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

by Santee Cooper Moncks Corner, South Carolina

January 31, 2022 (Amended March 2, 2022)

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#### Table No. Title

1 Summary of Analytical Results

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1	Location of Class 3 Landfill Area 1 and Closed Unit 2 Slurry Pond
	Groundwater Monitoring Wells for CCR Compliance
2	Potentiometric Map February – March 2021
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## Appendix A – Statistical Analysis

## Appendix B – Laboratory Analytical Reports

#### 1. Annual Groundwater Monitoring Report Summary

The South Carolina Public Service Authority (Santee Cooper) has prepared this 2021 Annual Groundwater Monitoring Corrective Action Report for the closed coal combustion residuals (CCR) management unit referred to as the Unit 2 Slurry Pond and currently operational Class 3 Landfill Area 1 located at the Winyah Generating Station (WGS) in Georgetown, South Carolina. This 2021 Annual Report was prepared to comply with the United States Environmental Protection Agency (EPA) Hazardous and Solid Waste Management System; Disposal of CCR from Electric Utilities, Title 40 Code of Federal Regulations (CFR) Part 257, Subpart D dated 17 April 2015 (CCR Rule), specifically subsection § 257.90(e)(1) through (6).

The closed Unit 2 Slurry Pond was previously classified as an inactive surface impoundment as defined by 40 CFR §257.53. However, on August 5, 2016, the EPA issued a "Direct Final Rule" effective on 4 October 2016, constituting a vacatur of 40 CFR §257.100. The Direct Final Rule applies the requirements of existing surface impoundments that had been previously declared inactive. As a result, owners and operators of inactive CCR surface impoundments must comply with the groundwater monitoring requirements for existing CCR surface impoundments.

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

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

At the start of the current annual reporting period (January 1, 2021), the Class 3 Landfill Area 1 continued to operate under a detection monitoring program in accordance with § 257.94 and the closed Unit 2 Slurry Pond continued under an assessment monitoring program in accordance with § 257.95, which was initiated on December 12, 2019. As a result of the certified ASD, the Appendix III constituents were analyzed for the Class 3 Landfill Area 1 for statistically significant increases (SSIs) using an intrawell statistical test consistent with the Unified Guidance, while the Appendix IV constituents were analyzed for the Closed Unit 2 Slurry Pond using an interwell statistical test to determine if statistically significant levels (SSLs) were present downgradient of the units above groundwater protection standards (GWPS).

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

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

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

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

#### 2. 40 CFR § 257.90 Applicability

#### 2.1 40 CFR § 257.90(a)

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

The co-located Class 3 Landfill Area 1 and closed Unit 2 Slurry Pond at the WGS are subject to the groundwater monitoring and corrective action requirements set forth by the EPA in the Code of Federal Regulations 40 CFR § 257.90 through § 257.98. This document satisfies the requirement under § 257.90(e) which requires the CCR Landfill Owner/Operator to prepare an Annual Groundwater Monitoring and Corrective Action Report.

#### 2.2 40 CFR § 257.90(e) - SUMMARY

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

This Annual Report documents the activities completed in 2021 for the Class 3 Landfill Area 1 and closed Unit 2 Slurry Pond at WGS as required by the Groundwater Monitoring and Corrective Action regulations. Groundwater sampling and analysis was conducted per the requirements of § 257.93, and the status of the groundwater monitoring program, set forth in § 257.94 and § 257.95, is provided in this report.

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

SSIs of Appendix III constituents were identified downgradient of the Class 3 Landfill Area 1/Unit 2 Slurry Pond unit; therefore, the notification was provided, and an evaluation of alternate sources was conducted. A successful ASD was completed concluding that the closed Unit 2 Slurry Pond, on which the Class 3 Landfill Area 1 was constructed, was responsible for the Appendix III SSIs. Notification that an

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

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

#### 2.2.2 Key Actions Completed

The following key actions were completed in 2021:

- Prepared 2020 Annual Report including:
  - The Annual Report was placed in the facility's operating record pursuant to § 257.105(h)(1);
  - Pursuant to § 257.106(h)(1), the notification was sent to the relevant State Director within 30 days of the Annual Report being placed in the facility's operating record [§ 257.106(d)];
  - Pursuant to § 257.107(h)(1), the Annual Report was posted to the CCR Website within 30 days of the Annual Report being placed in the facility's operating record [§ 257.107(d)];
- Collected and analyzed two rounds of groundwater monitoring (March and August) in accordance with § 257.94 and § 257.95 and recorded the concentrations in the facility's operating record as required by § 257.94(f) and § 257.95(i). Groundwater monitoring results are summarized in Table 1 and laboratory analytical results are provided in Appendix B; and
- Completed statistical evaluation to determine statistically significant increases for Appendix III
  constituents and statistically significant levels for Appendix IV constituents in accordance with §
  257.93(h)(2) (Appendix A).

#### 2.2.3 Problems Encountered

Problems such as damaged wells or issues with sample collection or lack of sampling were not encountered at the Class 3 Landfill Area 1 or closed Unit 2 Slurry Pond in 2021.

#### 2.2.4 Actions to Resolve Problems

No problems needed resolution.

#### 2.2.5 Project Key Activities for Upcoming Year

Key activities to be completed in 2022 include the following:

- Conduct semi-annual groundwater monitoring as required by § 257.94 or § 257.95.
- Review of the detection monitoring results and statistical analysis for the Class 3 Landfill Area 1 to verify on-going validity of the certified ASD.

- Statistical analysis of Assessment Monitoring analytical data to determine if SSLs of the detected Appendix IV constituents are present.
- Prepare the 2022 annual report; place it in the operating record as required by § 257.105(h)(1), notify the state [§ 257.106(d)]; and post to website [§ 257.107(d)].

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

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

#### 2.3.1 §257.90(e)(1) AERIAL IMAGE OF GROUNDWATER MONITORING PROGRAM

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

As required by §257.90(e)(1), a map showing the location of the co-located closed Unit 2 Slurry Pond and the Class 3 Landfill Area 1 and associated upgradient and downgradient monitoring wells is included in this report as Figure 1. The groundwater monitoring network meets the requirements of §257.91.

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

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

Additional monitoring wells were not installed or decommissioned during 2021.

#### 2.3.3 §257.90(e)(3) SUMMARY OF GROUNDWATER ANALYSIS

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

Two independent samples from each background and downgradient monitoring well were collected and analyzed to satisfy the detection monitoring requirements for the Class 3 Landfill Area 1 and the assessment monitoring requirements for the closed Unit 2 Slurry Pond. A summary table including the sample names, dates of sample collection, reason for sample collection (detection or assessment), and monitoring data obtained for the groundwater monitoring program for the closed Unit 2 Slurry Pond and Class 3 Landfill Area 1 is presented in Table 1 of this report. In addition, as required by § 257.95(d)(3), Table 1 includes the groundwater protection standards established under § 257.95(d)(2). Laboratory analytical packages, along with field sampling forms, are provided in Appendix B.

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

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

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

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

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

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

Since the Class 3 Landfill Area 1 remained in Detection Monitoring and the closed Unit 2 Slurry Pond remained in Assessment Monitoring in 2021, no other information was required to be included in this annual report. Other information including development of groundwater protection standards, recording groundwater monitoring results in the operating record, and an evaluation of alternate sources is discussed in preceding sections. Groundwater flow rate and direction are provided as Figures 2 and 3 for each sampling event as specified in § 257.93(c).

#### **TABLES**

**TABLE 1 - Summary of Analytical Results** Winyah Generating Station Class 3 Landfill (Area 1) Detection Monitoring and Closed Unit 2 Slurry Pond Assessment Monitoring

						A	ppendix	III Cons	stituent										Apr	endix I\	/ Constit	uents									Field P	arameters			
Well ID	Purpose	Date of Sample Event			Boron	Calcium					red .	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt			Lithium		Molybdenum	Radium 226	Radium 228	Radium 226/Radium 228 Combined Calculation	Selenium	Thallium	Depth to Groundwater	Groundwater p Elevation		Temperature	Oxidation Reduction Potential	Turbidity	Dissolve Oxyger
				Unit	ug/L	mg/L EPA 60208	mg/L	mg/L	mg/L	mg/L	SU	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	pCi/L	pCi/L EPA 904.0	pCi/L	ug/L EPA 6020B E	ug/L	Feet (btoc)	Feet (msl) 9	U us	С	mv	NTU	ppm
				GWPS/ US EPA	EPA <del>6</del> 010D		B EPA 300.	0 EPA 300 4	.0 EPA 300	0.0 SM 254		6 6	10	2000	4	5 EPA 6020	100	6 6	4	EPA 6020B	40	2 2	100	EPA 903.1 Mc	EPA 904.0	PA 903.1 Mg	50 50	<u>:PA 5020B</u> 2					SM2580	_	
	Site Backer	round Wells		MCL/RSL			+	+	+	_	-				-	_								_						-	_	+		_	
/BW-A1-1	Background	3/1/2021	AE96413		48	3 20	6 39.			1.8 1	190 4.6			78.4	i e				<0.10					0.972					5.77		4.6 2	38 22.1	1 62	2 0	0
BW-A1-1		1 8/5/2021	AF09084		42	44.	7 9.7	5 <0.1	10 1	26 21	3.8 4.35	<5.0	<5.0	81.	<0.5	0.5	5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.4	0.339	9 1.74	<10.0	<1.0	6.08	22.06	.35 2	97 22.8	4 67	4.6	0.
/BW-A1-1	total sample	es	1		2	2	2	2	2	2	2 2	. 1	1			1	1 1		. 2	- 4		1	_ 1		2	2 2		.1	. 2	2	2	2	2 2	2 2	-
Class 3 L	Landfill (Area Pond		Jnit 2 Slurry																																1
IAP-7	Detection/ Assessment	2/24/2021	AE96385			89.	9 8.	2 <0.1	10 1	69 3	365 5.7	<5.0	<5.0	14.6	<0.5	0.5	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.647	1.01	1 1.66	<10.0	<1.0	9.41	20.53	5.7 4	23 19.6	3 136	6	3.
AP-7	Detection/ Assessment		AF09056		970	19:	9 62.	в <0.1	10 3	190 85	5.62	<5.0	<5.0	40.4	<0.5	0.5	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.12	3.7	7 4.82	<10.0	<1.0	9.24	20.7	.62 9	16 29.4	7 179	0	1.
AP-7	total sample	eș			1		2	2	2	2	2 2	2	2			2	2 2	2	2	2	2	2	2	2 2	2	2 2	2	2	2	2	2	2	2 2	2 2	
/LF-A1-1	Detection/	3/2/2021	AE96414		1100	32	1 24.	9 <0.1	10 5	69 11	140 5.79			29.					<0.10					0.624	1.46	B 2.1			16.75	24.6	.79 14	20 18.2	5 67	0.5	0
/LF-A1-1	Detection/ Assessment	8/5/2021	AF09085		1100	38:	2 59.	7 <0.1	10 5	557 13	379 6.14	<5.0	<5.0	35.4	<0.5	0.5	0. <5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.479	1.13	3 1.61	<10.0	<1.0	17.26	24.09	.14 17	00 22.8	4 -44	0.4	0.
/LF-A1-1	total sample				2	2	2	2	2	2	2 2	1	1		2	1	1 1	1	2	1	1	1	1		2	2 2	1	1	2	2	2	2	2 2	2 2	
/LF-A1-2	Detection/	3/1/2021	AE96415		120	) 2	1 12.	6 <0.1	10 47	7.6 8	32.5 5.06			37.0	3				<0.10					0.908	1.32	2 2.23			3.91	25.3	.06 1	50 18.2	6 83	3 0	0
/LF-A1-2	Assessment Detection/ Assessment	8/11/2021	AF09086		87	15.	B 8.5	7 <0.1	10 47	7.4 10	08.8 4.45	<5.0	<5.0	4:	′ <0.5	0.5	0 <5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.26	2.43	3 3.68	<10.0	<1.0	5.71	23.5	.45 1:	29 27.6	1 -28	3 0	0
/LF-A1-2	total sample	es			2	:	2 :	2	2	2	2 2	1	1	1		1	1 1	1	2	1	1	1	1	1 2	ż	2 2	1	1	2	2	2	2	2 2	2 2	
/LF-A1-3	Detection/ Assessment	3/1/2021	AE96416		59	22.	3 3.0	5 <0.1	10 79	9.6 10	7.5 4.42			23.6	3				<0.10					0.694	0.271	0.965			4.13	24.18	.42 1	73 20.4	9 96	i 0	
/LF-A1-3	Detection/ Assessment		AF09087		70	22.	7 3.4	3 <0.1	10 7.	7.6 1	130 4.29	<5.0	<5.0	33.9	<0.5	0.5	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	1.3	1.87	7 3.17	<10.0	<1.0	5.38	22.93	.29 1	55 28.6	8 2	2 0	0.
/LF-A1-3	total sample				Ž	:	2 :	2	2	2	2 2	1	1			1	1 1	1	2	1	1	1	1	2	2	2 2	1	1	2	2	2	2	2 2	2 2	
/LF-A1-4	Detection/ Assessment		AE96417		140	67.3	2 4.8	6 <0.1	10 69	5.2 19	98.8 6.22			31.6	3				<0.10					0.139	-0.953	3 0.139			3.98	24.26	i.22 2	78 20.7	7 27	′ 0	0.
LF-A1-4	Duplicate		AE96418		150	63.	3 4.8	7 <0.1	10 6!	5.7 25	2.5			30.9					<0.10					0.518	1.63	3 2.15									
	Detection/ Assessment	8/11/2021	AF09088		170				10 83	2.4 27	1.2 6.15	<5.0			1			2.00			<10		<10	1		2.62	<10.0	<1.0	5.42	22.82	:.15 3	15 24.3	2 -79	0	O.
/LF-A1-4 /LF-A1-4	Duplicate total sample	8/11/2021 es	AF09089		180	69.	2 4.4 4 ·	4 <0.1	10 8:	3.6 27 4	78.8 4 2	<5.0 2	<5.0 2	37.	<0.5	0 <0.5 2	0 <5.0 2 <b>2</b>	<0.50	<0.10	<1.0 2	<10 2	<0.2	<10 2	0.20	1.4	4 1.6 4 4	<10.0 2	<1.0 2	2	2	2	2	2 2	2 2	
/LF-A1-5	Detection/ Assessment	3/2/2021	AE96419		1300	28	4 99.	9 <0.1	10 4	175 11	129 6.81			3:	,				<0.10					0.97	0.552	2 1.52			16.22	21.42	.81 14	60 17.4	1 42	0.5	0.
/LF-A1-5	Detection/ Assessment	8/5/2021	AF09090		2200	30	1 17-	4 <0.1	10 4	180 13	310 6.82	<5.0	<5.0	39.3	3 <0.5	0.5	<5.0	<0.50	<0.10	<1.0	<10	<0.2	<10	0.929	0.981	i 1.91	<10.0	<1.0	16.19	21.45	.82 16	00 23.0	9 -126	i 0	0
0 - 34 -	total sample						2	2	3	2	2 2		1			4	d			- 1		-	1	<del>                                     </del>	-	3	-	- 4	1	2	2	2	2 2	1 2	

All groundwater samples collected from the monitoring wells for Detection and Assessment Monitoring in 2021 for the constituents listed in Appendix IV of the EPA CCR Rule (40 CFR) were analyzed by South Carolina Certification # 08552), GEL Laboratories, LLC (Certification # 0120), and Rogers & Callcot, Inc. (Certification # 23105001).

<sup>1.</sup>Some groundwater monitoring wetls are sampled for both Federal CCR and State Permit program compliance. Applicable analytical results from the State Permit program have been included in this summary table. All background and downgradient compliance wells have been sampled to meet § 257.94.

2.These Closed Unit 2 Sturry groundwater monitoring wetls are only Appendix IV analytes detected in first sampling event with all Appendix IV analytes in the second sampling event.

#### **FIGURES**



CLASS 3 LANDFILL AREA 1 BACKGROUND WELL

UNIT 2 SLURRY POND/CLASS 3 LANDFILL AREA 1 WELL

CCR UNIT BOUNDARY

PROPERTY BOUNDARY

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



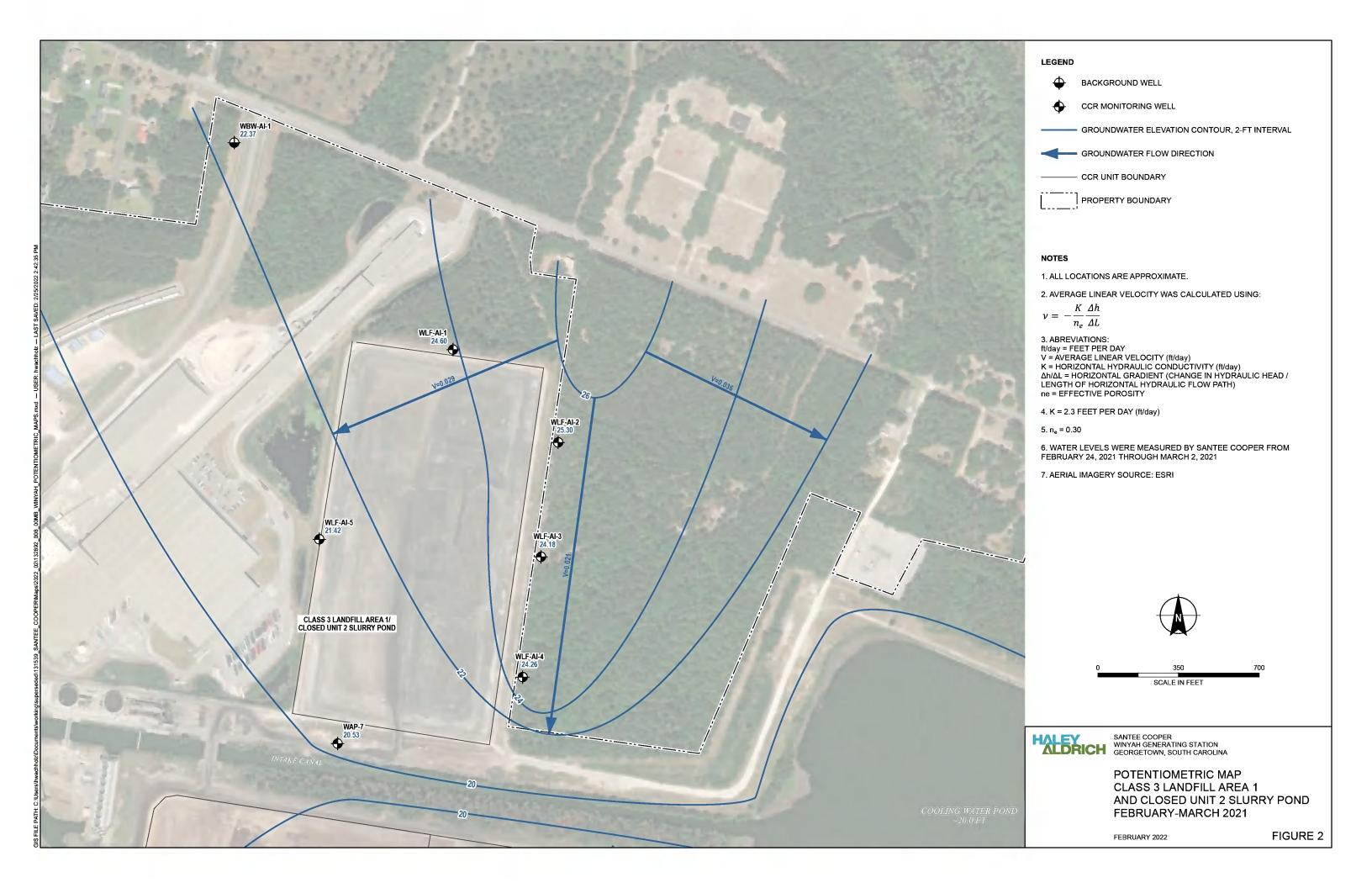
SCALE IN FEET

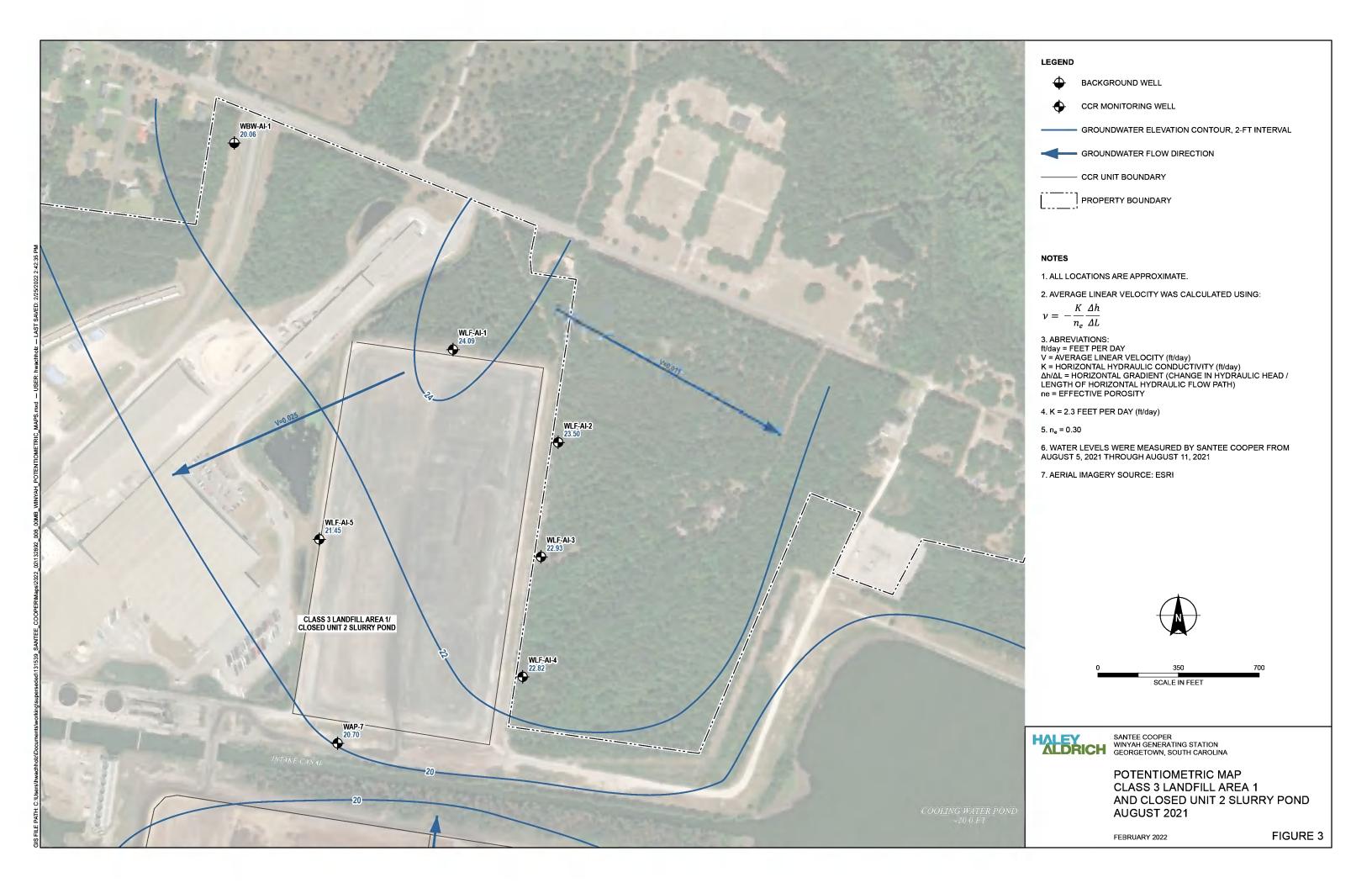
SANTEE COOPER WINYAH GENERATING STATION GEORGETOWN, SOUTH CAROLINA

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

JANUARY 2022

FIGURE 1





Appendix A – Statistical Analysis



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#### **TECHNICAL MEMORANDUM**

July 28, 2021 File No. 132892-014

SUBJECT: 2021 Semi-annual Groundwater Detection Monitoring Data

Statistical Evaluation

Winyah Generating Station

Class 3 Landfill

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

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

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

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

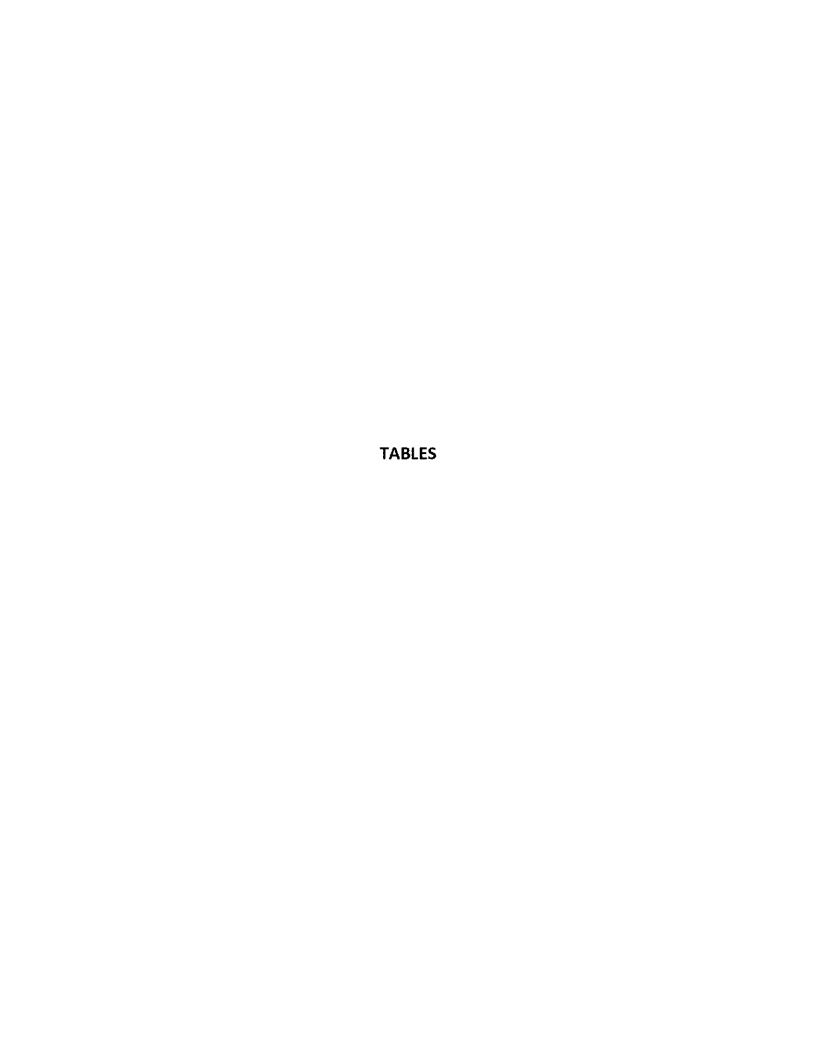
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an SSI. Therefore, pH at WLF-A1-1 is not considered an SSI and will continue to be monitored and evaluated during future semiannual sampling events.

