P.M.
Brown I me band	ļ ·	-	Pumping Test: ☐ Yes (please enclose) ☐ No
White Fine Sand	3	6	Yield:
	_	10	14. WATER QUALITY  Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Dark Brown Fine Sand	6	13	Please enclose lab results.
Gray Fine Sand w/Silt	13	17.5	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 5.5 ft. to 18.5 ft.
Gray Fine-Medium Sand	17.5	19.5	Effective size #2 Uniformity Coefficient
0 0 01 10 1	10.5	20	16. WELL GROUTED?
Gray Clay w/Silt and Sand	19.5	20	Depth: From 0 ft. to 5.5 ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction
			Type
			Well Disinfected ☐ Yes ☐ No Type: Amount:
			18. PUMP: Date installed: Not installed _
			Mfr. Name: Model No.:
			H.P Volts Length of drop pipe ft. Capacity gpm
			TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Elbert Rozier CERT. NO.: 2088
			Address: (Print) Level: A B C D (circle one)
			1800 Reynolds Ave N. Charleston, SC
			29405
*Indicate Water Bearing Zones			Telephone No.: 043 064-1234 Fax No.:
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			חוץ שוופטוטוו מוום נווס ובףטונים נוטם נט נוופ שפטניטו וווץ מוטיאופטעים מווט שפוופו.
or reministry			
			l
			Signed: Date;
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored			
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven			If D Level Driller, provide supervising driller's name:
☐ Cable tool ☑ Other			James Smith



1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: WLF-A2-1			
Name: Santee Cooper						
(last) (first)			8. USE:			
Address: One Riverwood Drive		1	☐ Residential ☐ Public Supply ☐ Process			
City: Moncks Corner State: SC	rner State: SC Zip: 29461-2998		☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement			
Telephone: Work:	Home:		9. WELL DEPTH (completed) Date Started: 12.7.21			
2. LOCATION OF WELL: SC CO	UNTY: Georg	getown	18.5 Date Completed: 12.7.21			
Name: Winyah Generating Station	•	J	10. CASING: ☑ Threaded ☐ Welded			
Street Address: 661 Steam Plant Road			Diam.: 2 Height: Above/Below			
		1015	Type: 🗹 PVC 🗌 Galvanized Surface 3.5 ft.			
City: Georgetown, SC	Zip: 29440-4	C19+	☐ Steel ☐ Other Weight — lb./ft.			
Latitude: 33.3298 Longitude:	: -79.3578		0in. to 8.5ft. depth   Drive Shoe? ☐ Yes ☐ No			
			in. toft. depth 11. SCREEN:			
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	Tyne: PVC Diam.: 2			
4 ADAMBONIATION TO THE	Ne		Slot/Gauge: 0.010 Length: 10			
4. ABANDONMENT: ☐ Yes ☑	NO		Set Between: $8.5$ ft. and $18.5$ ft. NOTE: MULTIPLE SCREENS			
Give Details Below			ft. and ft. USE SECOND SHEET			
Grouted Depth: from f	t. to	ft.	Sieve Analysis 🔲 Yes (please enclose) 🗹 No			
	*Thickness		12. STATIC WATER LEVEL ft. below land surface after 24 hours			
Formation Description	of Stratum	Bottom of Stratum	13. PUMPING LEVEL Below Land Surface.			
Brown Fine Sand	0	3	ft. after hrs. Pumping G.P.M.			
DIOWII FINE SANG	V	٠	Pumping Test: ☐ Yes (please enclose) ☐ No			
White Fine Sand	3	6	Yield:			
			14. WATER QUALITY			
Dark Brown Fine Sand	6	14	Chemical Analysis □ Yes □ No Bacterial Analysis □ Yes □ No Please enclose lab results.			
		1.0				
Brown Fine Sand	14	18	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No Installed from 6.5 ft. to 19.5 ft.			
Brown Fine Sand w/Silt	18	19	Effective size #2 Uniformity Coefficient			
			16. WELL GROUTED? Yes No			
			☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other			
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction			
			Type			
			Well Disinfected ☐ Yes ☐ No Type: Amount:			
		<u> </u>	18. PUMP: Date installed: Not installed			
			Mfr. Name: Model No.:			
			H.P Volts Length of drop pipe ft. Capacity gpm			
			TYPE: Submersible Jet (shallow) Turbine			
	_		☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal  19. WELL DRILLER: Elbert Rozier CERT. NO.: 2088			
			19. WELL DRILLER: Elbert Rozier CERT. NO.: 2088  Address: (Print) Level: A B C D (circle one)			
			1800 Reynolds Ave N. Charleston, SC			
			29405			
*Indicate Water Bearing Zones			Telephone No.: 843 884-1234 Fax No.:  20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under			
(Use a 2nd sheet if needed)			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.			
			my anodaon and and report to true to the best of my knowledge and belief.			