#### Tables:

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





																						Inter-we	ll Analysis	Intra-well	Analysis
Location Id	Frequency of Detection	Percent Non-Detects	Range of Non- Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well*	March 2021 Concentration (mg/L)	Detect?	Upper Prediction Limit (mg/L)	Exceedance above Background at Individual Well (SSI)	Limit (Upper	SSI
							CCR Appendix	k-III: Boron, Tot	tal (mg/L)																
WBW-A1-1	12/12	0%	-	0.0392	0.036	0.0615	0.078	0.0001797	0.0134	0.3415	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric			0.078			
WAP-07	11/11	0%	-	0.562	0.64	1.005	1.1	0.1411	0.3757	0.6687	NA	mg/L	N	0	0	No	No	Stable	Normal				N	2.12	N
WLF-A1-1	13/13	0%	-	3.34	3.7	4.04	4.1	0.7759	0.8809	0.2638	NA	mg/L	N	0	0	No	No	Decreasing	Normal	1.10	Υ		Υ	5.80	N
WLF-A1-2	13/13	0%	-	0.493	0.37	1.152	1.8	0.2104	0.4587	0.9302	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.12	Υ		Υ	1.80	N
WLF-A1-3	13/13	0%	_	0.117	0.086	0.27	0.48	0.01223	0.1106	0.9415	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.06	Υ		N	0.48	N
WLF-A1-4	13/13	0%	-	0.412	0.36	0.816	1.2	0.07042	0.2654	0.6436	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	0.14	Υ		Υ	1.20	N
WLF-A1-5	13/13	0%	-	2.17	2.1	3	3	0.4006	0.633	0.2918	NA.	mg/L	N	0	0	No	No	Stable	Normal	1.30	Υ		Υ	4.55	N
							CCR Appendix-	-III: Calcium, To				_				L									
WBW-A1-1	13/13	0%	-	41.1	44.8	61.7	65	273.1	16.53	0.4019	NA	mg/L	N	0	0	Yes	Yes	Decrease	Normal			98.35			
WAP-07	14/14	0%	-	274	180	584.5	602	43970	209.7	0.7641	NA	mg/L	N	0	0	No	No	Stable	Normal	90	γ		N	1077.68	N
WLF-A1-1	13/13	0%	_	471	487	663.8	746	32090	179.1	0.3802	NA	mg/L	N	0	0	Yes	Yes	Decrease	Normal	321	·		Υ	934.02	N
WLF-A1-2	13/13	0%	_	88.3	102	170.8	187	4533	67.33	0.7624	NA.	mg/L	N	0	0	Vas	Yes	Stable	Normal	21.0	V		N.	351.67	N
WLF-A1-3	13/13	0%	_	13.4	9.74	26.18	26.3	69.32	8.326	0.6204	NA	·	N	0	0	Voc			Normal	22.3	V		N	43.66	
			-									mg/L	IN N	0	0	Yes	Yes	Increasing			Y		IN N		N
WLF-A1-4	13/13	0%	-	118	130	196.4	212	3088	55.57	0.4729	NA	mg/L	IN	0	0	Yes	Yes	Stable	Normal	67.2	Υ		IN	301.08	N
WLF-A1-5	13/13	0%	-	222	242	298.8	321	6483	80.52	0.3624	NA	mg/L	IN IN	Ü	Ü	Yes	Yes	Stable	Normal	284	Y		Y	423.39	N
								dix-III: Chloride							_										
WBW-A1-1	13/13	0%	-	17.5	9.49	50.88	67.5	297.4	17.24	0.9872	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric			67.50			
WAP-07	14/14	0%	-	18	13.4	39.33	66.7	237.4	15.41	0.858	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	8.2	Υ		N	66.70	N
WLF-A1-1	13/13	0%	-	144	143	259.8	270	5385	73.38	0.5081	NA	mg/L	N	0	0	No	No	Decreasing	Normal	24.9	Υ		N	410.41	N
WLF-A1-2	12/12	0%	-	48.4	27.55	162.1	211	3519	59.32	1.226	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	12.6	Υ	}	N	211.00	N
WLF-A1-3	13/13	0%	-	8.46	4	27.67	59.3	234.4	15.31	1.809	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	3.1	Υ		N	59.30	N
WLF-A1-4	13/13	0%	-	10.3	6.96	26.12	41.3	96.95	9.847	0.9558	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	4.9	Υ		N	41.30	N
WLF-A1-5	13/13	0%	-	121	107	174.4	175	1469	38.33	0.3157	NÁ	mg/L	N	0	0	No	No	Stable	Normal	99.9	Υ		Υ	274.35	N
							CCR Append	dix-III: Fluoride	(mg/L)																
WBW-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA			0.10			
WAP-07	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	N
WLF-A1-1	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	N
WLF-A1-2	4/13	69%	0.1-0.1	0.108	0.1	0.134	0.14	0.0001859	0.01363	0.1266	4	mg/L	N	0	0	No	No	Stable	Non-parametric	0.1	0.0		N	0.14	N
WLF-A1-3	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	
WLF-A1-4	0/13	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09	2.151E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.10	
WLF-A1-5	1/13	92%	0.1-0.1	0.101	0.1	0.104	0.11	0.000007692	0.002774	0.02752	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	0.0		N	0.11	N
VIE /\23	1/13	3270	5.1 5.1	0.101	0.1	0.101	CCR Appendix			0.02732				Ü	J	1373	1373	17/	1373	V.1	0.0			0.11	
WBW-A1-1	13/13	0%	_	4.51	4.52	4.688	4.7	0.01434	0.1198	0.02653	NA	pH units	N	0	0	No	No	Stable	Normal			3.85, 5.17			
WAP-07		0%	_	5.95	5.955	6.612	6.69	0.195	0.4415	0.07419	NA NA	pH units	N	0	0	No	No	Stable			V	3.63, 3.17	V	4.15.7.70	N
	14/14		-									•	NI NI	0	0	No	No		Normal	5.7	Y		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4.15, 7.79	
WLF-A1-1	13/13	0%	_	6.32	6.4	6.47	6.47	0.03318	0.1821	0.0288	NA	pH units	IN N	U	0	INO	No	Decreasing	Normal	5.8	Y		Y	6, 6.74	N
WLF-A1-2	13/13	0%	-	5.96	6.25	6.628	6.67	0.4887	0.699	0.1174	NA	pH units	IN	0	0	No	No	Decreasing	Normal	5.06	Y		IN	3.25, 8.81	N
WLF-A1-3	13/13	0%	-	4.21	4.15	4.508	4.58	0.03189	0.1786	0.04243	NA	pH units	N	0	0	Yes	No	Stable	Normal	4.4	Υ		N	3.47, 4.91	N
WLF-A1-4	13/13	0%	-	6.39	6.44	6.668	6.74	0.06154	0.2481	0.03882	NA	pH units	N	0	0	No	No	Stable	Normal	6.2	Υ		Υ	5.36, 7.45	N
WLF-A1-5	13/13	0%	-	6.91	6.89	7.046	7.07	0.006336	0.0796	0.01152	NA	pH units	N	0	0	No	No	Stable	Normal	6.8	Υ		Υ	6.6, 7.24	N
								dix-III: Sulfate																	
WBW-A1-1	13/13	0%	-	125	117	174.6	180	854.2	29.23	0.233	NA	mg/L	N	0	0	No	No	Stable	Normal			261.08			
WAP-07	14/14	0%	-	659	548.5	1343	1440	215100	463.8	0.7033	NA	mg/L	N	0	0	No	No	Stable	Normal	169	Y		N	2416	N
WLF-A1-1	13/13	0%	-	918	978	1064	1070	28630	169.2	0.1843	NA.	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	569	Υ		Υ	1070	N
WLF-A1-2	12/12	0%	-	237	169.5	645.7	1040	77360	278.1	1.172	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	48	Υ		N	1040	N
WLF-A1-3	13/13	0%	-	77.2	75.7	159.4	160	1661	40.75	0.5277	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	80	Υ		N	160	N
WLF-A1-4	13/13	0%	-	157	127	293.4	366	6918	83.17	0.5312	NA	mg/L	N	0	0	Yes	No	Stable	Normal	65	Υ		N	478	N
WLF-A1-5	13/13	0%	-	376	368	526.4	575	8698	93.26	0.2478	NA	mg/L	N	0	0	Yes	No	Stable	Normal	475	Υ		Υ	722	N
						CCR /	Appendix-III: Tota	tal Dissolved So	olids (TDS) (mg/L	)															
	12/12	0%	-	242	226.2	342	352.5	3225	56.79	0.2346	NA	mg/L	N	0	0	No	No	Stable	Normal			522.34			
WBW-A1-1	13/13	1	_	1120	864.9	2207	2296	560500	748.7	0.6677	NA	mg/L	N	0	0	No	No	Stable	Normal	365	Υ		N	3966	N
WBW-A1-1 WAP-07	13/13	0%								0.211	NA	mg/L	N	0	0	No	No	Decreasing	Normal	1140	γ		V	3385	N
	14/14	0%	-	1980	2165	2427	2480	175000	418.4	0.211	1 17/ 3	·		1	-									1 5565	
WAP-07 WLF-A1-1	14/14 13/13	0%	-	1980 426	2165 430	2427 741.5	2480 890	175000 60340				<del>-</del> -	N	Ω	n	No	No	Stable	Normal		V		N		N
WAP-07 WLF-A1-1 WLF-A1-2	14/14 13/13 13/13	0% 0%	-	426	430	741.5	890	60340	245.6	0.5767	NA	mg/L	N	0	0 n	No Yes	No No	Stable	Normal Non-parametric	83	Y		N N	1346	N N
WAP-07 WLF-A1-1 WLF-A1-2 WLF-A1-3	14/14 13/13 13/13 13/13	0% 0% 0%	- - -	426 113	430 101.2	741.5 176.8	890 241.2	60340 1727	245.6 41.56	0.5767 0.3668	NA NA	mg/L mg/L	N N	0 0	0 0	No Yes	No	Increasing	Non-parametric	83 108	Y		N N	1346 241	N N
WAP-07 WLF-A1-1 WLF-A1-2	14/14 13/13 13/13	0% 0%	- - -	426	430	741.5	890	60340	245.6	0.5767	NA	mg/L	N N N	0 0 0	0 0 0	No Yes No				83	Y Y Y		N N N	1346	N N N

Inter-well Analysis

Intra-well Analysis



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#### **TECHNICAL MEMORANDUM**

December 2, 2021 File No. 132892-014

SUBJECT: 2021 Semi-annual Groundwater Detection Monitoring Data

Statistical Evaluation

Winyah Generating Station

Class 3 Landfill

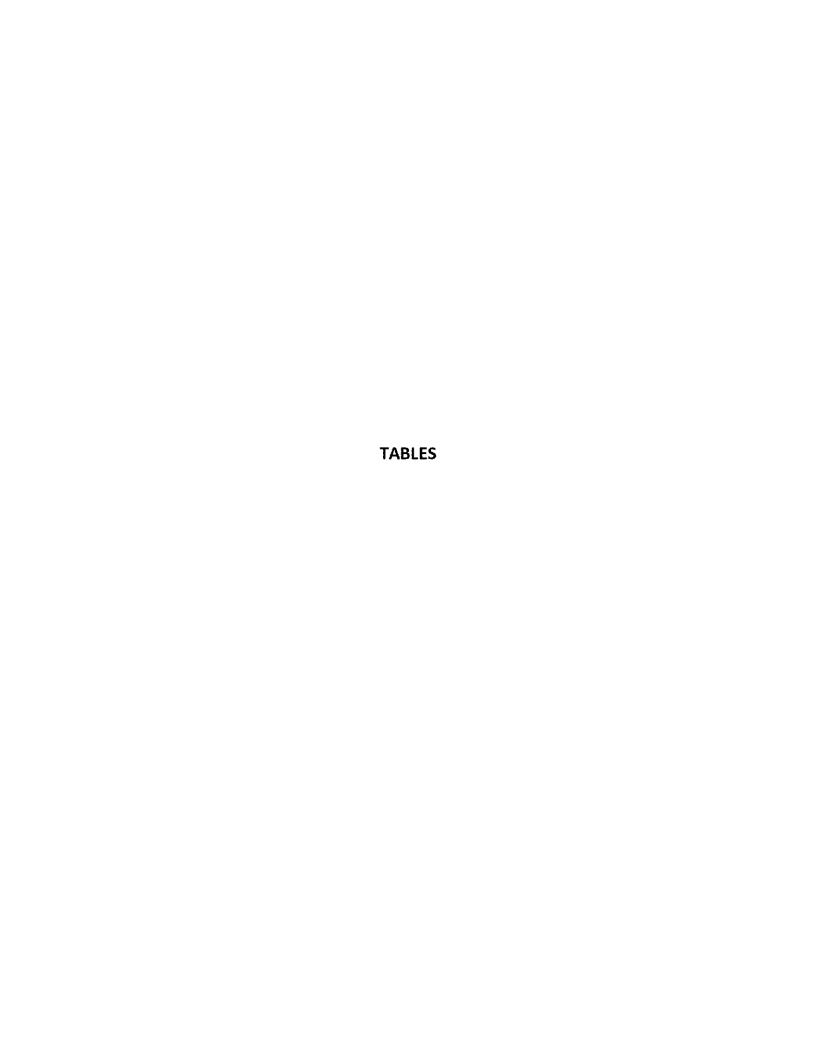
The results of analytical testing performed on samples collected from the groundwater monitoring network were evaluated to determine whether there has been a Statistically Significant Increase (SSI) over background for one or more Appendix III constituent. For the Class 3 Landfill which is in Detection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

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

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

Tables:

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



																						Inter-we	II Analysis	Intra-wel	# Analys
Location Id	Frequency of Detection	Percent Non-Detects	Range of Non- Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Well*	August 2021 Concentration (mg/L)	Detect?	Upper Prediction Limit (mg/L)	Exceedance above Background at Individual Well (SSI)	Background Limit (Upper Prediction Limit) mg/L	SS
							CCR Append	dix-III: Boron, To	tal (mg/L)																
WBW-A1-1	12/12	0%	-	0.0392	0.036	0.0615	0.078	0.0001797	0.0134	0.3415	NA	mg/L	N	a	O	Yes	No	Stable	Non-parametric			0.078			
WAP-07	11/11	0%	-	0.562	0.64	1.005	1.1	0.1411	0.3757	0.6687	NA	mg/L	N	a	O	No	No	Stable	Normal	0.97	Y		Y	2.04	
WLF-A1-1	13/13	0%	-	3.34	3.7	4.04	4.1	0.7759	0.8809	0.2638	NA	mg/L	N	O	O	No	No	Decreasing	Non-parametric	1.10	Y		Y	4.10	
WLF-A1-2	13/13	0%	-	0.493	0.37	1.152	1.8	0.2104	0.4587	0.9302	NA	rng/L	N	0	O	Yes	No	Decreasing	Non-parametric	0.09	Y		Y	1.80	
WLF-A1-3	13/13	0%	-	0.117	0.086	0.27	0.48	D.01223	0.1106	0.9415	NA	mg/L	N	a	0	Yes	No	Stable	Non-parametric	0.07	Y		N	0.48	
WLF-A1-4	13/13	0%	-	0.412	0.36	0.816	1.2	0.07042	0.2654	0.6436	NA	rng/L	N	0	0	Yes	No	Decreasing	Non-parametric	0.17	Y		Y	1.20	
VLF-A1-5	13/13	0%	-	2.17	2.1	3	3	0.4006	0.633	0.2918	NA	rng/L	N	0	O	No	No	Stable	Normal	2.20	Y		Y	4.53	
ID) 67 A 1 1	42/42	200		41.1	44.0	61.7	CCR Appendi			0.4010	NIS	/1	N.			V	V	D	Name			00.25			
VBW-A1-1 WAP-07	13/13	0%	-	41.1 274	44.8 180	61.7 584.5	65 602	273.1 43970	16.53 209.7	0.4019	NA NA	mg/L mg/L	N N	0	0	Yes No	Yes	Decrease Stable	Normal Normal	100	Y	98.35	Y	1042.12	
VLF-A1-1	14/14	0%		471	487	663.8	746	32090	179.1	0.3802	NA NA	-	N	a	0	Yes	Yes	Decrease	Normal	199 382	Y		Y	950.42	
VLF-A1-2	13/13	0%	-	88.3	102	170.8	187	4533	67.33	0.7624	NA NA	mg/L mg/L	N	0	0	Yes	Yes	Stable	Normal	15.8	Y		N	343.28	
VLF-A1-3	13/13	0%	-	13.4	9.74	26.18	26.3	69.32	8.326	0.6204	NA NA	mg/L	N	a	a	Yes	Yes	Increasing	Normal	22.7	Y		N	43.69	
NLF-A1-4	13/13	0%	-	118	130	196.4	212	3088	55.57	0.4729	NA	mg/L	N	0	0	Yes	Yes	Decreasing	Normal	66.6	Y		N N	299.11	
VLF-A1-5	13/13	0%	-	222	242	298.8	321	6483	80.52	0.3624	NA	mg/L	N	0	0	Yes	Yes	Stable	Normal	301	Y	-	Y	421.16	
							and the second second	ndix-III: Chloride							777					1				1	
BW-A1-1	13/13	0%	-	17.5	9.49	50.88	67.5	297.4	17.24	0.9872	NA	mg/L	N	a	O	Yes	No	Stable	Non-parametric			67.50			
WAP-07	14/14	0%	-	18	13.4	39.33	66.7	237.4	15.41	0.858	NA	mg/L	N	a	o	Yes	No	Stable	Non-parametric	62.8	Y		N	66.70	Т
VLF-A1-1	13/13	0%	-	144	143	259.8	270	5385	73.38	0.5081	NA	mg/L	N	D	D	No	No	Decreasing	Normal	59.7	Υ		N	418.68	Ì
VLF-A1-2	12/12	0%	-	48.4	27.55	162.1	211	3519	59.32	1.226	NA	mg/L	N	0	O	Yes	No	Decreasing	Non-parametric	8.6	Y		N	211.00	
/LF-A1-3	13/13	0%	-	8.46	4	27.67	59.3	234.4	15.31	1.809	NA	mg/L	N	a	O	Yes	No	Stable	Non-parametric	3.4	Υ		N	59.30	
VLF-A1-4	13/13	0%	-	10.3	6.96	26.12	41.3	96.95	9.847	0.9558	NA	mg/L	N	O	0	Yes	No	Stable	Non-parametric	4.4	Y		N	41.30	
VLF-A1-5	13/13	0%	-	121	107	174.4	175	1469	38.33	0.3157	NA	mg/L	N	O	0	No	No	Stable	Normal	174.0	Y		Y	264.66	
							CCR Appe	endix-III: Fluoride	0.3																
BW-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA			0.10			
WAP-07	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA	NA	0.1	N		N N	0.10	
/LF-A1-1	0/13	100%	0.1-0.1	0.1	0.1	0.1	0.14	4.626E-18	2.151E-09	2.151E-08	4	rng/L	N	0	0	NA N-	NA N-	NA Ca-lat-	NA NA	0.1	N		N N	0.10	-
VLF-A1-2	4/13	69%	0.1-0.1	0.108	0.1	0.134	0.14	0.0001859	0.01363	0.1266	4	rng/L	N	0	0	No	No	Stable	Non-parametric	0.1	N		N N	0.14	-
VLF-A1-3 VLF-A1-4	0/13	100%	0.1-0.1 0.1-0.1	0.1	0.1	0.1		4.626E-18 4.626E-18	2.151E-09 2.151E-09	2.151E-08 2.151E-08	4	rng/L	N N	0	0	NA NA	NA NA	NA NA	NA NA	0.1	N N		N N	0.10	-
VLF-A1-5	0/13	92%	0.1-0.1	0.101	0.1	0.104	0.11	0.000007692	0.002774	0.02752	4	mg/L mg/L	N	0	a	NA NA	NA NA	NA NA	NA NA	0.1	N		N	0.10 0.11	
rei -AI-S	1/13	32%	0.1-0.1	0.101	0.1	0.104		dix-III: pH, Field		0.02752		mg/L				IVA	ING	1975	110	0.1	IN		.,	0.11	
/BW-A1-1	13/13	0%	-	4.51	4.52	4.688	4.7	0.01434	0.1198	0.02653	NA	pH units	N	a	a	No	No	Stable	Normal			3.85, 5.17			
WAP-07	14/14	0%	-	5.95	5.955	6.612	6.69	0.195	0.4415	0.07419	NA	pH units	N	a	0	No	No	Stable	Normal	5.6	Y	5,65, 5,27	Y	4.21, 7.69	
/LF-A1-1	13/13	0%	-	6.32	6.4	6.47	6.47	0.03318	0.1821	0.0288	NA	pH units	N	O	0	No	No	Decreasing	Non-parametric	6.1	Y		γ	5.79, 6.47	
VLF-A1-2	13/13	0%	-	5.96	6.25	6.628	6.67	0.4887	0.699	0.1174	NA	pH units	N	a	O	No	No	Decreasing	Normal	4.45	Υ		N	3.14, 8.77	
VLF-A1-3	13/13	0%	-	4.21	4.15	4.508	4.58	D.03189	0.1786	0.04243	NA	pH units	N	a	O	Yes	No	Stable	Normal	4.3	Y		N	3.49, 4.93	
/LF-A1-4	13/13	0%	-	6.39	6.44	6.668	6.74	0.06154	0.2481	0.03882	NA	pH units	N	0	0	No	No	Stable	Normal	6.2	Y		Y	5.39, 7.39	
/LF-A1-5	13/13	0%	-	6.91	6.89	7.046	7.07	0.006336	0.0796	0.01152	NA	pH units	N	O	O	No	No	Stable	Normal	6.8	Y		Y	6.59, 7.23	
							CCR Appe	endix-III: Sulfate	(mg/L)																
BW-A1-1	13/13	0%	-	125	117	174.6	180	854.2	29.23	0.233	NA	mg/L	N	D	D	No	No	Stable	Normal			261.08			
WAP-07	14/14	0%	-	659	548.5	1343	1440	215100	463.8	0.7033	NA	mg/L	N	D	D	No	No	Decreasing	Normal	390	Y		Y	2357	
VLF-A1-1	13/13	0%	-	918	978	1064	1070	28630	169.2	0.1843	NA	mg/L	N	D	D	Yes	No	Decreasing	Non-parametric	557	Υ		Y	1070	
VLF-A1-2	12/12	0%	-	237	169.5	645.7	1040	77360	278.1	1.172	NA	mg/L	N	0	0	Yes	No	Decreasing	Non-parametric	47	Y		N	1040	
VLF-A1-3	13/13	0%	-	77.2	75.7	159.4	160	1661	40.75	0.5277	NA	mg/L	N	0	0	Yes	No	Stable	Non-parametric	78	Y		N	160	-
/LF-A1-4	13/13	0%	-	157	127	293.4	366	6918	83.17	0.5312	NA	mg/L	N	0	0	Yes	No	Stable	Normal	82	Y		N	467	-
VLF-A1-5	13/13	0%	-	376	368	526.4	575 Annendiy-III: T	8698 otal Dissolved Sc	93.26 olids (TDS) (mg/L	0.2478	NA	mg/L	N	a	0	Yes	No	Stable	Normal	480	Υ		Y	725	
BW-A1-1	12/13	0%		242	226.2	342	352.5	3225	56.79	0.2346	NA	mg/L	N	D	D	No	No	Stable	Normal			522.34			
WAP-07	13/13 14/14	0%	-	1120	864.9	2207	2296	560500	748.7	0.6677	NA NA	mg/L	N	D	D	No	No	Stable	Normal	851	Y	344.34	Y	3863	
/LF-A1-1	13/13	0%	-	1980	2165	2427	2480	175000	418.4	0.8677	NA NA	mg/L	N	D	0	No	No	Decreasing	Normal	1379	Y		Y	3546	-
/LF-A1-1	13/13	0%	-	426	430	741.5	890	60340	245.6	0.5767	NA NA	mg/L	N	0	0	No	No	Stable	Normal	109	Y		N .	1344	
	13/13	0%		113	101.2	176.8	241.2	1727	41.56	0.3668	NA NA	mg/L	N	0	0	Yes	No	Increasing	Non-parametric	130	Y		N N	241	
MLF-A1-3		270				2.0.0						Pt													-
VLF-A1-3 VLF-A1-4	13/13	0%	-	468	462.5	670.3	755	20410	142.9	0.3055	NA	mg/L	N	0	a	No	No	Stable	Normal	271	Υ		N	1002	



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#### **TECHNICAL MEMORANDUM**

July 28, 2021 File No. 132892-014

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data

Statistical Evaluation
Winyah Generating Station
Closed Unit 2 Slurry Pond

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

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

#### **Statistical Evaluation of Appendix IV Constituents**

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

#### STATISTICAL EVALUATION

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

South Carolina Public Service Authority (Santee Cooper) 28 July 2021 Page 2

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

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

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

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

#### **BACKGROUND DISTRIBUTIONS**

The groundwater analytical results for each sampling event from the background sample location (WBW-A1-1) were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset was evaluated to determine the method for UTL calculation. Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009,* background concentrations were updated for the February 2020 semi-annual sampling event based on statistical evaluation of analytical results collected through February 2020. The background dataset will be updated again in February 2022 per the Unified Guidance.

#### RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

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



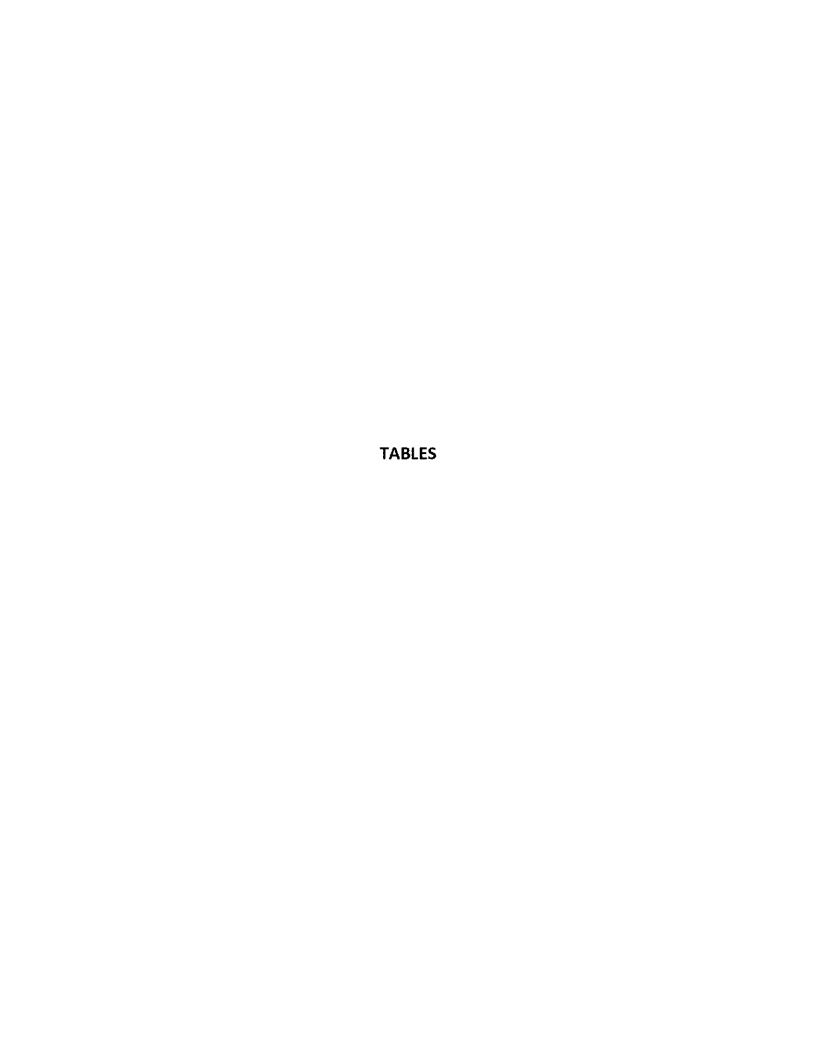
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respective GWPS (Table I). A sample concentration greater than the GWPS is considered to represent a SSL. Based on the results from previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient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

#### Tables:

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





																						inter-w	eli Analysis		GWPS (Higher of	4
Location Id	Frequency of Detection	Percent Non-Detects	Range of Non- Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Group	Distribution Well*	March/April 2021 Concentration	Detect?	Upper Tolerance Limit (mg/L)	SSI	MCL/RSL or Upper Tolerance Limit) mg/L	SS
							CCR Appendix-	IV: Antimony, To																		
WBW-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA NA	NA	NA	NA	NA			0.025		0.025	_
WAP-07 WLF-A1-1	0/11	100%	0.005-0.025	0.00682	0.005	0.015		0.00003636	0.00603 0.006667	0.8844 0.9231	0.006	mg/L	N N	0	1	NA NA	NA NA	NA NA		NA NA	0.005 NS	N		N V		N N
WLF-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L mg/L	N	0	1	NA NA	NA NA	NA NA		NA NA	NS NS					N
WLF-A1-3	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N N	0	1	NA.	NA.	NA.		NA NA	NS			Ÿ		N
WLF-A1-4	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N N	0	1	NA.	NA	NA.		NA	NS			· Y		N
WLF-A1-5	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	NS			Y		N
	and the Control						CCR Appendix	-IV: Arsenic, Tot	tal (mg/L)	P. C. V. S.				377										1000		
WBW-A1-1	0/10	100%	0.005-0.005	0.005	0.005	0.005		1.205E-20	1.098E-10	2.195E-08	0.01	mg/L	N	0	0	NA	NA	NA	NA	NA			0.005		0.010	
WAP-07	0/14	100%	0.005-0.005	0.005	0.005	0.005		1.251E-20	1.118E-10	2.237E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005	N		N		
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NΑ	NA	NA		NA	NS			Y		
WLF-A1-3	5/9	44%	0.005-0.005	0.00644	0.00564	0.00922	0.0099	0.000003232	0.001798	0.2792	0.01	mg/L	N	0	0	No	No	Stable		Normal	NS			Y		
WLF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		_
WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005	(200)	6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NΑ	NA	NA		NA	NS			Y		_
	1444		7					-IV: Barium, Tot			740		-		-			a. 11								
VBW-A1-1	12/12	0%	-	0.09	0.0853	0.1124	0.114	0.0002141	0.01463	0.1625	2	mg/L	N N	0	0	No	No	Stable	Normal	Normal	0.015	V	0.120	N	2.000	
WAP-07	14/14	0%	-	0.0286	0.02805	0.04187	0.0537	0.000093	0.009644	0.3376	2	mg/L	N N	0	0	Yes	No.	Stable		Normal	0.015	Y		N N		_
VLF-A1-1 VLF-A1-2	11/11	0%	-	0.037	0.0329	0.0493	0.0496	0.00006261	0.007913 0.01596	0.2141 0.338	2	mg/L mg/L	N N	0	0	No No	No No	Decreasing Stable		Normal Normal	0.030	Y		N		-
LF-A1-3	11/11	0%	-	0.0352	0.0352	0.04005	0.0405	0.0002347	0.004415	0.1255	2	mg/L	N N	0	0	No	No	Stable		Normal	0.038	Y		N N		-
/LF-A1-4	11/11	0%	_	0.0434	0.0397	0.0453	0.0792	0.0001784	0.01335	0.3077	2	mg/L	N	0	0	Yes	No	Stable		Non-parametric	0.032	Y		N		-
VLF-A1-5	11/11	0%	-	0.0466	0.0473	0.0518	0.0534	0.00002071	0.004551	0.09771	2	mg/L	N	0	0	No	No	Stable		Normal	0.037	Y		N		
7	22,22	-10		0.0 1.00	0.4.110			IV: Beryllium, To	~~-r~	0.03772											0.037	- 77				
/BW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0005		0.004	
NAP-07	0/11	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA	100	NA	0.0005	N		N		
LF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		
LF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		
/LF-A1-3	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	ΝA	NA		NA	NS			Y		
VLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	NS			Υ		
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NΑ	NA		NA	NS			Y		
							CCR Appendix-	IV: Cadmium, To	tal (mg/L)																	
/BW-A1-1	0/10	100%	0.0005-0.002	0.00065	0.0005	0.001325		0.000000225	0.0004743	0.7298	0.005	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.005	
WAP-07	0/14	100%	0.0005-0.002	0.000607	0.0005	0.001025		1.607E-07	0.0004009	0.6603	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005	N		N		_
VLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		-
VLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005	0.00077	0	0	0	0.005	mg/L	N N	0	0	NA	NA	NA		NA	NS			<u>Y</u>		-
WLF-A1-3	1/9	89%	0.0005-0.0005	0.00053	0.0005	0.000662	0.00077	8.1E-09	0.00009	0.1698	0.005	mg/L	N N	0	0	NA	NA NA	NA.		NA NA	NS			<u> </u>		-
NLF-A1-4 NLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L mg/L	N N	0	0	NA NA	NA NA	NA NA		NA NA	NS NS					Н
10-21-3	uj s	10078	0.0003-0.0003	0.0003	0.0003		CCR Appendix-I	V: Chromium, To	40.00	0	0.005	mg/ L				1975	I TAPE	1975		NH	143					
BW-A1-1	0/10	100%	0.005-0.01	0.0055	0.005	0.00775		0.0000025	0.001581	0.2875	0.1	mg/L	N	0	0	NA	NA	ΝA	NA	NA.			0.01		0.100	
VAP-07	0/14	100%	0.005-0.01	0.00536	0.005	0.00675		0.000001786	0.001336	0.2494	0.1	mg/L	N	0	0	NA	NA	NA		NA.	0.005	N		N		
LF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		
LF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		
LF-A1-3	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Υ		
LF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA NA	NS			Y		
LF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		
							CCR Appendix	x-IV: Cobalt, Tota	al (mg/L)																	
3W-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	ΝA	NA	NA			0.0005		0.006	
VAP-07	2/11	82%	0.0005-0.0005	0.000507	0.0005	0.00054	0.00058	5.818E-10	0.00002412	0.04755	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005	Y		N		
F-A1-1	1/9	89%	0.0005-0.0005	0.0005	0.0005	0.0005	0.0005	0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		-
F-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			Υ		-
F-A1-3	2/9	78%	0.0005-0.0005	0.000511	0.0005	0.00056	0.0006	1.111E-09	0.00003333	0.06522	0.006	mg/L	N	0	0	NA	NA	NA.		NA	NS			Y		-
F-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA NA	NA NA		NA NA	NS NE			Y Y		$\vdash$
LF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005	CCD A	0 div-IV: Elugrida /	0 (mg/1)	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	NS			4		
2M/ A1 1	0/12	1000	0101	0.1	0.1	0.1	сск Арреп	dix-IV: Fluoride (		2 2465 00	4		Al	0	Δ.	NIA.	NIA	MA	MA	MA			0.1		4 000	
W-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09 2.246E-09	2.246E-08	4	mg/L	N N	0	0	NA NA	NA NA	NA NA	NA	NA NA	0.100	N	0.1	B.I	4.000	
VAP-07 LF-A1-1	0/12 0/13	100%	0.1-0.1 0.1-0.1	0.1	0.1	0.1		5.046E-18 4.626E-18	2.246E-09 2.151E-09	2.246E-08 2.151E-08	4	mg/L mg/L	N N	0	0	NA NA	NA NA	NA NA		NA NA	0.100	N N		N N		
LF-A1-1 LF-A1-2	4/13	69%	0.1-0.1	0.108	0.1	0.134	0.14	0.0001859	0.01363	0.1266	4		N	0	0	NA NA	NA NA	NA NA		NA NA		N N		M		
LF-A1-3	0/13	100%	0.1-0.1	0.108	0.1	0.134	0.14	4.626E-18	2.151E-09	2.151E-08	4	mg/L mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.100	N N		N N		
	-	100%	0.1-0.1	0.1	0.1	0.1		4.626E-18	2.151E-09 2.151E-09	2.151E-08 2.151E-08	4	mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.100	N		N N		Н
/LF-A1-4	0/13																									

## Winyah Unit 2 Slurry Pond Landfill Assessment Monitoring Statistical Analysis Summary

Prepared: July 15, 2021

							CCR Appen	dix-IV: Lead, Tota	il (mg/L)																	
WBW-A1-1	0/10	100%	0.001-0.002	0.0011	0.001	0.00155		0.0000001	0.0003162	0.2875	0.015	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.015	
WAP-07	1/14	93%	0.001-0.002	0.00108	0.001	0.001415	0.0011	7.104E-08	0.0002665	0.2471	0.015	mg/L	N	0	0	NA	NA	NΑ		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Υ		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	ΝA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001	İ	0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
							CCR Appendi	x-IV: Lithium, Tot	tal (mg/L)																	
WBW-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA.	NA	NA	NA	NA			0.01		0.040	
WAP-07	0/11	100%	0.01-0.01	0.01	0.01	0.01		4.337E-20	2.083E-10	2.083E-08	0.04	mg/L	N	0	0	NΑ	NA	NΑ		NA NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.01-0.02	0.0111	0.01	0.016		0.00001111	0.003333	0.3	0.04	mg/L	N	0	0	NA	NA	ΝA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA.	NS			Y		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	NS.			Y		No
							CCR Appendix	-IV: Mercury, To																		
WBW-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0002		0.002	
WAP-07	0/11	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA.		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA.		NA NA	NS			Y		No
WLF-A1-3	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA.	NS			Y		No
WLF-A1-5	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
	4,5	20070		0.000			CR Appendix-I	V: Molybdenum,	_		0.00							107			143					110
WBW-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231	0.1	mg/L	N	0	0	NA.	NA	NA	NA	NA.			0.05		0.100	
WAP-07	0/11	100%	0.01-0.01	0.01	0.01	0.01		4.337E-20	2.083E-10	2.083E-08	0.1	mg/L	N	0	0	NΑ	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	ΝA		NA	NS			Y		Ν'n
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA.	NA	NΑ		NA	NS			Y		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
							CR Appendix-I	V: Radium-226 &																		
WBW-A1-1	8/11	27%	4-4	3.78	4	4.95	5.07	1.428	1.195	0.3161	5	pCi/L	Y	1	0	Yes	Nο	Stable	Normal	Normal			5.9037		5.90	
WAP-07	5/11	55%	4-4	3.79	4	5.01	5.31	1.017	1.008	0.2663	5	pCi/L	Y	1	0	Yes	No	Decrease		Normal	1.660	Y		N		No
WLF-A1-1	6/11	45%	4-4	3.54	4	4.285	4.34	0.9039	0.9508	0.2685	5	pCi/L	N	0	0	Yes	No	Decrease		Non-parametric	2.100	Y		N		No
WLF-A1-2	5/11	55%	4-4	3.6	4	4.965	5.92	1.553	1.246	0.3461	5	pCi/L	Y	1	0	No	No	Stable		Normal	2.230	Y		N		No
WLF-A1-3	10/11	9%	4-4	3.87	4.24	5.205	5.25	2.21	1.487	0.3845	5	pCi/L	Y	2	0	No	No	Stable		Normai	0.965	Y		N		No
WLF-A1-4	5/11	55%	4-4	3.21	4	4.275	4.51	2.302	1.517	0.4732	5	pCi/L	N	0	0	No	No	Decrease		Non-parametric	0.139	Y		N		No
WLF-A1-5	6/11	45%	4-4	3.26	4	4.33	4.37	2.208	1.486	0.4554	5	pCi/L	N	0	0	No	No	Decrease		Non-parametric	1.520	Y		N		No
								-IV: Selenium, To														1000				
WBW-A1-1	0/10	100%	0.005-0.01	0.0095	0.01	0.01		0.0000025	0.001581	0.1664	0.05	mg/L	N	0	0	NA	NA	NA	NA	NA NA			0.01		0.050	
WAP-07	0/14	100%	0.005-0.01	0.00964	0.01	0.01		0.000001786	0.001336	0.1386	0.05	mg/L	N	0	0	NA	NA	NA.		NA.	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
AATL-MI-T			0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	NS			Y		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01										0	0	NA	NA	NΔ		NA.	NS			Y		No
		100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	U	U	1974	1400	1100		1365	143			T		
WLF-A1-3	0/9							2.711E-20 2.711E-20		1.646E-08 1.646E-08	0.05	mg/L mg/L	N	0	0	NA NA	NA	NA NA		NA NA	NS.			Y		No
WLF-A1-3 WLF-A1-4	0/9 0/9	100%	0.01-0.01	0.01	0.01	0.01	CCR Appendi		1.646E-10					_				1.07						Y		No
WLF-A1-3 WLF-A1-4	0/9 0/9	100%	0.01-0.01	0.01	0.01	0.01	CCR Appendix	2.711E-20	1.646E-10					_				1.07	NA			-,1	0.001	Y	0.002	No
WLF-A1-3 WLF-A1-4 WLF-A1-5	0/9 0/9 0/9	100% 100%	0.01-0.01 0.01-0.01	0.01	0.01 0.01	0.01	CCR Appendix	2.711E-20 c-IV: Thallium, To	1.646E-10 etal (mg/L)	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA	NA	NA		N	0.001	Y	0.002	No No
WLF-A1-3 WLF-A1-4 WLF-A1-5 WBW-A1-1	0/9 0/9 0/9	100% 100%	0.01-0.01 0.01-0.01 0.001-0.001	0.01 0.01	0.01 0.01 0.001	0.01	CCR Appendix	2.711E-20 c-IV: Thallium, To 0	1.646E-10 otal (mg/L) 0	1.646E-08 0	0.002	mg/L	N	0	0	NA NA	NA NA	NA NA	NA	NA NA	NS	N	0.001	Y	0.002	No
WLF-A1-3 WLF-A1-4 WLF-A1-5 WBW-A1-1 WAP-07	0/9 0/9 0/9 0/9	100% 100% 100%	0.01-0.01 0.01-0.01 0.001-0.001 0.001-0.001	0.01 0.01 0.001 0.001	0.01 0.01 0.001 0.001	0.01 0.01 0.001 0.001	CCR Appendio	2.711E-20 x-IV: Thallium, To 0 0	1.646E-10 stal (mg/L) 0	0 0	0.05 0.002 0.002	mg/L mg/L mg/L	N N N	0 0	0 0	NA NA NA	NA NA	NA NA NA	NA	NA NA	NS 0.001	N	0.001	Y N	0.002	No No
WLF-A1-3 WLF-A1-4 WLF-A1-5 WBW-A1-1 WAP-07 WLF-A1-1	0/9 0/9 0/9 0/9 0/11 0/9	100% 100% 100% 100% 100%	0.01-0.01 0.01-0.01 0.001-0.001 0.001-0.001 0.001-0.001	0.01 0.01 0.001 0.001 0.001	0.01 0.001 0.001 0.001	0.01 0.01 0.001 0.001	CCR Appendio	2.711E-20 c-IV: Thallium, To 0 0	1.646E-10 otal (mg/L) 0 0	0 0 0	0.05 0.002 0.002 0.002	mg/L mg/L mg/L mg/L	N N N	0 0 0	0 0 0	NA NA NA	NA NA NA	NA NA NA	NA	NA NA NA	0.001 NS	N	0.001	N Y	0.002	No No No
WLF-A1-3 WLF-A1-4 WLF-A1-5 WBW-A1-1 WAP-07 WLF-A1-1 WLF-A1-2	0/9 0/9 0/9 0/9 0/11 0/9 0/9	100% 100% 100% 100% 100%	0.01-0.01 0.01-0.01 0.001-0.001 0.001-0.001 0.001-0.001 0.001-0.001	0.01 0.001 0.001 0.001 0.001 0.001	0.01 0.01 0.001 0.001 0.001 0.001	0.01 0.01 0.001 0.001 0.001	CCR Appendio	2.711E-20 c-IV: Thallium, To 0 0 0	1.646E-10 ptal (mg/L) 0 0 0 0	0 0 0 0	0.05 0.002 0.002 0.002 0.002	mg/L mg/L mg/L mg/L mg/L	N N N N N N	0 0 0 0	0 0 0 0 0	NA NA NA NA	NA NA NA NA	NA NA NA NA	NA	NA NA NA NA	0.001 NS NS	N	0.001	N Y Y	0.002	No No No

Notes:

NS= Not Sampled



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#### **TECHNICAL MEMORANDUM**

November 8, 2021 File No. 132892-014

SUBJECT: 2021 Semi-annual Groundwater Assessment Monitoring Data

Statistical Evaluation
Winyah Generating Station
Closed Unit 2 Slurry Pond

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

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

#### **Statistical Evaluation of Appendix IV Constituents**

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

#### STATISTICAL EVALUATION

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

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

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

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

The UTLs were calculated from the background well dataset using Chemstat software after testing for outlier sample results that would warrant removal from the dataset based on likely error in sampling or measurement. Both visual and statistical outlier tests for the background data were performed using Chemstat and U.S. Environmental Protection Agency's ProUCL 5.1 software, and a visual inspection of the data was performed using box plots and distribution plots for the downgradient sample data. No sample data were identified as outliers that warranted removal from the dataset.