5. REMARKS:						
			Signed: Date:			
6. TYPE: ☐ Mud Rotary ☐ Jetted		Bored				
6. ITPE:   Mud Rotary   Jetted   Bored   Bored   Dored   Driven   Driven			If D Level Driller, provide supervising driller's name:			
☐ Cable tool ☑ Other			Charles Clymer A-75			



NUES CONTRACTOR OF THE CONTRAC			
1. WELL OWNER INFORMATION:			7. PERMIT NUMBER: WLF-A2-2
Name: Santee Cooper (last) (first)			
Address: One Riverwood Drive			8. USE:
			☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency
City: Moncks Corner State: SC Zip: 29461-2998		461-2998	☐ Test Well
Talanhanas Madu	Hamai		9. WELL DEPTH (completed) Date Started: 12.9.21
Telephone: Work:  2. LOCATION OF WELL: SC CO	Home:	netovm	18.5 ft. Date Completed: 12.9.21
Name: Winyah Generating Station		getown	10. CASING: ☐ Threaded ☐ Welded
Street Address: 661 Steam Plant 1			Diam.: 2 Height: Above/Below
	Zip: 29440-4	1815	Type: ☑ PVC ☐ Galvanized Surface 3.5 ft.
Goorge on M, Se	27170	1015	Steel Other Weight — Ib./ft.
Latitude: 33.3298 Longitude	: -79.3578		0in. to 8.5ft. depthft. depth   Drive Shoe? ☐ Yes ☐ No
			11. SCREEN:
3. PUBLIC SYSTEM NAME: PU	BLIC SYSTE	M NUMBER:	Type: PVC Diam.: 2
	.,		Slot/Gauge: 0.010 Length: 10
4. ABANDONMENT:  Yes	NO		Set Between: 8.5 ft. and 18.5 ft. NOTE: MULTIPLE SCREENS
Give Details Below Grouted Depth: from	ft to	ft	ft. and ft. USE SECOND SHEET
Glouted Deptil. Holft	*Thickness	Depth to	Sieve Analysis  Yes (please enclose)  No  12. STATIC WATER LEVEL ft. below land surface after 24 hours
Formation Description	of	Bottom of	
	Stratum	Stratum	13. PUMPING LEVEL Below Land Surface ft. after hrs. Pumping G.P.M.
Brown Fine Sand	0	3	Pumping Test:  Yes (please enclose) No
		,	Yield:
White Fine Sand	3	6	14. WATER QUALITY
Dark Brown Fine Sand	6	14	Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Dark Brown Thie Sand	0	1	Please enclose lab results.
Brown Fine Sand	14	17.5	15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
			Installed from 6.5 ft. to 19.5 ft.  Effective size #2 Uniformity Coefficient
Brown Fine Sand w/Silt	17.5	19	
			16. WELL GROUTED? ☑ Yes ☐ No ☑ Neat Cement ☑ Bentonite ☐ Bentonite/Cement ☐ Other
			Depth: From <u>0</u> ft. to <u>6.5</u> ft.
			17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft direction
			Type
			Well Disinfected ☐ Yes ☐ No Type: Amount:
			18. PUMP: Date installed: Not installed
			Mfr. Name: Model No.: ft. Conscibution and
			H.P Volts Length of drop pipe ft. Capacity gpm  TYPE:
			☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal
			19. WELL DRILLER: Elbert Rozier CERT. NO.: 2088
			Address: (Print) Level: A B C D (circle one)
			1800 Reynolds Ave N. Charleston, SC
*Indicate Water Reging Zonce			29405 Telephone No.: 843 884-1234 Fax No.:
*Indicate Water Bearing Zones			20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under
(Use a 2nd sheet if needed)			my direction and this report is true to the best of my knowledge and belief.
5. REMARKS:			
			Signed: Date:
			Well Driller
6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored			If D Level Driller, provide supervising driller's name:
☐ Dug ☐ Air Rotary ☐ Driven			Charles Clymer A-75
☐ Cable tool ☑ Other			Change dignici zero