#### **BACKGROUND DISTRIBUTIONS**

The groundwater analytical results for each sampling event from the background sample location (WBW-A1-1) were combined to calculate the UTL for each detected Appendix IV constituent. The variability and distribution of the pooled dataset was evaluated to determine the method for UTL calculation. Per the document *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance, March 2009,* background concentrations were updated for the February 2020 semi-annual sampling event based on statistical evaluation of analytical results collected through February 2020. The background dataset will be updated again in February 2022 per the Unified Guidance.

#### RESULTS OF APPENDIX IV DOWNGRADIENT STATISTICAL COMPARISONS

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



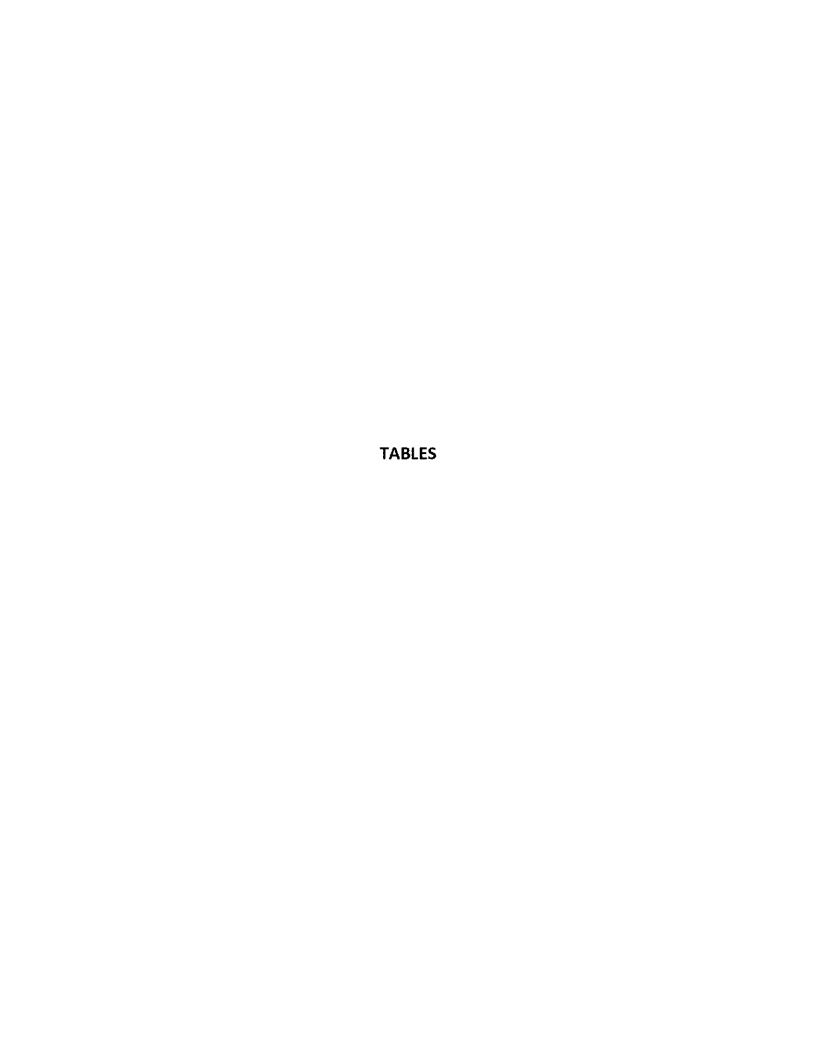
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respective GWPS (Table I). A sample concentration greater than the GWPS is considered to represent an SSL. Based on the results from previous compliance sampling events and statistical evaluations, interwell comparisons were utilized for all downgradient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

#### Tables:

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





																					li	nter-well Analysis		GWPS (Higher of	
Location Id	Frequency of Detection	Percent Non-Detects	Range of Non- Detect	Mean	50th Percentile (Median)	95th Percentile	Maximum Detect	Variance	Standard Deviation	Coefficient of Variance	CCR MCL/RSL	Report Result Unit	Detection Exceedances (Y/N)	Number of Detection Exceedances	Number of Non-Detection Exceedances	Outlier Presence	Outlier Removed	Trend	Distribution Group	Distribution Well <sup>s</sup>	August 2021 Concentration Dete	Upper st? Tolerance Limit (mg/L)	SSI	MCL/RSL or Upper Tolerance Limit) mg/L	SSL
							CCR Appendix	-IV: Antimony, To	otal (mg/L)			Oille	117117	Litteedances	Literalites				1000		(mg/c)	Limit (mg/L)			
WBW-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA	NA	NA		0.025		0.025	
WAP-07	0/10	100%	0.005-0.025	0.007	0.005	0.016		0.00004	0.006325	0.9035	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-1	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-2	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA	0.005 N		N	_	No
WLF-A1-3	0/9	100%	0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667	0.9231	0.006	mg/L	N	0	1	NA	NA	NA		NA NA	0.005 N		N		No
WLF-A1-4 WLF-A1-5	0/9	100%	0.005-0.025 0.005-0.025	0.00722	0.005	0.017		0.00004444	0.006667 0.006667	0.9231	0.006	mg/L	N N	0	1	NA NA	NA NA	NA NA		NA NA	0.005 N 0.005 N		N	-	No No
MIL-WI-2	0/9	100%	0.003-0.023	0.00722	0.003	0.017	CCR Appendi	x-IV: Arsenic, Tot	an an	0.9231	0.000	mg/L	N N	U		INPA	INA	1975		IVA	U.005 N		IV.		110
WBW-A1-1	0/10	100%	0.005-0.005	0.005	0.005	0.005		1.205E-20	1.098E-10	2.195E-08	0.01	mg/L	N	0	0	NA.	NA	NA	NA.	NA.		0.005		0.010	
WAP-07	0/13	100%	0.005-0.005	0.005	0.005	0.005		1.807E-20	1.344E-10	2.688E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-3	5/9	44%	0.005-0.005	0.00644	0.00564	0.00922	0.0099	0.000003232	0.001798	0.2792	0.01	mg/L	N	0	0					_	0.005 N		N		No
WLF-A1-4	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N	_	No
WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005	CCR Appendi	6.776E-21 x-IV: Barium, Tot	8.232E-11 al (mg/L)	1.646E-08	0.01	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N		No
WBW-A1-1	11/11	0%	-	0.0911	0.087	0.1125	0.114	0.0002208	0.01486	0.1631	2	mg/L	N	0	0	No	No	Stable	Normal	Normal		0.1188		2.000	
WAP-07	13/13	0%	-	0.0296	0.0302	0.04278	0.0537	0.00008375	0.009151	0.3089	2	mg/L	N	0	0	Yes	No	Stable		Normal	0.040 Y		N		No
WLF-A1-1	10/10	0%	-	0.0377	0.0352	0.04933	0.0496	0.00006312	0.007945	0.2108	2	mg/L	N	0	0	No	No	Decreasing		Normal	0.035 Y		N		No
WLF-A1-2	10/10	0%	-	0.0482	0.0523	0.06477	0.0663	0.0002722	0.0165	0.3426	2	mg/L	N	0	0	No	No	Stable		Normal	0.047 Y		N		No
WLF-A1-3	10/10	0%	-	0.0363	0.03565	0.0401	0.0405	0.000005854	0.00242	0.06664	2	mg/L	N	0	0	No	No	Stable		Normal	0.034 Y		N		No
WLF-A1-4	10/10	0%	-	0.0446	0.03995	0.06669	0.0792	0.0001817	0.01348	0.3024	2	mg/L	N	0	0	Yes	No	Stable		Non-parametric	0.037 Y		N N	_	No
WLF-A1-5	10/10	0%		0.0475	0.04765	0.05196	0.0534 CCR Appendix	0.00001181 -IV: Beryllium, To	0.003436 tal (mg/L)	0.0723	2	mg/L	N	0	0	No	No	Stable		Normal	0.039 Y		N		No
WBW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA	NA	NA		0.0005		0.004	
WAP-07	0/10	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N		No
WLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N	_	No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N		No
WLF-A1-3	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.004	mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.0005 N		N	_	No No
WLF-A1-4 WLF-A1-5	0/9	100%	0.0005-0.0005 0.0005-0.0005	0.0005	0.0005 0.0005	0.0005 0.0005		0	0	0	0.004	mg/L mg/L	N N	0	0	NA NA	NA NA	NA NA		NA NA	0.0005 N 0.0005 N		N	-	No No
	4,5	1000	0.0000 0.0000	0.0005	0.0000	0.0003	CCR Appendix	-IV: Cadmium, To	00 00		0.001	mg, c					147.	1475		1111	4.0003	Mary and the			
WBW-A1-1	0/10	100%	0.0005-0.002	0.00065	0.0005	0.001325		0.000000225	0.0004743	0.7298	0.005	mg/L	N	0	0	NA	NA	NA	NA	NA		0.002		0.005	
WAP-07	0/13	100%	0.0005-0.002	0.000615	0.0005	0.0011		1.731E-07	0.000416	0.676	0.005	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N	_	No
WLF-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA	NA	NA		NA NA	0.0005 N		N	_	No
WLF-A1-2 WLF-A1-3	0/9 1/9	100% 89%	0.0005-0.0005 0.0005-0.0005	0.0005	0.0005	0.0005	0.00077	0 8.1E-09	0.00009	0.1698	0.005	mg/L	N N	0	0	NA NA	NA NA	NA NA		NA NA	0.0005 N 0.0005 N		N N	-	No No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005	0.00077	0	0.0003	0.1036	0.005	mg/L mg/L	N	0	0	NA NA	NA NA	NA		NA NA	0.0005 N		N	-	No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.005	mg/L	N	0	0	NA.	NA	NA		NA	0.0005 N		N		No
							CCR Appendix	IV: Chromium, To	otal (mg/L)																
WBW-A1-1	0/10	100%	0.005-0.01	0.0055	0.005	0.00775		0.0000025	0.001581	0.2875	0.1	mg/L	N	0	0	NA	NA	NA	NA	NA		0.01		0.100	
WAP-07	0/13	100%	0.005-0.01	0.00538	0.005	0.007		0.000001923	0.001387	0.2575	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-1	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA	NA	NA		NA	0.005 N		N		No
WLF-A1-2	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08	0.1	mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.005 N	_	N	_	No
WLF-A1-3	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21	8.232E-11	1.646E-08 1.646E-08	0.1	mg/L	N N	0	0	NA NA	NA NA	NA NA		NA NA	0.005 N 0.005 N		N N	_	No No
WLF-A1-4 WLF-A1-5	0/9	100%	0.005-0.005	0.005	0.005	0.005		6.776E-21 6.776E-21	8.232E-11 8.232E-11	1.646E-08	0.1	mg/L mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.005 N 0.005 N		N	-	No
MA ATA	uja	100/0	3.203 0.003	0.003	0.003	0.003	CCR Append	ix-IV: Cobalt, Tota	man in the contract of	1.0701700	0.1	AII E			· ·	110	140	11/5		14/5	u.ouj N		11		(10)
WBW-A1-1	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA	NA	NA		0.0005		0.006	
WAP-07	2/10	80%	0.0005-0.0005	0.000508	0.0005	0.000544	0.00058	6.4E-10	0.0000253	0.0498	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N		No
WLF-A1-1	1/9	89%	0.0005-0.0005	0.0005	0.0005	0.0005	0.0005	0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N		No
WLF-A1-2	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		Ν		No
WLF-A1-3	2/9	78%	0.0005-0.0005	0.000511	0.0005	0.00056	0.0006	1.111E-09	0.00003333	0.06522	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N		No
WLF-A1-4	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005		0	0	0	0.006	mg/L	N	0	0	NA NA	NA NA	NA		NA NA	0.0005 N		N		No
WLF-A1-5	0/9	100%	0.0005-0.0005	0.0005	0.0005	0.0005	CCR Anne	0 ndix-IV: Fluoride	O (me/L)	D	0.006	mg/L	N	0	0	NA	NA	NA		NA	0.0005 N		N		No
WBW-A1-1	0/11	100%	0.1-0.1	0.1	0.1	0.1	чил гиррет	6.939E-18	2.634E-09	2.634E-08	4	mg/L	N	0	0	NA	NA	NA	NA	NA		0.1		4.000	
WAP-07	0/11	100%	0.1-0.1	0.1	0.1	0.1		6.939E-18	2.634E-09	2.634E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100 N		N		No
WLF-A1-1	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100 N		N		No
WLF-A1-2	4/12	67%	0.1-0.1	0.108	0.1	0.1345	0.14	0.000197	0.01403	0.1296	4	mg/L	N	0	0	NA	NA	NA		NA	0.100 N		Ν		No
WLF-A1-3	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100 N		N		No
WLF-A1-4	0/12	100%	0.1-0.1	0.1	0.1	0.1		5.046E-18	2.246E-09	2.246E-08	4	mg/L	N	0	0	NA	NA	NA		NA	0.100 N		N		No
WLF-A1-5	1/12	92%	0.1-0.1	0.101	0.1	0.1045	0.11	0.000008333	0.002887	0.02863	4	mg/L	N	0	0	NA	NΑ	NA		NA	0.100 N		N		No

							CCR Appen	dix-IV: Lead, Tota	al (mg/L)																	
WBW-A1-1	0/10	100%	0.001-0.002	0.0011	0.001	0.00155		0.0000001	0.0003162	0.2875	0.015	mg/L	N	0	0	NA	NA	NA	NA	NA			0.002		0.015	
WAP-07	1/13	92%	0.001-0.002	0.00108	0.001	0.00146	0.0011	7.641E-08	0.0002764	0.2549	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.015	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
							CCR Appendi	x-IV: Lithium, To	ital (mg/L)																	
WBW-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA	NA	NA			0.01		0.040	
WAP-07	0/10	100%	0.01-0.01	0.01	0.01	0.01		4.819E-20	2.195E-10	2.195E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-2	0/9	100%	0.01-0.02	0.0111	0.01	0.016		0.00001111	0.003333	0.3	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.04	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
							CCR Appendi	k-IV: Mercury, To	otal (mg/L)			43.														
WBW-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.0002		0.002	
WAP-07	0/10	100%	0.0002-0.0002	0.0002	0.0002	0.0002	-	0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-1	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-2	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-3	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-4	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
WLF-A1-5	0/9	100%	0.0002-0.0002	0.0002	0.0002	0.0002	SD A P D	0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.0002	N		N		No
IN/DIA/ A4 4	0.40	1000/	B 01 A 0E	0.0144	0.01		LK Appendix-II	V: Molybdenum,	0.00	0.0224	0.1		NI NI	0	0	0.10	818	NIA	DI A	NA.			0.05		0.400	
WBW-A1-1	0/9	100%	0.01-0.05	0.0144	0.01	0.034		0.0001778	0.01333	0.9231 2.195E-08	0.1	mg/L	N	0	0	NA NA	NA NA	NA NA	NA	NA NA	0.010		0.05	N	0.100	No
WAP-07	0/10	100%	0.01-0.01 0.01-0.05	0.01	0.01	0.01	-	4.819E-20	2.195E-10 0.01333		0.1	mg/L	N	0		NA NA		NA NA		NA NA	0.010	N		N N		No
WLF-A1-1 WLF-A1-2	0/9	100%	0.01-0.01	0.0144	0.01	0.034		0.0001778 2.711E-20	1.646E-10	0.9231 1.646E-08	0.1	mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.010	N N		N N		No No
WLF-A1-2 WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20 2.711E-20	1.646E-10	1.646E-08	0.1	mg/L mg/L	N	0	0	NA NA	NA NA	NA NA		NA NA	0.010 0.010	N		IN IN		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20 2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	a	0	NA NA	NA	NA		NA	0.010	N		N N		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01	+	2.711E-20 2.711E-20	1.646E-10	1.646E-08	0.1	mg/L	N	a	0	NA NA	NA	NA NA		NA	0.010	N		N		No
WU-RI-J	0/9	100%	0.01-0.01	0.01	0.01		CR Annendiy-I	V: Radium-226 8		1.0401-00	0.1	шБуг	14	J	· ·	1925	INN	INA		INS	0.010	14		- 11		NO
WBW-A1-1	7/10	30%	4-4	4.03	4.08	4.962	5.07	0.7978	0.8932	0.2214	5	pCi/L	Y	1	0	Yes	No	Stable	Normal	Normal			5.9037		5.90	
WAP-07	4/10	60%	4-4	4	4	5.04	5.31	0.5769	0.7595	0.1899	5	pCi/L	Y	1	0	103	110	Ottable	TIOTING	- Incimal	4.820	Υ	Sidds	N	5130	No
WLF-A1-1	5/10	50%	4-4	3.69	4	4.291	4.34	0.7506	0.8664	0.2351	5	pCi/L	N	0	0						1.610	Y		N		No
WLF-A1-2	4/10	60%	4-4	3.74	4	5.061	5.92	1.496	1.223	0.3273	5	pCi/L	Y	1	0						3.680	Y		N		No
WLF-A1-3	9/10	10%	4-4	4.16	4.285	5.209	5.25	1.427	1.194	0.2873	5	pCi/L	Y	2	0						3.170	Y		N		No
WLF-A1-4	4/10	60%	4-4	3.51	4	4.299	4.51	1.408	1.187	0.3378	5	pCi/L	N	0	0						2.620	Υ		N		No
WLF-A1-5	5/10	50%	4-4	3.44	4	4.334	4.37	2.082	1.443	0.4198	5	pCi/L	N	0	0						1.910	Υ		N		No
					100		CCR Appendix	-IV: Selenium, To	otal (mg/L)				100													
WBW-A1-1	0/10	100%	0.005-0.01	0.0095	0.01	0.01		0.0000025	0.001581	0.1664	0.05	mg/L	N	0	0	NA NA	NA	NA	NA	NA			0.01		0.050	
WAP-07	0/13	100%	0.005-0.01	0.00962	0.01	0.01		0.000001923	0.001387	0.1442	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-1	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-2	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-3	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-4	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	0	0	NA	NA	NA		NA	0.010	N		N		No
WLF-A1-5	0/9	100%	0.01-0.01	0.01	0.01	0.01		2.711E-20	1.646E-10	1.646E-08	0.05	mg/L	N	a	0	NA	NA	NA		NA	0.010	N		N		No
							CCR Appendi	c-IV: Thallium, To	otal (mg/L)																	
WBW-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA	NA	NA			0.001		0.002	
WAP-07	0/10	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-1	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-2	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-3	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-4	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No
WLF-A1-5	0/9	100%	0.001-0.001	0.001	0.001	0.001		0	0	0	0.002	mg/L	N	0	0	NA	NA	NA		NA	0.001	N		N		No

Appendix B – Laboratory Analytical Reports



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## SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

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

Loc. Code WAP-7 Time: 11:02

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

#### Comments:

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

Analysis Validated:





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

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

Loc. Code WAP-7 Time: 15:00

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

#### Comments:

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

Analysis Validated:





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## SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

### LAB CERTIFICATION #08552

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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## SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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

Analysis Validated:



Linda Williams - Supervisor Analytical Services



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## SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

### LAB CERTIFICATION #08552

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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## SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

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

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

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

### Comments:

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





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

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

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

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

### Comments:

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





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## SANTEE COOPER ANALYTICAL SERVICES CERTIFICATE OF ANALYSIS

LAB CERTIFICATION #08552

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

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

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

### Comments:

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





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

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

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

Analysis	Result	Units	Test Date	Analyst	Method
Arsenic		ug/L	09/08/2021	SJHATCHE	EPA 6020B
	<5.0	<del>-</del>	09/08/2021		
Barium	39.3	ug/L		SJHATCHE	EPA 6020B
Beryllium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Boron	2200	ug/L	08/19/2021	R&C	EPA 6010D
Calcium	301	mg/L	09/08/2021	SJHATCHE	EPA 6020B
Cadmium	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Cobalt	<0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Chromium	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Iron	3000	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Mercury	<0.2	ug/L	08/18/2021	R&C	EPA 7470
Lithium	<10	ug/L	08/19/2021	R&C	EPA 6010D
Molybdenum	<10	ug/L	08/19/2021	R&C	EPA 6010D
Lead	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Antimony	<5.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Selenium	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Thallium	<1.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Radium 226	0.929	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Radium 228	0.981	pCi/L	09/07/2021	GEL	EPA 904.0
Radium 226/228 Combined Calculation	1.91	pCi/L	09/07/2021	GEL	EPA 903.1 Mod
Chloride	174	mg/L	08/11/2021	KCWELLS	EPA 300.0
Fluoride	<0.10	mg/L	08/11/2021	KCWELLS	EPA 300.0
Sulfate	480	mg/L	08/11/2021	KCWELLS	EPA 300.0
Total Dissolved Solids	1310	mg/L	08/14/2021	SJBROWN	SM 2540C
pН	6.82	SU	08/05/2021	BRT/BM	
Spec. Cond.	1600	uS	08/05/2021	BRT/BM	
Dissolved Oxygen	0.440	ppm	08/05/2021	BRT/BM	
Oxidation Reduction Potential	-126	mv	08/05/2021	BRT/BM	SM2580
Temp	23.08	С	08/05/2021	BRT/BM	
Turbidity	0	NTU	08/05/2021	BRT/BM	
Depth	16.19	Feet	08/05/2021	BRT/BM	
Elevation	21.45	Feet	08/18/2021	MDGOINGS	
Nickel	< 0.50	ug/L	09/08/2021	SJHATCHE	EPA 6020B
Zinc	<10.0	ug/L	09/08/2021	SJHATCHE	EPA 6020B
ZIIIC	~10.0	ugr	03/00/2021	OSHATORIE	LI A 0020B

### 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

Project:

**Work Order:** 1030283

**Received:** 03/03/2021 13:20

Ground Water

### 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

Page 1 of 11

an employee-owned company





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

Client Santee Cooper

**Certificate of Analysis** 

Linda Williams
1 Riverwood Dr.

Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030283

**Received:** 03/03/2021 13:20

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



### Sample Data

Sample Number

1030283-01

Sample Description

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

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

Sample Number

1030283-02

Sample Description

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

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

Sample Number

1030283-03

Sample Description

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

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

Sample Number

1030283-04

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

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



Santee Cooper Project: 1 Riverwood Dr. Work Order:

1030283 Moncks Corner, SC 29461 03/11/21 09:01 Reported:

Ground Water

1030283-05 Sample Number

Sample Description	AE96398 WAP-14C collected on	02/25/21 12:2	20						
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	ND	10	ug/L	1.00	03/04/21 17:20	EPA 6010D		MLR	B1C0267
Sample Number Sample Description	1030283-06 AE96397 WAP-14B collected on	02/25/21 13:5	66						
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Lithium	12	10	ug/L	1.00	03/04/21 17:59	EPA 6010D		MLR	B1C0267
Sample Number Sample Description	1030283-07 AE96396 WAP-14C collected on	02/25/21 14:4	16						
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 Sample Description	1030283-08 AE96394 WAP-14 collected on 0	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 Sample Description	1030283-09 AE96395 WAP-14DUP collected	l on 02/25/21 1	1:15						
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

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MLR

MLR

MLR

EPA 6010D

EPA 6010D

EPA 6010D

ug/L

ug/L

ug/L

10.0

1.00

1.00

03/04/21 18:26

03/04/21 18:41

03/04/21 18:41

6200

ND

ND

150

10

10

Boron

Lithium

Molybdenum

B1C0267

B1C0267 B1C0267



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							
ithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
.CS (B1C0267-BS1)										
Boron	240	15	ug/L	250		96	80-120			
ithium	266	10	ug/L	250		106	80-120			
Molybdenum	220	10	ug/L	250		89	80-120			
LCS Dup (B1C0267-BSD1)										
Вогоп	250	15	ug/L	250		100	80-120	5	20	
ithium	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			
ithium	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	
ithium	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			
.ithium	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								



## 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	3								
Mercury	4.8	0.20	ug/L	5.00	ND	97	75-125			
Matrix Spike Dup (B1C0396-MSD1)	Source: 1030283-03	3								
Mercury	5.0	0.20	ug/L	5.00	ND	100	75-125	3	20	
Post Spike (B1C0396-PS1)	Source: 1030283-03	3								
Mercury	4.0		ug/L	4.00	ND	99	80-120			



### **Sample Preparation Data**

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



 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1030283

 Moncks Corner, SC 29461
 Reported:
 03/11/21 09:01

### **Data Qualifiers and Definitions**

ND Analyte NOT DETECTED at or above the reporting limit

NR Not reported

RPD Relative Percent Difference

### **Chain of Custody**



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

	ici Lillan	y keport kecip	ment.	Date	Results N	eeded b	y:		P	roject,	/Task/	Unit #:		Rerun rec	quest fo	or any	flag	ged Q
LOW	ILLIA	@santee	ecooper.com		<i></i>	/		1215	567	JJA	402.	OT. GØ	365	500	Yes I	No		
· · · · · · · · · · · · · · · · · · ·												103	,028	3		Ana	alysis (	Group
Labwari (Interna only)		Sample Locat Description	ion/	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastlc-P)	Grab (G) or Composite (C)	Matrix(see below)	Preservative (see	_		ments nit info		m	ָּוֹן.	Mo
AE 96	387	WAP-9		2/23/24	1249	MOG	1.	P	6	GW	2	-0	,				X >	X X
AET6	382	WAP-4		L	1428	1	1	1	1	1		-02						x ×
AE 96	382	WAP-7		2/24/21	1102	DEW	1		delication con-	-	1	-03	3			X	( ×	< X
4E963	881	WAP-3		1	1318			1		-		-ري	l				-	× x
AE 963	398	WAP-14C		2/25/21	1220	DEW		111		, conserve	i	. 05			$\top$	×		1
AE963	397	WAP-148			1356	1		İ				-06	)			×	+	
AE 963	396	WAP-14C			1446		1			1		-07				Х		-
4E 9635	74	WAP-14		2/25/21	1110	DEN		446				-08			X	×	X	X
F963	95	WAP-14 DO	UP		1115		1	and a control		Towns or the second		-09			×	×	X	×
E9639	79	WAP-15		1	1540		-	1			1	-10	)		×	; ×	XX	+
Relinquis	shed by:	Employee#	Date	Time	Receive	d by:	Em	ployee #		Date		Time	Sample	Receiving (Inter	nal Use	Only)		
* Amount		35594	3/2/21	1500	PED	RX							TEMP	(°C): 10.C	1 Init	ial:	ne	<u></u>
Reiinquis	shed by:	Employee#	Date	Time	Receive		Em	ployee #	1	Date	$\top$	Time	Correct	pH: Yes	No			
FEDI				X	10	_			3/	3/21	,	320	Preserv	ative Lot#:				
Relinquis	shed by:	Employee#	Date	Time	Receive	d by:	Em	ployee #		Date		Time						
	O MET	ALS (all)								_			Date/Tir	me/Init for pres	ervative	is .		
□ Ag	□ Cu		Nutri	_	MIS	<u>c.</u>		Gyp	sum			Coal	620	Flyash		0	il	
□ Al	□ Fe	□ Se	100		BTEX Napthalene		HEAT.	Wallboar Gypsu			1000	ltimate		□ Ammonia	1	raus O	H Qu	
∃As	□K	□ Sn	TFT	PLM D	THM/HA			below				☐ % Moist ☐ Ash ☐ A	ure	% Carbon		MSMid Follow		
B	□ Li	□ Sr	NH.		VOC Oil & Grea	ise		AIM TOC				Sulfur		- Mineral		Aculty		
∃ Ba	□Mg	□ Ti	-01		E. Coli			Total	metals			BTUs		Analysis		olitare DT		all .
∃ Bc	□ Mn	□ <b>T</b> 1	SUE		Total Colif	orm		Solub	(CaSO			Volatile CHN	Matter	Sieve 36 Moisture	_	District O		(XXI)
Ca	□Мо	υV	Bir Not2	7	Dissolved I			- % Mo	isture	31	Oth	er Tests:	3 -23/1	- Judolstute		Flashy		
Cđ	□ Na	□ Zn	504		Rad 226			Solfin	5	-	DXE	RF Scan		NPDES		漂		
Co	□Ni	□ Hg			Rad 228	1		Chlori	des			eness		Oil & Grease		Uar		
Co Cr			2	1 11	PCB			☐ Partiel	40.0	- 1	- mar	ticulate Ma		. As		68		



Revised February 2018

### Sample Receipt Verification

Santee Cooper	Date ceived:	03	/03/2	:1	Work Order: 1030283
Carrier Name: Client FedEx UPS	US N	/Iail		Cou	rier Field Services Other:
Tracking Number: 81624	0672657				_
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 bottles rece	eived?	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: 9705	0067			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 bene	ıb.	х			
Samples dechlorinated for parameters requiring chlorine remo the time of sample collection? Note: Chlorine checked at bench for samples requiring Bacterial, VOA, a analysis.	oval at			х	
If in-house pres	servation u	ısed	– re	cord	Lot#
HCL	H <sub>3</sub> P(				
H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub>	NaO Oth		+		
Comments:					
Were non-conformance issues noted at sample receipt?	Yes	OF	Q	(OV	
Non-Conformance issue other than noted above:	103	- 01			
Davigad Columna, 2010				Ca	omplated by: CTC

Completed by:\_ Page 11 of 11





### Laboratory Services

### **Laboratory Report**

Client Santee Cooper

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

**Project:** Work Order: Ground Water

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

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Page 1 of 14





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

Client Santee Cooper

**Certificate of Analysis** 

Linda Williams 1 Riverwood Dr.

Moncks Corner, SC 29461

Project: Ground Water
Work Order: 1030536

**Received:** 03/09/2021 12:55

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



### Sample Data

Sample Number

1030536-01

Sample Description

AE96413 WBW-A1-1 collected on 03/01/21 10:05

Parameter	Resu	Reporting It 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	on 03/01/21 11	:10						
Parameter	Resu	Reporting It Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
<b>Total Metals</b>									
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 colle	ected on 03/01/2	1 11:15						
Parameter	Resu	Reporting It 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	on 03/01/21 12	::31						
Parameter	Resu	Reporting It 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	on 03/01/21 13	:48						
Parameter	Resu	Reporting It Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	120	15	ug/L	1.00	03/15/21 15:28	EPA 6010D		MLR	B1C0515



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

Ground Water

Work Order: 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

1030536-08

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

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

Sample Number

1030536-09

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

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

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



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

Sample Number

1030536-13

Sample Description

AE96393 WAP-13 collected on 03/04/21 11:55

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:32	EPA 7470A	<b>S</b> 7	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: Reported: 1030536 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	<b>S</b> 7	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
<b>Total Metals</b>									
Mercury	ND	0.20	ug/L	1.00	03/12/21 10:38	EPA 7470A	<b>S</b> 7	MLR	B1C0646
Boron	4800	15	ug/L	1.00	03/15/21 16:16	EPA 6010D		MLR	B1C0515
Lithium	ND	10	ug/L	1.00	03/11/21 19:34	EPA 6010D		MLR	B1C0515
Molybdenum	ND	10	ug/L	1.00	03/11/21 19:34	EPA 6010D		MLR	B1C0515

Sample Number

1030536-16

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

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



## 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	į								
Boron	1800	15	ug/L	250	1600	113	75-125	l	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**

Parameter	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flags
Batch B1C0515 - EPA 200.7										
Post Spike (B1C0515-PS1)	Source: 1030536-01									
Boron	0.53		mg/L	0.500	ND	96	75-125			
Lithium	0.515		mg/L	0.500	ND	103	75-125			
Molybdenum	0.49		mg/L	0.500	ND	98	75-125			
Post Spike (B1C0515-PS2)	Source: 1030536-16									
Boron	2.1		mg/L	0.500	ND	103	75-125			
Lithium	0.542		mg/L	0.500	ND	108	75-125			
Molybdenum	0.48		mg/L	0.500	ND	96	75-125			
Batch B1C0646 - EPA 7470A										
Blank (B1C0646-BLK1)										
Mercury	ND	0.20	ug/L							
LCS (B1C0646-BS1)										
Mercury	4.9	0.20	ug/L	5.00		98	80-120			
LCS Dup (B1C0646-BSD1)										
Mercury	5.0	0.20	ug/L	5.00		101	80-120	3	20	
Matrix Spike (B1C0646-MS1)	Source: 1030536-15									
Mercury	4.1	0.20	ug/L	5.00	ND	81	75-125			<b>S</b> 7
Matrix Spike Dup (B1C0646-MSD1)	Source: 1030536-15									
Mercury	4.1	0.20	ug/L	5.00	ND	81	75-125	0	20	<b>S</b> 7
Post Spike (B1C0646-PS1)	Source: 1030536-15									
Mercury	3.3		ug/L	4.00	ND	82	80-120			<b>S</b> 7
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										
Post Spike (B1C0646-PS5)	Source: 1030536-13									
Mercury	3.3		ug/L	4.00	ND	82	80-120			<b>S</b> 7
Post Spike (B1C0646-PS6)	Source: 1030536-14									
Mercury	3.2		ug/L	4.00	ND	81	80-120			<b>S</b> 7
Post Spike (B1C0646-PS7)	Source: 1030536-16									
Mercury	3.6		ug/L	4.00	ND	89	80-120			



 Santee Cooper
 Project:
 Ground Water

 1 Riverwood Dr.
 Work Order:
 1030536

 Moncks Corner, SC 29461
 Reported:
 03/17/21 10:37

### **Sample Preparation Data**

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



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

Custome	er Email	/Report Recip	ient:	Date	Results N	eeded b	y:		P	roject/	/Task	/Unit #:		Rerun rec	Rerun request for any flagg			igged	d QC
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										1	0	305	300			A	nalysi	is Grou	up
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)	elow}	Preservative (see		Co sethod # eporting I isc. samp ny other n	mments imit le info		Φ	Ľ	Mo	H
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		CAT C (all )											Date/	Time/Init for pres	servative	): -			
□Ag	Cu	TALS (ali)	Nut	rients	MIS	C.		Gyr	sum	1		Coal		Flyash			Oil		
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Santee Cooper One Riverwood Drive Moneks Corner, SC 29461 Phone: (843)761-8000 Ext. 5148 Fax: (843)761-4175

Custom	er Email	/Report Recip	ient:	Date	Results N	eeded b	y:		P	roject/	Task/	'Unit #:		Rerun reque	st for any flagg		agge	d Q(
LCW	ILLIA	@santee	cooper.com		//			121	567	J_JM	02.	09.6	Ø1 J 36	sos Ve	No			
												1	172A	536		Analy:	sis Gra	oup
Labwork (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	· · ·	Method # Reporting li Misc. samp Any other n	mments mit le info	m	L.	Mo	至
AE961	+09	WAP-24		3/2/21	1128	DEW 15 DJ	1	P	G	<del>G</del> W	2	5	0			Х	×	
AE 964	+ 1 1	WAP - 26		L	1213	1	1	1	<u>}</u>	1	2:	-1	)			X	X	
AE961	440	WAP- 25		3/4/21	1036	DEW	1	1	1	1	2	- 1	2			X	Х	
AE96=	393	WAP-13			1155	-			1			-13			X	Х	X	X
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AE964	t00	WAP-16			1427	- American de la composition della composition d	}	_	production.		1	- 1	6		×	×	X	×
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□ Ba	□Mg	□ Ti	-10		E. Coli	430		Total	l metals		1	□ BTU	S	Analysis	19	00 m 3		
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□ Cr	□ Pb	☐ CrVI												TSS				



Revised February 2018

# Sample Receipt Verification

Client: Santee Cooper	Date Received:	3/	9/21		Work Order: 1030536
Carrier Name: Client FedE		Mail		Cou	rier Field Services Other:
Tracking Number	er:804137735722				_
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 receiv	ved?	Х			
Sample bottles intact?		Х			Damaged Leaking Other:
Sample ID on COC agree with label on bo	ottle(s)?	Х			
Date / time on COC agree with label on b	ottle(s)?	Х			
Number of bottles on COC agrees with nu	ımber of bottles received?	Х			
Samples received within holding time?		Х			
Sample volume sufficient for analysis?		Х			
VOA vials free of headspace (<6mm bubl	ole)?			х	
Samples cooled? Temp at receipt recorde Temp measured with IR	d on COC thermometer - SN: 97050067			x	Ice Cold Packs Dry Ice None
Samples requiring pH preservation at proposes:  Note: Samples for metals analysis may be preservation. Note: Samples for O&G and VOA analysis – proposes.	ved upon receipt in the lab.	Х			
Samples dechlorinated for parameters req the time of sample collection? Note: Chlorine checked at bench for samples re analysis.	uiring chlorine removal at			х	
	If in-house preservation	used	– re	cord	Lot#
HCL	H <sub>3</sub> P	O <sub>4</sub>			
H <sub>2</sub> SO <sub>4</sub>	NaC				
HNO <sub>3</sub>	Oth	er			
Comments:					
Were non-conformance issues noted a	t sample receipt? Ves	OI	<u> </u>	No)	<u> </u>
Non-Conformance issue other than noted		- 01		<u>~~~</u>	·
Daviged February 2010				Ca	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:

Received:

Ground Water

1080871

Work Order:

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 Description	Matrix	Sampled	Type
AF09085 WLF-A1-1	Ground Water	08/05/21 12:46	Grab
AF09056 WAP-7	Ground Water	08/10/21 15:00	Grab
AF09076 WAP-20	Ground Water	08/10/21 15:36	Grab
AF09081 WAP-25	Ground Water	08/10/21 13:32	Grab
AF09082 WAP-26	Ground Water	08/10/21 11:46	Grab
AF09086 WLF-A1-2	Ground Water	08/11/21 13:35	Grab
AF09087 WLF-A1-3	Ground Water	08/11/21 12:05	Grab
AF09088 WLF-A1-4	Ground Water	08/11/21 11:07	Grab
AF09089 WLF-A1-4 DUP	Ground Water	08/11/21 11:12	Grab
AF09052 WAP-3	Ground Water	07/29/21 12:35	Grab
AF09071 WAP-16	Ground Water	07/29/21 15:38	Grab
AF09064 WAP-13	Ground Water	07/29/21 11:29	Grab
AF09062 WAP-12	Ground Water	07/29/21 13:54	Grab
AF09063 WAP-12 DUP	Ground Water	07/29/21 13:59	Grab
AF09080 WAP-24	Ground Water	08/02/21 12:50	Grab
AF09059 WAP-10	Ground Water	08/02/21 11:34	Grab
AF09060 WAP-10 DUP	Ground Water	08/02/21 11:39	Grab
AF09058 WAP-9	Ground Water	08/02/21 13:39	Grab
AF09072 WAP-17	Ground Water	08/02/21 15:12	Grab
AF09073 WAP-17 DUP	Ground Water	08/02/21 15:17	Grab
AF09079 WAP-23	Ground Water	08/03/21 12:36	Grab
AF09077 WAP-21	Ground Water	08/03/21 11:30	Grab
AF09075 WAP-19	Ground Water	08/03/21 16:27	Grab
AF09078 WAP-22	Ground Water	08/04/21 13:31	Grab
AF09091 WLF-A2-6	Ground Water	08/04/21 15:02	Grab
AF09092 WLF-A2-6 DUP	Ground Water	08/04/21 15:07	Grab
AF09074 WAP-18	Ground Water	08/04/21 12:16	Grab
	AF09085 WLF-A1-1 AF09086 WAP-7 AF09076 WAP-20 AF09081 WAP-25 AF09082 WAP-26 AF09087 WLF-A1-2 AF09088 WLF-A1-3 AF09088 WLF-A1-4 AF09089 WLF-A1-4 DUP AF09052 WAP-3 AF09071 WAP-16 AF09064 WAP-13 AF09062 WAP-12 AF09063 WAP-12 DUP AF09080 WAP-24 AF09059 WAP-10 AF09073 WAP-10 DUP AF09073 WAP-17 DUP AF09073 WAP-17 DUP AF09079 WAP-23 AF09077 WAP-21 AF09075 WAP-19 AF09078 WAP-22 AF09078 WAP-22 AF09079 WLF-A2-6 AF09091 WLF-A2-6	AF09085 WLF-A1-1  AF09056 WAP-7  AF09076 WAP-20  AF09081 WAP-25  AF09082 WAP-26  AF09086 WLF-A1-2  AF09086 WLF-A1-2  AF09087 WLF-A1-3  AF09088 WLF-A1-3  AF09089 WLF-A1-4  AF09089 WLF-A1-4 DUP  AF09052 WAP-3  AF09052 WAP-3  AF09064 WAP-13  AF09064 WAP-12  AF09069 WAP-10 DUP  AF09059 WAP-10 DUP  AF09059 WAP-10 DUP  AF09059 WAP-17  AF09079 WAP-17  AF09079 WAP-17  AF09079 WAP-17  AF09079 WAP-21  AF09079 WAP-22  AF09079 WAP-22  AF09079 WAP-23  AF09079 WAP-21  AF09079 WAP-21  AF09079 WAP-21  AF09079 WAP-22  AF09079 WAP-22  AF09079 WAP-23  AF09079 WAP-24  AF09079 WAP-25  AF09079 WAP-26  AF09079 WAP-27  AF09079 WAP-29  AF09079 WAP-20  AF0	AF09085 WLF-A1-1 AF09085 WLF-A1-1 AF09056 WAP-7 AF09076 WAP-20 AF09076 WAP-20 AF09076 WAP-20 AF09076 WAP-25 AF09081 WAP-25 AF09082 WAP-26 AF09082 WAP-26 AF09082 WAP-26 AF09086 WLF-A1-2 AF09087 WLF-A1-3 AF09088 WLF-A1-4 AF09088 WLF-A1-4 AF09089 WLF-A1-4DUP AF09089 WLF-A1-4DUP AF09071 WAP-16 AF09081 WAP-12 AF09082 WAP-12 AF09082 WAP-12 AF09082 WAP-12 AF09083 WAP-12 AF09083 WAP-12 DUP AF09083 WAP-12 DUP AF09080 WAP-24 AF09080 WAP-24 AF09080 WAP-10 AF09080

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Santee Cooper Project: Ground Water 1 Riverwood Dr. 1080871 Work Order: 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: 1 Riverwood Dr. Work Order:

1080871 Moncks Corner, SC 29461 08/27/21 23:29 Reported:

### Sample Data

Ground Water

Sample Number

1080871-01

Sample Description

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

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

Sample Number

1080871-02

Sample Description

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

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

Sample Number

1080871-03

Sample Description

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

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

Sample Number

1080871-04

Sample Description

AF09081 WAP-25 collected on 08/10/21 13:32

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

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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

1080871-06

Sample Description

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

Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
		LAIRK			-				
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	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Mercury	ND	0.20	ug/L	1.00	08/18/21 15:29	EPA 7470A		NAR	B1H0833
Boron	180	20	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Molybdenum	ND	10	ug/L	1.00	08/17/21 20:04	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-10 AF09052 WAP-3 collected on 0	7/29/21 12:35							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	1700	20	ug/L	1.00	08/17/21 18:36	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-11 AF09071 WAP-16 collected on	07/29/21 15:38							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	1500	20	ug/L	1.00	08/17/21 20:08	EPA 6010D		MLR	B1H0709
Lithium	ND	10	ug/L	1.00	08/17/21 20:08	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-12 AF09064 WAP-13 collected on	07/29/21 11:29							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	4200	20	ug/L	1.00	08/17/21 20:12	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-13 AF09062 WAP-12 collected on	07/29/21 13:54							
Parameter	Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals									
Boron	370	20	ug/L	1.00	08/17/21 20:16	EPA 6010D		MLR	B1H0709



Project:

Ground Water

Work Order:

1080871

Reported:

08/27/21 23:29

Sample Number

1080871-14

Sample Description

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

Parameter		Result	Reporting Limit	Units	DF	Analyzed	Method	Flag	Analyst	Batch
Total Metals										
Boron		390	20	ug/L	1.00	08/17/21 20:20	EPA 6010D		MLR	B1H0709
Sample Number Sample Description	1080871-15 AF09080 WAP-24 collec	cted on 08	/02/21 12:50							

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

Sample Number

1080871-16

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

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

Sample Number

1080871-17

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

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



Ground Water Project:

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

Sample Number

1080871-18

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

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

Sample Number

1080871-19

**Sample Description** AF09072 WAP-17 collected on 08/02/21 15:12

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

Sample Number

1080871-20

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

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

Sample Number

1080871-21

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

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

Sample Number

1080871-28

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

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

Sample Number

1080871-29

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

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



 Santee Cooper
 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 3005Å										
Blank (B1H0709-BLK1)										
Boron	ND	15	ug/L							
Lithium	ND	10	ug/L							
Molybdenum	ND	10	ug/L							
LCS (B1H0709-BS1)										
Boron	490	15	ug/L	500		98	80-120			
Lithium	516	10	ug/L	500		103	80-120			
Molybdenum	470	10	ug/L	500		93	80-120			
Matrix Spike (B1H0709-MS1)	Source: 1080871-02									
Boron	1400	15	ug/L	500	970	84	75-125			
Lithium	484	10	ug/L	500	ND	97	75-125			
Molybdenum	500	10	ug/L	500	ND	100	75-125			
Matrix Spike (B1H0709-MS2)	Source: 1080871-10									
Boron	2200	15	ug/L	500	1700	100	75-125			
Lithium	547	10	ug/L	500	11	107	75-125			
Molybdenum	460	10	ug/L	500	ND	92	75-125			
Matrix Spike Dup (B1H0709-MSD1)	Source: 1080871-02									
Boron	1500	15	ug/L	500	970	102	75-125	6	20	
Lithium	512	10	ug/L	500	ND	102	75-125	6	20	
Molybdenum	460	10	ug/L	500	ND	91	75-125	10	20	
Matrix Spike Dup (B1H0709-MSD2)	Source: 1080871-10									
Boron	2200	15	ug/L	500	1700	112	75-125	3	20	
Lithium	547	10	ug/L	500	11,	107	75-125	0.03	20	
Molybdenum	460	10	ug/L	500	ND	92	75-125	0.003	20	
Post Spike (B1H0709-PS1)	Source: 1080871-02									
Boron	1.5		mg/L	0.500	ND	99	75-125			
Lithium	0.515		mg/L	0.500	ND	103	75-125			
Molybdenum	0.48		mg/L	0.500	ND	95	75-125			

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



 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: 1080871-1	0								
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			
ithium	519	10	ug/L	500		104	80-120			
Molybdenum	490	10	ug/L	500		97	80-120			
Matrix Spike (B1H0734-MS1)	Source: 1080871-2	4								
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: 1080871-2	4								
Boron	4700	15	ug/L	500	4000	139	75-125	5	20	<b>S</b> 5
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: 1080871-2	4								
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)										
Метситу	ND	0.20	ug/L							

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Project:

Ground Water

Work Order: Reported:

1080871 08/27/21 23:29

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

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



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

### **Sample Preparation Data**

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



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 NAR	
EPA 7470A	B1H0833	1080871-02	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-03	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-06	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-07	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-08	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-09	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-25	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-26	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-28	08/18/2021 1	1:33 NAR	
EPA 7470A	B1H0833	1080871-29	08/18/2021 1	1:33 NAR	



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.

1080871



10f3

Customer Email/Report Recipient:		Date R	Date Results Needed by:				Pr	oject/	Reru	Rerun request for any flagged Q							
LCWILLIA	@santeed	cooper.com		//			[2]	567	<u>/</u>	402.C	9.6¢]	J 365∞	Yes	No			
				•							•			£	Analysi	s Grou	ıp
Labworks ID #. (Internal use only)	Sample Location Description	osc811	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 • Ro • M • A	Comments ethod # eporting limit isc. sample info ny other notes		w	Ţ,	Mo	1
AF69085	WLF-AI-I	10-	8/5/21	1246	BRT/ BWM									Х	×	X	x
AF09056	WAP-7	102	8/10/21	1500	MDG/ BSB	ì								×	×	x	x
A=09076	WAP-20	-03	1	1236		-						· · · · · · · · · · · · · · · · · · ·		×	×	x	×
AF09081	WAP - 25	104		1332											×	×	
AF09082	WAP - 26	-05		1146											×	×	
AF09086	WLF-AI-2	ماهر	8/11/21	1335	MOG									×	×	х	×
A=09087	WLF-AI-3	101		1205										×	×	×	×
AF09088	WLF-A1 - 4	208		1107										×	×	×	X
AF09089	WLF-41-4	DUP 10th		1112										×	×	x	×
									ì								
Relinquished by:	Employee#	Date	Time		MAN 19d by:		<u>り</u> mployee	<del></del>	Date		'Time	Sample Receiving	g (Internal U	se On	ly)		
Agroun	35594	8/12/21	1500	AL H	Fre	11-	Miployee	<del>"</del> - -	Date		sine	TEMP (°C):_2		nitial	l:_ <i>///</i>		_
Relinquished by:	Employee#	Date	Time /	Receiv	red by:	E	mployee	#	Date	;	Time	Correct pH:	Yes' No	٠,			
FeJE7	7			Andred L	Mhos	1		8	1/3/2	4	0925	Preservative Lo	<b>#</b> :				
Relinquished by:	Employee#	. Date	Time /	Receiv	ed by:	Et	mployee	#	Date		Time			·:			
						.		.				Date/Time/init-f		ive:	• • •	:	٠.
□ MB □ Ag □ Ci □ Al □ Fe □ As □ Ci □ Bs □ Li □ Bs □ Mi □ Cs □ Ms □ Co □ Ni □ Cr □ Pb		OT CI OO CI	S TROA L-N	MIS  DBTEX Napthale DTHM/H OVOC OIL & Gr DE Coil DTotal Co DPH Dissolve CRad 226 Rad 228	ne AAA ifform d'As d Fe			sun(d  w)  M  C  c)  c)  dible Me  dip  woistur  files  files  files	M B S(04) S(04) S		Coa Untimate	Elventrice Description of the control of the contro	ish onto toon al ontysis ofstore	ON AMERICAN MENTERS OF THE SECOND SEC	Office of the control	Marian Ma Marian Marian Marian Marian Marian Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma Ma	\$ \$
			Fed	EX	81:	53	6	79 l	5	39	7 4	MA13/2/				. 7	,



santee cooper

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

Date Results Needed by: Customer Email/Report Recipient: Project/Task/Unit #: Rerun request for any flagged QC LCWILLIA 121567 1 JM02.09.601 36200 @santeecooper.com (Yes) No Analysis Group Labworks ID # Sample Location/ Comments Matrix(see below) **Collection Time** (Internal use Description Total # of container Method # Collecto only) Reporting limit Q Grab (G) or Composite (C) Bottle type: Misc. sample info Any other notes J  $\mathfrak{D}$ ADG Х G 2 -10 7/29/21 GW 4F09052 WAP-3 1235 BRI AF09071 1238 Х Х WAP-16  $\mathcal{N}$ 1129 Х AF 09064 81-4AW 1/3 X AF09062 WAP-12 1354 ~14 1359 X WAP-12 DUP AF09063 MDE X X 1250 AF09080 8/2/21 WAP - 24 BRI -16 X 1134 AF09059 WAP-10 × X X WAP-10 DUP AF09060 1139 13 Х Х х WAP -9 1337 AF09058 Х Х WAP-17 1512 AF 69072 Sample Receiving (Internal Use Only) Relinquished by: Employee# Date ... Time Received by: Employee # Date Time. TEMP (°C): 11.4 Initial: Syrgroun 35594 8/12/21 Correct pH: Yes Relinquished by: Employee# Date Date : Time Time Received by: Employee # Preservative Lot#: 0925 Relinquished by: Employee# Date Time Employee # Date Time Date/Time/Init-for preservative: Coal Coal □ METALS (all.) **Nutrients** MISC. **Gypsum** OI. Flyash Ultimate □Äg □ Cu □ Sb LUIS TICILI SILI TOMO TOT □ BTEX Wallboard □ Fe □ Se □.Nanthalene Cypsum(dll) PDQC □ THM/HAA (ব্যাক্র □ As  $\Box K$ □ Sn TIBARO4 \* ©%Carbon □ VOC MW 5 © Minerall ΠB 🛛 Li □ Sr □ Oil & Grease DARTARN G-110 CF. Analysis □ E. Coli -D Ba □ Mg 🛮 Ti 🧸 fi ioniments ି ପୋ ii Sieve Particion. □ Total Coliform O Soldiale Merris WNO2 ΠÎ ©%Mosure ්යම්යෝධ මෙක්මය්ව .□ Be ☐ Mn □ pH ". Purity (CASO4) TIB: Dissolved As @%Moisture □ Ca ŪV 🛮 Mo Mostle well ☐ Dissolved Fe EON B **NPDES** (Caccordina) ☐ Rad 226 □Ćd □ Na □ Zn 0 804 DONA Gresse ☐ Rad 228 ☐ Finen O Co □ Ni □ Hg (D) (A)(S) □ PCB m Lil Paridello Stree COME ҈ РЬ □ CrVI □ Cr

3.73 Zof 3

1080871

Santee cooper

**Customer Email/Report Recipient:** Date Results Needed by: Project/Task/Unit #: Rerun request for any flagged QC 121567 / JM02.09. GØI / 36500 LCWILLIA @santeecooper.com (Yes No Analysis Group Labworks ID# Sample Location/ Comments Date (Internal use Description **Collection Time** Collector Total # of containers Method # only) Reporting limit ş Bottle type: ( G/Plastic-P) 6 o (G) or posite Preservati below) Misc. sample info Any other notes Σ Grab ( Ţ m MDS P 2 Х -20 8/2/21 1517 G GW Χ AF09073 WAP-17 DUP BRI -2 Х Х 8/3/21 AF09079 WAP - 23 1236 /ws -22 X Х WA-P-21 1130 X AF09077 -13 X X 1627 AF09075 WAP-19 Х Х 8/4/21 X 1331 WAP-22 AF69078 Х 1502 X X AF09091 WLF - A2-6 26 X X AF09092 WLF-A2-6 DUP 1507 X Х Х 1216 χ WA-7-18 AF09074 BRT Х Х X Х MRM-YI-I 8/5/21 480POTA 1030 BWN Х Х WLF- A1-5 AF09090 Sample Receiving (Internal Use Only) Time Received by: Time Relinguished by: Date Date Employee# Employee # TEMP (°C): 71.4 Initial: MA od E 35594 Sogroun 8/12/21 1500 Correct pH: Yes No Relinquished by: Employee# Date Time Received by: Employee:# Date Time Preservative Lot#: o 97S Relinquished by: Employee# Date Time Received by: Employee # Date Time Date/Time/Init for preservative: ©oal ⊡ Últimáte ☐ METALS (all ) Nutrilents MISC. **Gypsum** Oil - Flyash □ Ag Ü₀Cù □.Sb D BTEX: DraudlieW E O. Moisture 19 (O. Ash. TOTAL SOUND COME TITOC . Ē Amnonia . □ Se □ A1 □Fe Cypsun(dii babay) Company ☐ Napthalene E'DOC GILOI Color Addition THM/HAA Ů.As □ Sn LITP/TIPOA 2% Carbon' □ VOC ☐ Sulfür ☐ BTÜS ☐ Volatile Matter ☐ GHN LINE N. C AM (A Mineral  $\Box \mathbf{B}$ □'Li' Sr <sup>↑</sup> □ Oil & Grease OLFER SECURE D TOC OF Analysis (Fel) Masedhoù Gasas □ E. Coli 🛛 Ba □.Mg □ Ti . - : 'U Total metals ne ☐ Total Coliform : Stabilite Metals □ T1 .... TINO2 டஇரை □ Be □ Mn Party (Cesoa) m% Moisture □pH Other Tests:
OXRESCAND
OHGI
Fineness ☐ Dissolved As (Interprine □ Ca ΠÝ ⊡́Мо LETT-FOR ☐ Dissolved Fe <u>aguiles</u> NPDES □ Zn □ Cd □ Na □ Rad 226 [\_804 201&G220 10(40) T Rad 228 **Chilorides** □ Ćo □ Hg ΠNi DPCB . Bartole Size D Particulate Matter **ETSS** COPUR □ Cr □ CrVI



Revised February 2018

# Sample Receipt Verification

Client: Santee Cooper	Date Received:	08	/13/2	021	Work Order: 1080871
Carrier Name: Client FedEx UPS	US	Mail		Cou	urier Field Services Other:
Tracking Number:					<u> </u>
Receipt Criteria		Y e s	N o	N A	Comments
Shipping container / cooler intact?		х			Damaged Leaking Other:
Custody seals intact?				χ	
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 bottles	received?	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	: 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 in Note: Samples for O&G and VOA analysis – preservation checked	the lab.	х			
Samples dechlorinated for parameters requiring chlorine the time of sample collection?  Note: Chlorine checked at bench for samples requiring Bacterial. Vanalysis.	removal at			х	
If in-house	preservation	used	– re	cord	Lot#
HCL	H <sub>3</sub> P				
H <sub>2</sub> SO <sub>4</sub>	NaC Oth				
HNO <sub>3</sub>	Oin	ier			
Comments:					
Were non-conformance issues noted at sample recei	nt? Yes	or	. (1	Ño)	
Non-Conformance issue other than noted above:		. 01			
Paried February 2010				Ca	ompleted by: MAW

Completed by:\_\_\_



#### a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843,556,8171 F 843,766,1178

gel.com

March 26, 2021

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

Re: ABS Lab Analytical Work Order: 536093

Dear Ms. Gilmetti:

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

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

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

Sincerely,

Julie Robinson 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.

	Inlie	Robinson	
Reviewed by			

Page 2 of 13 SDG: 536093

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

### **Certificate of Analysis**

Report Date: March 26, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

 Client Sample ID:
 AE96385
 Project:
 SOOP00119

 Sample ID:
 536093001
 Client ID:
 SOOP001

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 Proportio	nal Counting												
GFPC, Ra228, Liquid "A	As Received"												
Radium-228	$\mathbf{U}$	1.01	+/-0.828	1.31	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	rent 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 Receiv	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 Calculation3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 88.5 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 13 SDG: 536093

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

### Certificate of Analysis

Report Date: March 26, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Project: Client Sample ID: AE96381 SOOP00119 Sample ID: 536093002 Client ID: SOOP001

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	Analy	st Date	Time	Batch	Method
Rad Gas Flow Proportio	nal Counting												
GFPC, Ra228, Liquid "A	As Received"												
Radium-228	$\mathbf{U}$	-0.123	+/-0.815	1.57	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent 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, Liqu	id "As Recei	ved"											
Radium-226		1.47	+/-0.578	0.661	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Test Result Surrogate/Tracer Recovery Nominal Recovery% Acceptable Limits

90.8 (15%-125%) Barium-133 Tracer 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

Page 4 of 13 SDG: 536093

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

### Certificate of Analysis

Report Date: March 26, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Project: Client Sample ID: AE96387 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	Analy	st Date	Time	e Batch	Method
Rad Gas Flow Propo	rtional Counting												
GFPC, Ra228, Liqui	d "As Received"												
Radium-228		2.59	+/-1.57	2.45	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium	n-228 Calculatio	n "See Pa	arent Products"										
Radium-226+228 Sum		3.65	+/-1.63			pCi/L		1	AEA	03/24/21	1133	2097459	2
Rad Radium-226													
Lucas Cell, Ra226, I	iquid "As Recei	ved"											
Radium-226	_	1.07	+/-0.422	0.364	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

81.8 (15%-125%) Barium-133 Tracer 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

Page 5 of 13 SDG: 536093

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

### Certificate of Analysis

Report Date: March 26, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Project: Client Sample ID: AE96382 SOOP00119 Sample ID: 536093004 Client ID: SOOP001

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	$\mathbf{U}$	0.524	+/-0.903	1.58	3.00	pCi/L			LXB3	03/23/21	0645	2097455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent Products"										
Radium-226+228 Sum		1.97	+/-1.03			pCi/L		1	AEA	03/24/21	1133	2097459	2
Rad Radium-226													
Lucas Cell, Ra226, Liqu	id "As Recei	ved"											
Radium-226		1.45	+/-0.495	0.421	1.00	pCi/L			MXH8	03/04/21	0838	2097342	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Test Result Surrogate/Tracer Recovery Nominal Recovery% Acceptable Limits

85.2 (15%-125%) Barium-133 Tracer 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

**QC Summary** 

Report Date: March 26, 2021

Page 1 of 2

Santee Cooper P.O. Box 2946101

OCO3

**Moncks Corner, South Carolina** 

Contact: Ms. Jeanette Gilmetti

Workorder: 536093

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas Flow Batch 2097455									
QC1204762520 536093004 DUP Radium-228	U	0.524	U	0.739	pCi/L	N/A		N/A LXB3	03/23/21 06:46
	Uncertainty	+/-0.903		+/-0.982					
QC1204762521 LC8 Radium-228	54.3			46.4	pCi/L		85.4	(75%-125%)	03/23/21 06:46
	Uncertainty			+/-3.39	<b>r</b>			(12112221)	
QC1204762519 MB			**		~				
Radium-228	Uncertainty		U	1.67 +/-1.34	pCi/L				03/23/21 06:46
Rad Ra-226 Batch 2097342									
QC1204762172 536093001 DUP Radium-226		0.647		0.747	pCi/L	14.4		(0% - 100%) MXH8	03/04/21 09:12
Address 220	Uncertainty	+/-0.440		+/-0.426	Port	11		(0,4 100.0) 111110	V37 V H 21 V3 V12
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</p>

> 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

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

### **QC Summary**

Workorder: 536093

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
- 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 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).

$\mathbf{G}$	EL Sample ID#	Client Sample Identification
53	36093001	AE96385
53	36093002	AE96381
53	36093003	AE96387
53	36093004	AE96382
12	204762171	Method Blank (MB)
12	204762172	536093001(AE96385) Sample Duplicate (DUP)
12	204762173	536093001(AE96385) Matrix Spike (MS)
12	204762176	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**



Santec 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							
LCW	LLIA	@:	santeed	cooper.com		<i></i>			121567 JM02.09.GØI J 3650					See Yes No					
	Topoto a su filosopolis de la constanta de la															A	nalysis	Group	
Labwor (Interna only)	3	Sample Descrip	Location	n/	Collection Date	Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-p)	Grab (G) or Composite (Cl	Matrix(see below)	Preservative (see below)	• Rej	Comn thod # sorting limi so: sample i y other note	t nfo	RAD 226	RAD 228	TOTAL KAD CALC	
<b>⊁</b> E96	385	WAP	- 7		2/24/21	1102	DEW	2	P	b	GW	2				Х	Х	х	
AE96	881	WAP	- ខ		1	1318	1	2	1	L	1	1				×	×	х	
AE963	87	WAP	-9		2/23/21	1249	DEW	2								Х	×	х	
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Sprow			594	2/26/21	5147	SH	0		址		1/26/2		0747	Correc	t pH: Yes No				
Relinq	uished by:	Em	ployee#	Date	Time	Receiv	ed by:	E	mployee	#	Date		Time		ative Lot#:				
_4//		G		2.2.1	1324	151	<u></u>			1	2 26	21	1334	rreserv	auve Lou:				
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□ Ag	□ C		□ Sb □ Se	TO	21 6C A 10 A 10 A 10 A 10 A 10 A 10 A 10 A 1	□ BTEX		T C	Wallbo				Ultimate		□ Ammonia		us, Oll <sub>B</sub> Mois	Qual.	
□As	ΩК		□ Sn	DO		☐ Napthale ☐ THM/H			Gyp belo	sum(a w)	Ш		□ % Mois □ Ash	ture	D LOI		annoisi olar	ure	
□ B		Breeze M. Carlo	□ Sr	UNH		□ VOC			ΠAI	M			□ Sulfur		☐ % Carbon ☐ Mineral		eidny	Strength	
			30,500,000	— ⊕ CF		□ Oil & G □ E. Coli	rease		UTO	iC tal meti	.i.		□ BTUs		Analysis		riceine T	S) (Calgin	
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□ Cd	∏ □ N	a	□ Zn	E SO:		☐ Rad 226 ☐ Rad 228			□pH				HGI Fineness		□ Oil & Grease		\s.Cd. gi	Er Ni Pb	
□ <b>C</b> 6	□ N		□ Hg			☐ Rad 228				lorides ticle Si			rmeness Particulate M	atter	□As	1	X.		
□ Cr	□ Pt	<b>,</b>	□ CrVI						□ Sulfur						O TSS	GO	FFR		
	COMPANY OF THE STATE OF THE STA																		

Laboratories LLC

### SAMPLE RECEIPT & REVIEW FORM

Client: SOCIA		jewo	DG/AR/COCAVork Order: 536093							
Received By: 3 ACYBUL	IN	C,	Pate Received: FEBUARY 26, 2021							
Carrier and Tracking Number			FedEx Express FedEx Ground UPS Field Services Courier Other							
Suspected Hazard Information	Yes	No	If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.							
A)Shipped as a DOT Hazardous?			lazard Class Shipped:  1f UN2910, Is the Radioactive Shipment Survey Compliant? YesNo							
B) Did the client designate the samples are to be received as radioactive?		\	OC notation or radioactive stickers on containers equal client designation.							
C) Did the RSO classify the samples as radioactive?		\	faximum Net Counts Observed * (Observed Counts - Area Background Counts):							
D) Did the client designate samples are hazardous?			EOC notation or hazard labels on containers equal client designation.							
E) Dil the RSO identify possible hazards?			D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:							
Sample Receipt Criteria	Yes	ИY	Comments/Qualifiers (Togules) for Pon-Conforming Items)							
Shipping containers received intact and spaled?	/		Circle Applicable: Seals broken Damaged contains: Leaking container Other (describe)							
2 Chain of custody documents included with shipment?	/		Circle Applicable: Client contested and provided COC — COC steated upon receipt							
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	1		Preservation Method: Wet Ice   Ice Packs   Dry ice   None   Other;  *all temperatures are recorded in Colsius   TEMP:							
Daily check performed and passed on IR temperature gun?	/		Temperature Device Serial #: [IFApplicable]:							
5 Sample containers intact and scaled?	1		Circle Applicable: Seals broker: Damaged container Leaking container Offier (describe)							
6 Samples requiring chemical preservation at proper pH?	1	Pers	Sample ID's and Containers Affected:   If Preservation added, Loth:   If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer)							
7 Do any samples require Volatile Analysis?			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:							
8 Samples received within holding time?	/		ID's and tests affected:							
Sample ID's on COC match ID's on bottles?	/		1D'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)							
11 Number of containers received match number indicated on COC?	/		Circle Applicable: No container count on COC Other (describe)							
12 Are sample containers identifiable as GEL provided by use of GEL labels?  12 COC form is properly signed in	,		Circle Applicable: Not relinquished Other (describe)							
relinquished/received sections?  Comments (Use Continuation Form if needed):										
Commons (ose Commons of the common										
PM (or PM	LA) n	view	Initials NRIS Date 311 21 Page of							

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 26 March 2021

State Alabama	Certification 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
Kausas 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	SC002 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 TN 02024
Tennessee	TN 02934
Texas NELAP	T104704235-21-19
Utah NELAP	SC000122020-34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780











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.

	Inlie	Robinson	
Reviewed by			

Page 2 of 27 SDG: 536991

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

Project: Client Sample ID: AE96394 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 Anal	yst Date	Time Batch	Method
Rad Gas Flow Proport	ional Counting										
GFPC, Ra228, Liquid	"As Received"										
Radium-228	U	1.40	+/-1.44	2.40	3.00	pCi/L		LXB3	03/23/21	0645 209745	5 1
Radium-226+Radium-	228 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		2.38	+/-1.47			pCi/L		1 GXR3	04/01/21	1330 210299	4 2
Rad Radium-226											
Lucas Cell, Ra226, Lie	quid "As Recei	ved"									
Radium-226		0.982	+/-0.297	0.247	1.00	pCi/L		MXH:	8 04/01/21	0909 210010	0 3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

77.2 (15%-125%) Barium-133 Tracer 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

Page 3 of 27 SDG: 536991

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:
 AE96395
 Project:
 SOOP00119

 Sample ID:
 536991002
 Client ID:
 SOOP001

Matrix: Ground Water
Collect Date: 25-FEB-21 11:15
Receive Date: 05-MAR-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batel	Method
Rad Gas Flow Propor	rtional Counting										
GFPC, Ra228, Liquid	d "As Received"										
Radium-228		2.32	+/-1.30	1.98	3.00	pCi/L		LXB3	03/23/21	0645 209745	5 1
Radium-226+Radium	n-228 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		3.58	+/-1.34			pCi/L		1 GXR1	04/01/21	1330 210299	4 2
Rad Radium-226											
Lucas Cell, Ra226, L	iquid "As Recei	ved"									
Radium-226	=	1 25	+/-0.336	0.211	1.00	pCi/L		MXH8	04/01/21	0909 210010	0 3

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" 88 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# Certificate of Analysis

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96399 Project: SOOP00119 Sample ID: 536991003 Client ID: SOOP001

Matrix: Ground Water Collect Date: 25-FEB-21 15:40 Receive Date: 05-MAR-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Propor	tional Counting										
GFPC, Ra228, Liquio	l "As Received"										
Radium-228		2.01	+/-1.14	1.70	3.00	pCi/L		LXB3	03/23/21	0645 2097455	1
Radium-226+Radium	1-228 Calculatio	n "See Pa	rent 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, L	iquid "As Recei	ved"									
Radium-226	<del>-</del>	2.34	+/-0.480	0.330	1.00	pCi/L		MXH	8 04/01/21	0909 2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

85.2 (15%-125%) Barium-133 Tracer 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** 

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
 Project:
 SOOP00119

 Sample ID:
 536991004
 Client ID:
 SOOP001

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 Anal	st Date	Time B	atch	Method
Rad Gas Flow Proportio	nal Counting											
GFPC, Ra228, Liquid "A	As Received"											
Radium-228		1.96	+/-0.969	1.35	3.00	pCi/L		LXB3	03/23/21	0645 20	97455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent Products"									
Radium-226+228 Sum		3.36	+/-1.03			pCi/L		1 GXR1	04/01/21	1330 21	02994	2
Rad Radium-226												
Lucas Cell, Ra226, Liquid "As Received"												
Radium-226		1.40	+/-0.352	0.170	1.00	pCi/L		MXH	04/01/21	0909 21	00100	3

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" 88.3 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

 Client Sample ID:
 AE96391
 Project:
 SOOP00119

 Sample ID:
 536991005
 Client ID:
 SOOP001

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 Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radiun-228	$\mathbf{U}$	1.53	+/-1.10	1.74	3.00	pCi/L		LXB3	03/23/21	0645 209745	5 1
Radium-226+Radium-2	28 Calculatio	n "See Pa	rent Products"								
Radium-226+228 Sum		3.18	+/-1.17			pCi/L		1 GXR1	04/01/21	1330 210299	1 2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		1.65	+/-0.380	0.170	1.00	pCi/L		MXH	04/01/21	0909 210010	) 3

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 85.8 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96392 Project: SOOP00119 Sample ID: 536991006 Client ID: SOOP001

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	Analy	st Date	Time	Batch	Method
Rad Gas Flow Proportio	nal Counting												
GFPC, Ra228, Liquid "A	As Received"												
Radium-228		3.31	+/-1.12	1.34	3.00	pCi/L			LXB3	03/23/21	0646	2097455	1
Radium-228 3.31 +/-1.12 1.34 3.00 pCi/L LXB3 03/23/21 0646 2097455 1 Radium-226+Radium-228 Calculation "See Parent Products"													
Radium-226+228 Sum		4.72	+/-1.18			pCi/L		1	GXR1	04/01/21	1330	2102994	2
Rad Radium-226													
Lucas Cell, Ra226, Liquid "As Received"													
Radium-226		1.42	+/-0.355	0.234	1.00	pCi/L			MXH8	04/01/21	0909	2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

84.1 (15%-125%) Barium-133 Tracer 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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**Certificate of Analysis** 

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96400 Project: SOOP00119 Sample ID: 536991007 Client ID: SOOP001

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 Ana	lyst Date	Time	Batch	Method
Rad Gas Flow Proportio	nal Counting											
GFPC, Ra228, Liquid "A	As Received"											
Radium-228	$\mathbf{U}$	0.524	+/-0.852	1.49	3.00	pCi/L		LXE	3 03/23/21	0646	2097455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	rent Products"									
Radium-226+228 Sum		2.01	+/-0.937			pCi/L		1 GXI	1 04/01/21	1330	2102994	2
Rad Radium-226												
Lucas Cell, Ra226, Liquid "As Received"												
Radium-226		1.49	+/-0.390	0.197	1.00	pCi/L		MX	I8 04/01/21	0909	2100100	3

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" 84.6 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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**Certificate of Analysis** 

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

 Client Sample ID:
 AE96414
 Project:
 SOOP00119

 Sample ID:
 536991008
 Client ID:
 SOOP001

Matrix: Ground Water
Collect Date: 02-MAR-21 12:53
Receive Date: 05-MAR-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Ba	itch M	<b>Iethod</b>
Rad Gas Flow Proportio	nal Counting											
GFPC, Ra228, Liquid "A	As Received"											
Radium-228	$\mathbf{U}$	1.48	+/-1.33	2.18	3.00	pCi/L		LXB3	03/23/21	0646 209	7455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	rent Products"									
Radium-226+228 Sum		2.10	+/-1.35			pCi/L		1 GXR	04/01/21	1330 210	2994	2
Rad Radium-226												
Lucas Cell, Ra226, Liquid "As Received"												
Radium-226		0.624	+/-0.254	0.191	1.00	pCi/L		MXH	8 04/01/21	0909 210	0100	3

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" 86.2 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# Certificate of Analysis

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Project: Client Sample ID: AE96419 SOOP00119 Sample ID: 536991009 Client ID: SOOP001

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 Ana	lyst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	$\mathbf{U}$	0.552	+/-1.19	2.08	3.00	pCi/L		LXE	3 03/23/21	0646 2097455	5 1
Radium-226+Radium-2	28 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		1.52	+/-1.22			pCi/L		1 GXF	1 04/01/21	1330 2102994	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	iid "As Recei	ved"									
Radium-226		0.970	+/-0.283	0.158	1.00	pCi/L		MXI	I8 04/01/21	1211 2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

83.8 (15%-125%) Barium-133 Tracer 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**

Report Date:

DF Analyst Date Time Batch Method

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Result Uncertainty

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

 Client Sample ID:
 AE96401
 Project:
 SOOP00119

 Sample ID:
 536991010
 Client ID:
 SOOP001

MDC

Matrix: Ground Water
Collect Date: 02-MAR-21 10:48
Receive Date: 05-MAR-21
Collector: Client

Qualifier

2 02 011110101	& comment	2000001	Chechanity	1.11	100	CHILD		r mary st rate	Time Butti	I, I C CII C CI
Rad Gas Flow Proportion	nal Counting									
GFPC, Ra228, Liquid "A	s Received"									
Radium-228	$\mathbf{U}$	0.141	+/-0.941	1.73	3.00	pCi/L		LXB3 03/23/21	0646 2097455	1
Radium-226+Radium-22	8 Calculation	ı "See Pa	rent 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, Liqui	d "As Receiv	red"								
Radium-226		0.250	+/-0.160	0.174	1.00	pCi/L		MXH8 04/01/21	0945 2100100	3

RI.

Units

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" 89.5 (15%-125%)

Notes:

Parameter

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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# Certificate of Analysis

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96402 Project: SOOP00119 Sample ID: 536991011 Client ID: SOOP001

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 Anal	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	$\mathbf{U}$	0.794	+/-0.929	1.56	3.00	pCi/L		LXB3	03/23/21	0646 2097455	1
Radium-228											
Radium-226+228 Sum		1.10	+/-0.947			pCi/L		1 GXR1	04/01/21	1330 2102994	2
Rad Radium-226											
Lucas Cell, Ra226, Liquid "As Received"											
Radium-226		0.308	+/-0.183	0.210	1.00	pCi/L		MXH	04/01/21	0945 2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Test Result Surrogate/Tracer Recovery Nominal Recovery% Acceptable Limits

88.5 (15%-125%) Barium-133 Tracer 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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# Certificate of Analysis

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AE96413 Project: SOOP00119 Sample ID: 536991012 Client ID: SOOP001

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 Analy	st Date	Time Batch	Method
Rad Gas Flow Proportio	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228	$\mathbf{U}$	0.271	+/-0.926	1.67	3.00	pCi/L		LXB3	03/23/21	0646 2097455	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent 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		MXH	04/01/21	0945 2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Test Result Surrogate/Tracer Recovery Nominal Recovery% Acceptable Limits

89.1 (15%-125%) Barium-133 Tracer 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** 

Report Date:

April 1, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

 Client Sample ID:
 AE96417
 Project:
 SOOP00119

 Sample ID:
 536991013
 Client ID:
 SOOP001

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 Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radiun-228	$\mathbf{U}$	-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	rent 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		MXH	04/01/21	0945 2100100	3

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" 88 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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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

Project: Client Sample ID: AE96418 SOOP00119 Sample ID: 536991014 Client ID: SOOP001

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 Analy	st Date	Time Batch	Method
Rad Gas Flow Proport	ional Counting										
GFPC, Ra228, Liquid	"As Received"										
Radium-228	U	1.63	+/-1.60	2.65	3.00	pCi/L		LXB3	03/23/21	0802 209745	5 1
Radium-226+Radium-	228 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		2.15	+/-1.61			pCi/L		1 GXR1	04/01/21	1330 210299	4 2
Rad Radium-226											
Lucas Cell, Ra226, Lie	quid "As Recei	ved"									
Radium-226		0.518	+/-0.221	0.172	1.00	pCi/L		MXH8	04/01/21	0945 210010	0 3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

87.3 (15%-125%) Barium-133 Tracer 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

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

Project: Client Sample ID: AE96416 SOOP00119 Sample ID: 536991015 Client ID: SOOP001

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 Ana	lyst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228	$\mathbf{U}$	0.271	+/-1.13	2.03	3.00	pCi/L		LXE	3 03/23/21	0646 2097455	5 1
Radium-226+Radium-2	28 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		0.965	+/-1.16			pCi/L		1 GXF	1 04/01/21	1330 210299	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		0.694	+/-0.264	0.222	1.00	pCi/L		MX	I8 04/01/21	0945 2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

90.1 (15%-125%) Barium-133 Tracer 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

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

Project: Client Sample ID: AE96415 SOOP00119 Sample ID: 536991016 Client ID: SOOP001

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 Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radiun-228	$\mathbf{U}$	1.32	+/-0.912	1.40	3.00	pCi/L		LXB3	03/23/21	0646 2097455	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	rent 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, Liqu	uid "As Recei	ved"									
Radium-226		0.908	+/-0.311	0.264	1.00	pCi/L		MXH8	04/01/21	0945 2100100	3

The following Analytical Methods were performed:

Method Description **Analyst Comments** 

EPA 904.0/SW846 9320 Modified 1

2 Calculation EPA 903.1 Modified

Result Surrogate/Tracer Recovery Test Nominal Recovery% Acceptable Limits

83.4 (15%-125%) Barium-133 Tracer 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

**QC Summary** 

Report Date: April 1, 2021

Page 1 of 2

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 Anist	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
	oncerumiy	, 0.20		., 0.502					
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
Rad Ra-226 Batch 2100100									
QC1204767958 536991001 DUP Radium-226	Uncertainty	0.982 +/- <b>0</b> .297		1.56 +/-0.385	pCi/L	45.6*		(0%-20%) MXH8	04/01/21 10:33
QC1204767960 LCS Radium-226	27.0 Uncertainty			22.3 +/-1.38	pCi/L		82.4	(75%-125%)	04/01/21 10:33
QC1204767957 MB Radium-226	Uncertainty		U	0.186 +/-0.227	pCi/L				04/01/21 10:33
QC1204767959 536991001 MS Radium-226	27.0 Uncertainty	0.982 +/-0.297		21.3 +/-1.36	pCi/L		75	(75%-125%)	04/01/21 10:33

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

# **QC Summary**

Page 2 of 2 Parmname NOV Sample Qual  $\mathbf{OC}$ Units RPD% REC% Range Anist Date Time Η Analytical holding time was exceeded

T See case narrative for an explanation

536991

T 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
- 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
- NJConsult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- 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 20 of 27 SDG: 536991

### Radiochemistry Technical Case Narrative Santee Cooper SDG #: 536991

Product: GFPC, Ra228, Liquid

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

Analytical Batch: 2097455

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

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

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

#### **Data Summary:**

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

#### **Technical Information**

#### Recounts

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

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

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

Page 21 of 27 SDG: 536991

#### Analytical Batch: 2100100

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
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

# **Chain of Custody**

121



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 Yes @santeecooper.com No **Analysis Group** Labworks ID# Sample Location/ Comments Q. Collection Time Matrix(see below) Collection Date (Internal use Description Method # Sample Collector container 226 Preservative ( below) only) Reporting limit 22 ZAP TAP Bottle type: ( G/Plastic-P) Grab (G) or Composite ( Misc, sample info Total # of 288 RAP TOTAL Any other notes X 2 X P X G 2 GW AE96394 WAP-14 2/25/21 1110 MOG 1115 AE96395 WAP-14 DUP WAP-15 1540 AE96399 3/4/24 WAP-13 1155 AE96393 1309 AE96391 WAP-12 AE96392 WAP-12 DUP 1314 WAP-16 1427 4E96400 DEW 1253 WLF-H-1 3/2/21 TG/OJ 4E9644 1401 AE96419 WLF-AI-5 Sample Receiving (Internal Use Only) Relinquished by: Employee# Date Time Received by: Employee # Date Time TEMP (°C): 20 Initial: 145 3/5/21 0959 3/5/21 GEL Snowan 35594 0959 Correct pH: (Yes Received by: Relinquished by: Employee# Date Time Employee # Date Time Preservative Lot#: 1345 GEL 3-5-21 Kelinguished by: Received by: Employee# Date Time Employee# Date/Time/Init for preservative: ☐ METALS (all ) **Nutrients** MISC. Gypsum Coal <u>Flyash</u> Oil □ Ag □ Cu Franc Oil Qual. □ TOC BTEX □ Ultimate Ammonia  $\square$  A1 □ Fe □ Se □ Napthalene %Mostare Gypsum(all DOC □ % Moisture [] LOI □ ТНМ/НАА □ Sn below)  $\Box \mathbf{K}$ ☐ As ☐ TP/TPO4 □ Ash @ % Carbon n voc Acuties ⊕:AIM □ NH3-N □ Sulfur □ Mineral  $\square \mathbf{B}$ O Li  $\square$  Sr Dychectric Strength ☐ Oil & Grease DITOC  $\Box \mathbf{F}$ ☐ BTUs Analysis u. 🗆 E. Coli □ Total metals □ Ba OTi □ CI □ Volatile Matter Dissolved Gases □ Sieve ☐ Total Coliform ☐ Soluble Metals □ Be ☐ Mn UTI □ NO2 ☐ CHN □ % Moisture Used Oil HqD □ Purity (CaSO4) f (gshpann ☐ Dissolved As Other Tests: O Br ☐ % Moisture □Мо  $\Box V$ □ Ca Metals in oil □ Dissolved Fe □ XRF Scan □ NO3 El Sulfites NPDES eas, care i Niab □ Cd □ Zn ☐ Rad 226 □ HGI □ Na □pH □ SO4 □ Oil & Grease ☐ Rad 228  $H_{\mathcal{D}}$ Fineness ☐ Chlorides D Co □ Ni □ Hg 🛭 As ☐ Particulate Matter □ PCB D Particle Size O TSS COFER □ Cr □ Pb □ CrVI

# **Chain of Custody**

2



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 N	eeded by:		Pr	oject/1	Task/Unit #:	Rerun reques	t for a	ny fla	gged Q(
LCWILLIA	@santeecooper.com		discount for more	121	567	/ JM	02.09.GØ1	<u> </u>	No		
			, a						<u> </u>	nalysi	s Group
Labworks ID # (Internal use only)	Sample Location/ Description	Collection Date Collection Time	Sample Collector	Total # of containers  Bottle type: (Glass-G/Plastic-P)	Grab (G) or Composite (C)	Matrix(see below)	Rej	Comments  thod # porting limit sc. sample info y other notes	RAD 226	RAD 228	TOTAL RAD CALC.
AE96401	WAP-17	3/2/21 1048	DEN TG/DJ	2 P	G	GN	2		×	Х	Х
AE96 402	WAP-17 DUP	T 1023	1	1 1	1	1	1		1		)
AE96418	WBW-AI-I	3/1/12 1005	DEN								
AE96417	WLF-A1-4	1110	op para year o								
AE96418	WLE-AI-4 DUP	1115	V V								
AE96416	WLF-AI-B	1231									
AE96415	WLF-A1-2	1348		<u> </u>			1		I	1	1
	,		1000				·				
			property ( ) ( ) ( )								
	:		and the second								
Relinquished by:	Employee# Date	Time Recei	ved by:	Employee	#	Date	Time	Sample Receiving (Internal	Use On Initial	ly)	<u> </u>
Moun	35594 3/5/21	0959 M	0	GEL		3/5/2		Correct pH: (Yes) No		: 100	
Relinquished by:	Employee# Date	17 2 2 11 4	ved by:	Employee (AEL		- Date S - 2	Time	Preservative Lot#:			
Relinquished by:	Employee# Date	0 A - N - A	ved by:	Employee		Date	1345 Time				
								Date/Time/Init for preser	vative:		
□ MI □ Ag □ Co □ Ai □ Fe □ As □ K □ Ba □ Li □ Be □ M □ Ca □ M □ Cd □ Ni □ Co □ Ni □ Cf □ Pb	□ Sb	BTEX   Napthal     Napthal   THM/H     VOC   Oil & Coli     Total C   PH     Dissolv   Dissolv     Dissolv   Dissolv	AA rease oliform ed As ed Fe	Q Wallba	osum(a)  IM  OC  tol metal duble Me  rity (CaS  Moisture  fiftes  clorides  rticle Siz	lls stalk SO(4)	Coal  Ultimate  % Mois  Ash Sulfur BTUs Volatile CHN Other Tests: XRF Scan HGI Fineness Particulate M	☐ Ammonia ☐ LOI ☐ % Carbon ☐ Mineral Analysis ☐ Sieve ☐ % Moisture  NPDES ☐ Oil & Grease	C A A B B B B B B B B B B B B B B B B B	Mois ofer citity electric assorti of OII as line citits a vs Cit.	Qual title Strongth od Kinsus



SAMPLE RECEIPT & REVIEW FORM

Client: 460P		SD	G/AR/COC/Work Order: 53(09)
Received By: MLS			te Received: 3-5-21
Carrier and Tracking Number			Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
Suspected Hazard Information	Ž	*16	Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?	1	Ha	zard 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?	1	/ co	C notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?	/	Ma	ximum Net Counts Observed* (Observed Counts - Area Background Counts):
D) Did the client designate samples are hazardous?	/		C notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		<u> 1</u>	O or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
Sample Receipt Criteria	Z	ž	
Shipping containers received intact and sealed?			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?			Circle Applicable: Client contacted and provided COC COC created upon receipt  Preservation Method: Wet Ice Ice Packs Dry ice (None Other:
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	/		*all temperatures are recorded in Celsius TEMP:
4 Daily check performed and passed on IR temperature gun? ✓			Temperature Device Serial #: <u>IR3-18</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?			Sample ID's and Containers Affected:  If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?		/	If Yes, are Encores or Soil Kits present for solids? 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:
8 Samples received within holding time?			ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?			ID's and containers affected:
Date & time on COC match date & time on bottles?			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11 Number of containers received match number indicated on COC?			Circle Applicable: No container count on COC Other (describe)
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):			
Commens (USC Communition Point is recued).			

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 01 April 2021

<b>State</b> Alabama	Certification 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
· ·	<b>↓</b>
Louisiana Drinking Water  Louisiana NELAP	LA024
	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
_	C780
Washington	1 0/80











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



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

# Certificate of Analysis Report for

SOOP001 Santee Cooper

Client SDG: 552374 GEL Work Order: 552374

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

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

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

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

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

	Mim Ayre	
Reviewed by		

Page 2 of 13 SDG: 552374

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

# Certificate of Analysis

Report Date: September 7, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti ABS Lab Analytical Project:

Client Sample ID: AF09074 Project: SOOP00119 Sample ID: 552374001 Client ID: SOOP001

Matrix: Ground Water Collect Date: 04-AUG-21 12:16 Receive Date: 10-AUG-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	st Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	s Received"										
Radium-228	U	1.45	-/-0.960	1.47	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-22	8 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		2.03	+/-1.00			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqui	id "As Receiv	ved"									
Radium-226		0.578	-/-0.282	0.323	1.00	pCi/L		LXPI	08/31/21	0839 2161142	3
CCT (2.33 1 4 3)		C									

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 Recovery Test Result Nominal Recovery% Acceptable Limits 88.1 (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:

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

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

**Certificate of Analysis** 

Report Date: September 7, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09084 Project: SOOP00119 Sample ID: 552374002 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 05-AUG-21 10:30
Receive Date: 10-AUG-21
Collector: Client

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

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 86.4 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 4 of 13 SDG: 552374

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

**Certificate of Analysis** 

Report Date: September 7, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09090 Project: SOOP00119 Sample ID: 552374003 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 05-AUG-21 11:38
Receive Date: 10-AUG-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Analy	yst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	s Received"										
Radium-228	U	0.981	-/-0.872	1.40	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-22	8 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		1.91	+/-0.932			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqui	id "As Receiv	ved"									
Radium-226		0.929	-/-0.326	0.215	1.00	pCi/L		LXPI	08/31/21	0943 2161142	3
CCT (2.33 1 4 3)		~									

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 81.5 (15%-125%)

Notes:

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

Column headers are defined as follows:

DF: Dilution Factor

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: 552374

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

Certificate of Analysis

Report Date: September 7, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09085 Project: SOOP00119 Sample ID: 552374004 Client ID: SOOP001

Ground Water Matrix: Collect Date: 05-AUG-21 12:46 Receive Date: 10-AUG-21 Collector: Client

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

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation EPA 903.1 Modified

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

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 80.7

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 6 of 13 SDG: 552374

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**QC Summary** 

Report Date: September 7, 2021

Page 1 of 2

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	U	1.12	U	1.03	0.4	<b>3.</b> T/ <b>4</b>		N/A FYGO	00/03/21 10 40
Radium-228	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			61.9	pCi/L		122	(75%-125%)	09/02/21 10:49
Kaulum-228	Uncertainty			+/-3.51	pcbL		122	(7376-12376)	09/02/21 10.49
	Ź								
QC1204892025 MB Radium-228			U	1.44	pCi/L				09/02/21 10:49
Kadhan-226	Uncertainty		C	+/-1.13	perL				09/02/21 10:49
<b>Rad Ra-226</b> Batch 2161142									
QC1204885222 552374001 DUP		0.550		0.504	G. A			(00/ 100/) 7777	
Radium-226	Uncertainty	0.578 +/-0.282		0.506 +/-0.258	pCi/L	13.2		(0% - 100%) LXP1	08/31/21 11:22
	Oncertainty	V. 0.202		·, 0.250					
QC1204885224 LCS	52.2			16.3	0.7		0.00	/759/ 1059/N	00/04/04 11 00
Radium-226	53.2 Uncertainty			46.3 +/-2.20	pCi/L		86.9	(75%-125%)	08/31/21 11:22
	313011111111			,					
QC1204885221 MB			U	0.142	-C:A				69/27/27 11:22
Radium-226	Uncertainty		U	0.143 +/-0.199	pCi/L				08/31/21 11:22
QC1204885223 552374001 MS	121	0.570		104	C:/T		04.6	(750/ 1050/)	09/21/21 11/22
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</p>

> 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

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# **QC Summary**

Workorder: 552374

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

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

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

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

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

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

Page 8 of 13 SDG: 552374

### Radiochemistry Technical Case Narrative Santee Cooper SDG #: 552374

**Product:** GFPC, Ra228, Liquid

<u>Analytical Method:</u> EPA 904.0/SW846 9320 Modified <u>Analytical Procedure:</u> 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).

<b>GEL Sample ID#</b>	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



Santes Coope One Riverwood Driv Moneks Comer, SC 2946 Phone: (843)761-8000 Ext. 514) Fax: (843)761-417:

Custome	Email	/Rep	ort Recipie	ent:	D	ate R	Results Ne	eded b	y:		-	Pre	oject/	Task/	Unit #:	R	erun request	for a	ny fla	gged	J QC
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(internal u			pple Locatio cription		Collection Date		Collection Time	Sample Collector	Total # of containers	Bottle type: (Glass- G/Plastic-D)		Grab (G) or Composite (C)	Matrix(see below)	Preservative (see	Met Rep Mis Any	thod # sorting limit c. sample info other notes		RAD 226	PAD 228	TETAL PAD CALL	
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	CI				SAMPLE RECEIPT & REVIEW FORM	
Client:	S00P			SDC	HARCOC/Work Order: 652374	
Receive	<sub>i By:</sub> BE			Dat	e Received: 8/10/2	• •
Car	rier and Tracking Number				FedEx Express FedEx Ground UPS Field Services Cou	rier Other
Suspecte	d Hazard Information	Yes	S,	*1F P	let Counts > 100epm on samples not marked "radioactive", contact the Radiation Safety Grou	p for further investigation.
4301:	d as a DOT Hazardous?		1	Haza	ard Class Shipped: UN#:  If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo	
B) Did th	e client designate the samples are to be		1	coc	notation or radioactive stickers on containers equal client designation.	
C) Did th	e RSO classify the samples as		1	Max	imum Net Counts Observed* (Observed Counts - Area Background Counts):CPi Classified as: Rad 1 Rad 2 Rad 3	M)mk/Hr
radioactiv	e client designate samples are hazardous?		1	COC	notation or hazard labels on comminers equal client designation.	
	e RSO identify possible hazards?		1	If D	or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:	
	Sample Receipt Criteria	, X	ž	ĝ	Comments/Qualifiers (Required for Non-Conforming Iter	ns)
1 Ship	oping containers received intact and ed?	1			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	
	in of custody documents included a shipment?	1			Circle Applicable: Client contacted and provided COC COC created upon receipt	
	pples requiring cold preservation $\sin (0 \le 6 \deg. C)$ ?*				Preservation Method Wet Ice   Ice Packs   Dry Ice   None   Other: *all temperatures are recorded in Celsius	темр: 5
	ly check performed and passed on IR perature gun?	1			Temperature Device Serial #: <u>(R2-21</u> Secondary Temperature Device Serial # (If Applicable):	
5 San	aple containers intact and sealed?	)			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	
	ples requiring chemical preservation roper pH?		-		Sample ID's and Containers Affected: If Preservation added, Loui:	
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to V  Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select  Are liquid VOA vials free of headspace? YesNoNA  Sample ID's and containers affected:	
8 San	ples received within holding time?	K			ID's and tests affected:	; ;
	ple ID's on COC match ID's on les?	1			ID's and containers affected:	enterphilia di ing dinagani ngambana ana ana ana ana ana angambana ana ana angambana angambana angambana ana a G
	e & time on COC match date & time oottles?	/			Circle Applicable: No dates on containers No times on containers COC missing info	Other (describe)
nun	nber of containers received match ober indicated on COC?				Circle Applicable: No container count on COC Other (describe)	
GE	sample containers identifiable as L provided by use of GEL labels?				,	
	C form is properly signed in nequished/received sections?	1			Circle Applicable: Not relinquished Other (describe)	
Commen	ts (Use Continuation Form if needed):	[4]	America		als 613 Date 8/12/21 Page of	

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 07 September 2021

<b>State</b> Alabama	Certification 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
Kausas NELAP	E-10332
Kentucky SDWA	90129
	90129
Kentucky Wastewater	<b>.</b>
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
Vermont Virginia NELAP	460202
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Washington	C780











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

gel.com

September 13, 2021

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

Re: ABS Lab Analytical Work Order: 552785

Dear Ms. Gilmetti:

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

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

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

Sincerely,

Julie Robinson 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: 552785 GEL Work Order: 552785

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

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

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

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

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

	Julie	Robinson	
Reviewed by			

Page 2 of 15 SDG: 552785

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

### **Certificate of Analysis**

Report Date: September 13, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09056 Project: SOOP00119 Sample ID: 552785001 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 10-AUG-21 15:00
Receive Date: 13-AUG-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid	'As Received"										
Radium-228		3.70	+/-1.59	2.37	3.00	pCi/L		JXC9	09/02/21	1049 2164572	1
Radium-226+Radium-	228 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		4.82	+/-1.63			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Lic	uid "As Recei	ved"									
Radium-226		1.12	-/-0.365	0.321	1.00	pCi/L		LXPI	08/31/21	1050 2161142	3
	3 3 2 3 3	~									

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation
3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

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

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

Page 3 of 15 SDG: 552785

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

### Certificate of Analysis

Report Date: September 13, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09076 Project: SOOP00119 Sample ID: 552785002 Client ID: SOOP001

Matrix: Ground Water Collect Date: 10-AUG-21 15:36 Receive Date: 13-AUG-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	s Received"										
Radium-228		1.62	+/-1.03	1.58	3.00	pCi/L		JXC9	09/02/21	1049 2164572	1
Radium-226+Radium-22	8 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		2.16	+/-1.08			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqui	id "As Receiv	ved"									
Radium-226		0.539	-/-0.311	0.390	1.00	pCi/L		LXPI	08/31/21	1050 2161142	3
CCT C 33 1 4 3		~									

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 Recovery Test Result Nominal Recovery% Acceptable Limits 88.6 (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:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

### **Certificate of Analysis**

Report Date: September 13, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

 Client Sample ID:
 AF09086
 Project:
 SOOP00119

 Sample ID:
 552785003
 Client ID:
 SOOP001

Matrix: Ground Water
Collect Date: 11-AUG-21 13:35
Receive Date: 13-AUG-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid	"As Received"										
Radium-228		2.43	+/-1.39	2.14	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-	228 Calculatio	n "See Pa	arent Products"								
Radium-226+228 Sum		3.68	+/-1.44			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Lic	juid "As Recei	ved"									
Radium-226	_	1.26	-/-0.389	0.229	1.00	pCi/L		LXPI	08/31/21	1122 2161142	3
TEL C 11 ' A 1 4'	135 1 1	c	1								

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 85.4 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

Certificate of Analysis

Report Date: September 13, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti ABS Lab Analytical Project:

Client Sample ID: AF09087 Project: SOOP00119 Sample ID: 552785004 Client ID: SOOP001

Matrix: Ground Water Collect Date: 11-AUG-21 12:05 Receive Date: 13-AUG-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	$\mathbf{PF}$	DF Analy	yst Date	Time Batch	Method
Rad Gas Flow Proportion	nal Counting										
GFPC, Ra228, Liquid "A	As Received"										
Radium-228		1.87	+/-1.14	1.75	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-22	28 Calculation	n "See Pa	arent Products"								
Radium-226+228 Sum		3.17	+/-1.20			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqui	id "As Receiv	ved"									
Radium-226		1.30	-/-0.380	0.212	1.00	pCi/L		LXP1	08/31/21	1122 2161142	3
CCT C 11 1 4 1 1	*** * *	~									

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 Recovery Test Result Nominal Recovery% Acceptable Limits 86.1 (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:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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### **Certificate of Analysis**

Report Date: September 13, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti Project: ABS Lab Analytical

Client Sample ID: AF09088 Project: SOOP00119 Sample ID: 552785005 Client ID: SOOP001

Matrix: Ground Water
Collect Date: 11-AUG-21 11:07
Receive Date: 13-AUG-21
Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228	U	2.00	+/-1.29	2.02	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-2	28 Calculation	n "See Pa	rent Products"								
Radium-226+228 Sum		2.62	+/-1.33			pCi/L		1 AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226		0.626	-/-0.324	0.417	1.00	pCi/L		LXPI	08/31/21	1122 2161142	3

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation 3 EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits

Barium-133 Tracer GFPC, Ra228, Liquid "As Received" 81.8 (15%-125%)

Notes:

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

Column headers are defined as follows:

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

MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

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

Certificate of Analysis

Report Date: September 13, 2021

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

OCO3

Moncks Corner, South Carolina 29461

Contact: Ms. Jeanette Gilmetti ABS Lab Analytical Project:

Client Sample ID: AF09089 Project: SOOP00119 Sample ID: 552785006 Client ID: SOOP001

Matrix: Ground Water Collect Date: 11-AUG-21 11:12 Receive Date: 13-AUG-21 Collector: Client

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	PF	DF Anal	yst Date	Time Batch	Method
Rad Gas Flow Proportion	onal Counting										
GFPC, Ra228, Liquid ".	As Received"										
Radium-228	U	1.40	+/-1.05	1.66	3.00	pCi/L		JXC9	09/02/21	1050 2164572	1
Radium-226+Radium-2	28 Calculatio	n "See Pa	rent Products"								
Radium-226+228 Sum		1.60	+/-1.06			pCi/L		l AEA	09/07/21	1410 2166495	2
Rad Radium-226											
Lucas Cell, Ra226, Liqu	uid "As Recei	ved"									
Radium-226	U	0.205	-/-0.174	0.245	1.00	pCi/L		LXPI	08/31/21	1122 2161142	3

The following Analytical Methods were performed:

Method Description Analyst Comments

1 EPA 904.0/SW846 9320 Modified

2 Calculation EPA 903.1 Modified

Surrogate/Tracer Recovery Test Result Nominal Recovery% Acceptable Limits 86 (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:

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 13, 2021

Santee Cooper P.O. Box 2946101

OC03

Moncks Corner, South Carolina

Contact: Ms. Jeanette Gilmetti

Workorder: 552785

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anist	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
Rad Ra-226 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</p>

> 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**

Workorder: 552785

Page 2 of 2

Parmname

NOM Sample Qual QC Units RPD% REC% Range AnIst Date Time

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

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

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

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

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

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#### Radiochemistry Technical Case Narrative Santee Cooper SDG #: 552785

Product: GFPC, Ra228, Liquid

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

**Analytical Batch:** 2164572

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

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

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

#### **Data Summary:**

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

#### **Technical Information**

#### Recounts

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

<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
552785001	AF09056
552785002	AF09076
552785003	AF <b>0</b> 9086
552785004	AF <b>0</b> 9087
552785005	AF09088

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

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

#### **Data Summary:**

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

#### Miscellaneous Information

#### **Additional Comments**

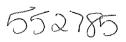
The matrix spike, 1204885223 (AF09074MS), aliquot was reduced to conserve sample volume.

#### **Certification Statement**

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

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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

LCWILLI Labworks ID	)#	@santeec	ooper.com		, ,												
Labworks ID					J <i>J</i>			131	567.	/ JM	02.0	9.Gø1	<u> </u>	Yes	No		
Labworks ID															A	nalysi	s Group
(Internal use only)	THE THE PROPERTY AND ADDRESS OF THE PROPERTY AND ADDRESS.	Sample Locatio Description	<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	• N	Comments  lethod # eporting limit lise, sample info ny other notes		RAD 226	RAG 229	TOTAL RAD CALC
AF0905	56	WAP -7		8/10/2	1 1500	MDG	2	P	G	em	2			orkidentika ja kanta kita generalis, ja kun	×	×	·X
4F09076		WAP-20		1	1236	上	1	(			1				1	1	
AF09086	•	WLF-A1-2	,	8/11/21	1835	MOS											
80907A	7	WLF-AI-3			1205	\											
AF0908	જ	WLF-AI-4			1167												
A-F09089	7	WLF-AI-4	DUP	<u> </u>	1112		1	1	<u> </u>	L					Ţ	1	
	1000	-					· .										
Relinquishe Amroun	d by:	Employee#	Date 8/13/21	Time	Receiv K., S	ed by:	Er	nployee GEL		Date 		Time	Sample Receiving TEMP (°C):		se Oni nitial	(y)	
Relinquishe	d by:	Employee#	Date	Time	Receiv	ed by:	Er	nployee		Date	$\cdot$	Time	Correct pH: Y				
Relinquishe	d by:	Employee#	Date Date	1321 Time	Receiv	ed by:		TEV nployee		/(3/2 Date		(ろ <sup>1</sup> Q∖ Time	Date/Time/Init f		tive:		
	MET	ALS (all )	Bluete	ients	N A I I					u.							
□Ag	□ Cu	⊕Sb	TOC		MIS □ BTEX	<u>) L.</u>		<u>Gay</u> Walibo	<u>osurr</u> ard	ı	1	<u>Coa</u> Ultimate	<u>ll Flys</u> Amm		Vene	<u></u>	Omal.
	□ Fe □ K	□ Se □ Sn	D00		☐ Napthale ☐ THM/HA				am(al	7	1	☐ % Mo	sture LOI				
	o Li	□ Sr	NH2	PO4 -N	□ voc			belo HAN	VI		1	□ Ash □ Sulfur	⊥ 56 Car ⊆ Miner		4.	edia.	
	□ Mg	□ Ti			□ Oil & Gr □ E. Coli	ease		1104	il metal			∪ BTUs		allysis	lla H		Armyth.
			Cl		☐ Total Co.	liform		ii Sa	ible Me	tals		□ Volati	e Matter   Sieve		1)	en ike	a kiese
	□ Mn		U NO2 □ Br		□ pH □ Dissolve	i As			is ACaS Ioisture		225	□ CHN her Tests	. ⊆%Mo :	isture [			
<del></del>	□ Mo □ Na	□ V □ Zn	NO3		☐ Dissolved			O Sulf			∦ a>	CRF Scan	NPC	ES	51		
7 - Sec. 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	4.31.00	10 (1 14 (A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	: 504		☐ Rad 226 ☐ Rad 228			PpH Chie	irides :			IGI ineness	- (3 Oil-8 C				
	□ Ni □ Pb	□ Hg □ CrVI	-		II PCB			Part	icie Sia	e .		articulate I	Aatter II TSS		1,01		
- Car - Car	<u> </u>	1 an Oryn				- Sec. 2572.2	<u> </u>	Sulfur			9		l service de la constant de la const				

	Loboratories					,
	<b>Laboratories</b> LC				SAMPLE RECEIPT & REVIEW FORM	• • • • •
Cli	ent: 500P			SDC	HARICOC/Work Greger: 552785	
Rec	eired By: BE / NRG			ı	e Received: 9/ 13/2	-
					FedEx Express FedEx Ground UPS Field Services Courier	Other
	Carrier and Tracking Number				and consumption (William)	·
	<b>.</b>				CAUSITE	
		T .	<del></del>		GEL COURIER	
Sus	pected Hazard Information	Yes	2	*1f P	set Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for fu	rther investigation.
			Name of	Haza	ard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No	
-	hipped as a DOT Hazardous?	<del> -</del>	$\vdash$			
	Did the client designate the samples are to be ived as radioactive?		~	COC	notation or radioactive stickers on containers equal client designation.	
	Did the RSO classify the samples as pactive?		N.	Max	imum Net Counts Observed* (Observed Counts - Area Background Counts): QPM)mF Classified as: Rad 1 Rad 2 Rad 3	/Нг
			8	co	C notation or hazard labels on containers equal client designation.	
ا (تا	Did the client designate samples are hazardous?	$\vdash$	-	ND	or E is yes, select Hazards below.	
E) I	Did the RSO identify possible hazards?	L	1		PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:	
	Sample Receipt Criteria	Xes	Ž	12	Comments/Qualifiers (Required for Non-Conforming Items)  Circle Applicable: Scals broken Damaged container Leaking container Other (describe)	
1	Shipping containers received intact and sealed?	V			Circle Applicable: Scals broken Damaged container Leaking container Offici (desertoe)	
2	Chain of custody documents included with shipment?	V			Circle Applicable: Client contacted and provided COC COC created upon receipt	)
3	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*	1	1		Preservation Method Wet Ice Ice Packs Dry Ice None Other: *all temperatures are recorded in Celsius TEI	MP: S-GPASA
4	Daily check performed and passed on IR temperature gun?	1			Temperature Device Serial #: <u>IR2-21</u> Secondary Temperature Device Serial # (If Applicable):	
5	Sample containers intact and sealed?	V			Circle Applicable: Scals broken Damaged container Leaking container Other (describe)	
6	Samples requiring chemical preservation at proper pH?	7			Sample ID's and Containers Affected:  If Preservation added, Lot#:	
	THE PARTY OF THE P	╁		-	If Yes, are Encores or Soil Kits present for solids? YesNo_NA_(If yes, take to VOA Fro	ezer)
7.	Do any samples require Volatile			$I_{\checkmark}$	Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No)  Are liquid VOA vials free of headspace? YesNoNA	
	Analysis?				Sample (D's and containers affected:	
8	Samples received within holding time?	V		-	ID's and tests affected:	
	Sample 1D's on CCC match 1D's on		4		ID's and containers affected:	::
9	bottles?	1		4_		<i>k - 1</i>
10	Date & time on COC match date & time on bottles?	1			Circle Applicable: No dates on containers No times on containers COC missing info Other (c	lesenbe)
11	Number of containers received match number indicated on COC?	V	4	7	Circle Applicable: No container count on COC Other (describe)	
12	Are sample containers identifiable as	V				·
13	COC form is properly signed in	V			Circle Applicable: Not relinquished Other (describe)	· ·
Cor	relinquished/received sections? nments (Use Continuation Form if needed):					
	•					

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 13 September 2021

State Alabama	Certification 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				
<del>_</del>					
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				
	460202				
Virginia NELAP					
Washington	C780				

### **Field Data Sheets**

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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WBW-A1-1	28.14	5.77	10-20	3/1/2021	1005	23.09

Drawdown: 5.98 depth to GW (ft)

Time	Temp	pН	Εħ	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
942	20.93	4.49	139	436	9.8	1.8
947	21.01	4.47	80	329	0	0.74
952	21.15	4.51	74	308	2.2	0.69
957	21.25	4.54	69	298	5.5	0.62
1002	21.75	4.58	65	294	0	0.59
1005	22.11	4.6	62	288	0	0.58

Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WBW-A1-1	28.14	6.08	10-20	8/5/2021	1030	23.09

Drawdown: 6.22 depth to GW (ft)

Time	Temp round 1	pH round 1	Eh ORP	Spec Cond round 1		Dissolved Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1005	22.24	4.34	101	239	6.9	1.89
1010	22.45	4.3	92	255	7.6	1
1015	22.76	4.29	82	274	5.3	0.69
1020	22.81	4.32	75	280	4.5	0.58
1025	22.83	4.33	71	284	4.7	0.62
1030	22.84	4.35	67	287	4.6	0.61

Comments/Conditions:

Samples were collected by Ben Taylor and Brad McCray

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP - 7	29.94	9.41	15- 35	2/24/2021	1102	26.72

Drawdown: 9.5 depth to GW (ft)

Time	Temp	рН	Eh	-	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1037	18.35	5.48	131	425	13.5	5.15
1042	18.74	5.59	132	426	21.4	3.54
1047	19.02	5.61	135	426	16.8	3.44
1052	19.21	5.62	137	425	11	3.29
1057	19.46	5.64	137	424	8.6	3.19
1102	19.63	5.7	136	423	6	3.08

Comments/Conditions: Screen interval didn't match total depth measured

Samples were collected by Trey West and Aaron Hill

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WAP-7	29.94	9.24	15- 35	8/10/2021	1500	26.72

Drawdown: 9.36 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)
1435	30.13	5.64	147	969	8.6	7.48
1440	29.77	5.62	156	965	3.9	1.95
1445	29.54	5.62	164	957	0	1.69
1450	29.36	5.61	172	952	0	1.54
1455	29.51	5.61	176	948	0	1.48
1500	29.47	5.62	179	946	0	1.41

### Comments/Conditions:

Samples were collected by Melanie Goings and Brian Brase.

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-1	41.35	16.75	23-33	3/2/2021	1253	35.82

Drawdown: 16.33 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1225	18.83	5.98	70	1390	11.3	5.07
1230	18.51	5.88	74	1400	8	2.54
1235	18.27	5.82	76	1410	2.7	1.18
1240	18.59	5.79	73	1410	1.9	0.95
1245	18.47	5.79	71	1410	2.5	0.83
1250	18.45	5.79	69	1410	1.6	0.77
1253	18.25	5.79	67	1420	0.5	0.73

Comments/Conditions:

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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-1	41.35	17.26	23-33	8/5/2021	1246	35.83

Drawdown: 17.46 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1209	23.44	6.47	-49	2270	1.4	2.8
1214	22.92	6.39	<b>-4</b> 9	2350	0.5	0.69
1219	22.71	6.35	-50	2210	0.3	0.52
1224	22.56	6.22	-46	1830	0.6	0.46
1229	22.98	6.17	-44	1770	0.5	0.47
1234	23.62	6.16	-43	1760	6	0.52
1237	23.6	6.15	-42	1750	11.7	0.53
1240	23.07	6.14	-42	1730	2.7	0.45
1243	22.89	6.14	-42	1720	0.5	0.43
1246	22.84	6.14	-44	1700	0.4	0.41

Comments/Conditions:

Samples were collected by Ben Taylor and Brad McCray

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-2	29.21	3.91	12'-20'	3/1/2021	1348	24.63

Drawdown: 4.16 depth to GW (ft)

Time	Temp	pН	Eħ	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1317	20.56	5.45	188	177	23	3.37
1322	18.95	5.4	163	171	11.9	1.02
1327	18.5	5.16	133	157	5.6	0.76
1332	18.44	5.09	116	154	3.8	0.63
1337	18.41	5.07	110	152	1.7	0.59
1342	18.27	5.06	93	150	0	0.51
1345	18.27	5.06	90	150	0	0.51
1348	18.26	5.06	83	150	0	0.49
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Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-2	29.21	5.71	12'-20'	8/11/2021	1335	24.65

Drawdown: 5.97 depth to GW (ft)

Time	Temp	рН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1310	28.8	4.3	15	127	0	0.86
1315	28.79	4.26	1	125	0	0.53
1320	28.36	4.36	-13	125	0	0.38
1325	27.89	4.39	-19	127	0	0.36
1330	27.55	4.42	-24	130	0	0.34
1335	27.61	4.45	-28	129	0	0.32

Comments/Conditions:

Samples were collected by Melanie Goings and Connor Smalling

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-3	28.31	4.13	10'-20'	3/1/2021	1231	22.78

Drawdown: 4.33 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1206	21.75	4.45	85	169	0	4.78
1211	21.31	4.44	93	173	0	1.14
1216	20.79	4.42	97	174	0	0.74
1221	20.68	4.42	98	174	0	0.65
1226	20.73	4.42	97	173	0	0.6
1231	20.49	4.42	96	173	0	0.6

Comments/Conditions:

Samples were collected by Trey West and Marvin Lewis

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-3	28.31	5.38	10'-20'	8/11/2021	1205	22.78

Drawdown: 5.56 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1140	26.9	3.74	132	160	0.1	1.31
1145	27.57	4.21	57	157	0	0.48
1150	27.72	4.24	36	165	0	0.42
1155	27.84	4.25	20	167	0	0.37
1200	28.2	4.26	11	167	0	0.37
1205	28.68	4.29	2	165	0	0.37

Comments/Conditions:

Samples were collected by Melanie Goings and Connor Smalling

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-4	28.24	3.98	12'-22'	3/1/2021	1110	22.53

Drawdown: 4.28 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1042	23.7	6.02	96	236	0	2.22
1047	22.03	5.99	67	241	0	0.7
1052	21.46	6.02	61	245	0	0.64
1057	20.86	6.07	47	256	0	0.56
1102	20.92	6.15	37	270	0	0.5
1107	20.87	6.18	33	273	0	0.5
1110	20.77	6.22	27	278	0	0.52
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Comments/Conditions: Duplicate taken at 1115

Samples were collected by Trey West and Marvin Lewis

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-4	28.24	5.42	12'-22'	8/11/2021	1107	22.53

Drawdown: 5.75 depth to GW (ft)

Time	Temp round 1 (celcius)	pH round 1 (units)	Eh ORP (mV)	Spec Cond round 1 (uS/cm)	Turbidity (NTU)	Dissolved Oxygen
1027	22.61	5.78	29	272	1.7	(ppm) 9.37
1027	23.26	5.86	2	288	2.9	1.19
1032	23.57	5.93	-25	281	2.7	1.59
1042	23.58	5.96	-32	287	0	0.74
1047	23.8	5.99	-43	292	4.2	0.78
1052	23.86	6.01	-48	294	7.9	0.73
1055	23.99	6.06	-58	299	0	0.64
1058	24.09	6.08	-63	302	0	0.61
1101	24.19	6.1	-69	306	1	0.59
1104	24.26	6.12	-74	309	0	0.57
1107	24.32	6.15	-79	315	0	0.54
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Comments/Conditions: Duplicate taken at 1112

Samples were collected by Melanie Goings and Connor Smalling

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-5	37.64	16.22	23'-33'	3/2/2021	1401	35.93

Drawdown: 17.12 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1330	18.55	6.88	69	1470	7.6	3.12
1335	17.4	6.89	65	1480	2.6	1.11
1340	17.21	6.88	64	1470	0	0.79
1345	17.31	6.87	62	1470	0.5	0.77
1350	17.5	6.85	56	1470	2.1	0.65
1355	17.54	6.82	49	1460	1.8	0.62
1358	17.42	6.82	45	1470	1.4	0.58
1401	17.41	6.81	42	1460	0.5	0.55

Comments/Conditions:

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

Well ID	TOC	GW	Screen	Sample	Sample	Total
	Elevation	Depth	Intervals	Date	Time	Well
	(feet)	(feet)	(ft, bgs)			Depth
WLF-A1-5	37.64	16.19	23'-33'	8/5/2021	1138	35.93

Drawdown: 17.58 depth to GW (ft)

Time	Temp	pН	Eh	Spec Cond	Turbidity	Dissolved
	round 1	round 1	ORP	round 1		Oxygen
	(celcius)	(units)	(mV)	(uS/cm)	(NTU)	(ppm)
1113	23.56	6.6	-114	1540	3.2	1.52
1118	23.43	6.78	-131	1550	0	0.72
1123	23.24	6.81	-133	1560	0	0.55
1128	23.2	6.82	-133	1580	0	0.49
1133	23.2	6.82	-130	1590	0	0.45
1138	23.08	6.82	-126	1600	0	0.44

Comments/Conditions:

Samples were collected by Ben Taylor and Brad McCray